Operations Manual

Harnett County Anderson Creek Landfill Facility
Harnett County, North Carolina

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SMITH+GARDNER

14 N. Boylan Avenue, Raleigh NC 27603 | 919.828.0577

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Harnett County Anderson Creek Landfill Facility
Harnett County, North Carolina

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1.0 GENERAL FACILITY OPERATIONS

This Operations Manual was prepared for operations of the Harnett County Anderson Creek Landfill facility located at 1086 Poplar Drive in Spring Lake. Harnett County (County) owns and operates the facility under Solid Waste Permit Nos. 43-03 (C&D Landfill) and 43-09T (Transfer Station). This document discusses the operation of the following landfill units and other solid waste management activities:

- Municipal Solid Waste (MSW) Transfer Station;
- Construction and Demolition Debris (C&D) Landfill; and
- Convenience Center;
  - Small MSW Loads
  - Recyclables
  - White Goods and Scrap Metal
  - Consumer Electronics
  - Used Tires
  - Used Vehicle Oil Filters
  - Automotive Batteries
  - Pallets
  - Asphalt Shingles
- Yard Waste Processing;
- Material Recovery.

Refer to **Figure 1** for the location of existing and proposed landfill units, the transfer station, and other solid waste management activities.

The information contained herein was prepared to provide facility personnel with a clear understanding of how the Design Engineer assumed that the completed facility would be operated and how regulatory operations criteria will be met. While deviations from the operations procedures outlined herein may be acceptable, they must be reviewed and approved by the NC Department of Environment and Natural Resources (DENR) Division of Waste Management (DWM) prior to implementation. Additionally, the Design Engineer should be consulted regarding any changes which may affect the design of the facility. Please refer to the appropriate permit application for a detailed discussion and calculations for the individual components of each landfill unit, including phasing plans.

1.1 Contact Information

All correspondence and questions concerning the operation of the Harnett County Anderson Creek Landfill facility should be directed to the appropriate County and State personnel listed below. For fire or police emergencies dial 911.

1.1.1 Harnett County (County)

Harnett County Solid Waste Department
103 E. Ivey Street
Lillington, NC 27546
Phone: (910) 814-6156
Fax: (910) 814-8263

Anderson Creek Landfill Facility
1086 Poplar Drive
Spring Lake, NC 28390
Phone: (910) 893-5626

County Engineer:	Amanda Bader, P.E.
Solid Waste Operations Manager:	Randy Smith
Solid Waste Operations Crew Leader:	Andrew Holland

1.1.2 North Carolina Department of Environment and Natural Resources

North Carolina DENR - Raleigh Central Office (RCO)
217 W. Jones Street
Raleigh, NC 27603
1646 Mail Service Center
Raleigh, NC 27699-1646
Phone/Fax: (919) 707-8200

North Carolina DENR - Fayetteville Regional Office (FRO)
225 Green Street, Suite 714
Fayetteville, NC 28301
Phone: (910) 486-1541
Fax: (910) 486-0707

Division of Waste Management (DWM) - Solid Waste Section:

Field Operations Branch Head:	Mark Poindexter (RCO)
Eastern District Supervisor:	Dennis Shackelford (FRO)
Environmental Senior Specialist:	Robert Hearn (RCO)

Division of Land Resources - Land Quality Section:

Regional Engineer:	Brad Cole, P.E. (FRO)

1.2 Facility Operating Hours

Normal hours of operation will be 7:30 A.M. to 4:30 P.M. Monday, Tuesday, Thursday, Friday, and Saturday and 7:30 A.M. to 12:00 P.M. on Wednesday. The facility will be closed on Sunday and on holidays as designated by the County.

The County may elect to modify these hours from time to time.

1.3 Site Access

The site will be accessed by the existing entrance on Poplar Drive. A scale and a scale house are provided near the entrance. All waste will have been weighed prior to being placed in the landfill or transfer station.

1.3.1 Physical Restraints

Limiting access to the landfill facility is important for the following reasons:

- Unauthorized and illegal dumping of waste materials is prevented.
- Trespassing, and injury resulting therefrom, is discouraged.
- The risk of vandalism is greatly reduced.

Access to active areas of the landfill will be controlled by a combination of fences and natural barriers, 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 (see also Section 1.2). The entrance has a gate which will be securely locked during non-operating hours.

1.3.2 Security

Frequent inspections of gates and fences will be performed by landfill personnel. The County will arrange for a random security patrol of the landfill entrance to further discourage trespassing. Evidence of trespassing, vandalism, or illegal operation will be reported to the County Engineer or Solid Waste Operations Manager.

1.4 Signage

A prominent sign(s) containing the information required by the DWM will be placed at the main landfill entrance. This sign(s) will provide information on operating hours, operating procedures, and acceptable wastes. Additional signage will be provided as necessary within the landfill complex to distinctly distinguish the roadway to the active landfill unit(s). Service and maintenance roads for use by facility staff will be clearly marked and barriers (e.g., traffic cones, barrels, etc.) will be provided as required.

1.4.1 Waste Limit Markers

During construction or closure of landfill units, waste limit markers will be used to identify the permitted limits of waste. The waste markers will be constructed of non-degradable material and will state "Waste Limits" in bold lettering. Offsets are acceptable such that all wording is clear to the DWM and operational staff. The waste markers will be maintained and replaced when damaged.

1.5 Communications

Two-way radio communication will be maintained between the active landfill unit, transfer station, and the landfill scale house. The scale house has a telephone in case of emergency and for the conduct of day-to-day business. Emergency telephone numbers are displayed in this location.

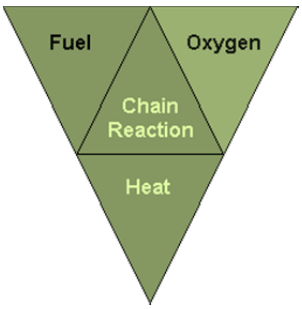
1.6 Fire Control

The possibility of fire within the landfill or a piece of equipment must be anticipated in the daily operation of the facility. Potential fire hazards include both surface conditions and subsurface conditions. Surface conditions include equipment operations and newly placed waste. Subsurface conditions include existing waste previously landfilled.

1.6.1 Open Burning

With the exception of the controlled burning of land clearing debris generated on-site or from emergency clean-up operations, no opening burning is allowed at the facility. Controlled burning will occur only if permitted or approved by the DWM, the Division of Air Quality (DAQ), and the local fire department.

1.6.2 Fire Tetrahedron[1]



To better understand the properties of fire, the fundamental methods to extinguish it must be understood. The fire "tetrahedron" illustrates the rule that in order to ignite and burn, each component of the tetrahedron (fuel, oxygen, heat, and chemical chain reaction) represents a property of flaming fire. A fire is prevented or extinguished by "removing" any one of them. A fire naturally occurs when the elements are combined in the right mixture (e.g., more heat needed for igniting some fuels, unless there is concentrated oxygen). The fire tetrahedron is a more modern adaptation of the traditional fire "triangle" recognizing the chemical reactions that may occur as a component - "the

[1] National Fire Protection Association (www.nfpa.org).

uninhibited chain reaction". This chain reaction is the feedback of heat to the fuel to produce the gaseous fuel used in the flame. In other words, the chain reaction provides the heat necessary to maintain the fire. These principles are integral in the prevention and management of potential fire situations. *Please note this information is considered as a basis of understanding which may be superseded by the direction and skill of the local Fire Marshal.*

1.6.3 Equipment

A combination of factory installed fire suppression systems and/or portable fire extinguishers will be operational on all pieces of heavy equipment at all times. Potential fire hazards are created from the build-up of fine, dry dust particles on and around operational motors and control panels. The presence of these build-ups can cause overheating and potential fire if periodic equipment cleaning and maintenance are not practiced. Portable fire extinguishers should be maintained in a state of readiness on each piece of moving equipment and equipment should be cleaned periodically.

1.6.4 General Fire Management Strategies

Each fire situation is site specific; however, general strategies for active fire management include the following (in no particular order):

- Accelerated high temperature combustion (displacing fuel);
- Covering of burning material with soil (reduce oxygen);
- Covering of burning material with foams (reduce oxygen);
- Flooding of burning material with water (reduce heat);
- Injecting an inert gas such as CO_2 (reduce oxygen);
- Excavating the burning material (displacing fuel) and then extinguishing it in small controlled areas; and
- Applying extinguishing agents that will interfere with and inhibit the combustion process at the molecular level (break the chemical reaction).

1.6.5 Fires Within Disposal Areas

Fires within the landfill disposal areas will be limited by the use of daily/periodic cover as a fire break and control of "hot" loads entering the landfill. Landfill personnel at the scale house will turn away all trucks containing waste that is suspected to be hot. If a hot load is placed on the working face, then the load will be spread as thin as possible and daily cover soil will be immediately placed on the waste to extinguish the fire.

In general, fires that break out close to the surface of the disposal area should be excavated and smothered with cover material. Deep fires should be smothered out by placing moist soil on the surface and by constructing soil barriers around

the fire. Where the smothering technique fails, the burning material must be excavated and smothered or quenched with water once the burning material is brought to the surface. Water is usually not effective unless it can be directly applied to the burning material.

1.6.6 Notification

The County will verbally notify the DWM (see **Section 1.1.2**) within 24 hours of discovery of a fire within any landfill disposal area. In addition, written documentation describing the fire, the actions carried out to extinguish the fire, and a strategy for preventing future occurrences will be provided to the DWM within 15 days following any such occurrence using the DWM's Fire Occurrence Notification Form (see **Appendix A**).

1.6.7 Coordination With Local Fire Department

A copy of this Operations Manual will be filed with the local fire department including all contact information for the facility.

1.7 Severe Weather Conditions

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

1.7.1 Ice Storms

An ice storm can make access to the facility dangerous, prevent movement or placement of daily cover, and, thus, may require closure of the facility until the ice is removed or has melted.

1.7.2 Heavy Rains

Exposed soil surfaces can create a muddy situation in some portions of the facility during rainy periods. The control of drainage and use of crushed stone on unpaved roads should provide all-weather access for the site and promote drainage away from critical areas. In areas where the aggregate surface is washed away or otherwise damaged, new aggregate should be used for repair.

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

1.7.3 Electrical Storms

The open area of the facility is susceptible to the hazards of an electrical storm. If necessary, activities will be temporarily suspended during such an event. Refuge will be taken as necessary in the on-site buildings or in rubber-tired vehicles.

1.7.4 Windy Conditions

Facility operations during a particularly windy period may require that the working face be temporarily shifted to a more sheltered area. When this is done, the previously exposed face will be immediately covered with daily cover.

1.7.5 Violent Storms

In the event of hurricane, tornado, or severe winter storm warning issued by the National Weather Service, facility operations may be temporarily suspended until the warning is lifted. Daily cover will be placed on exposed waste and buildings and equipment will be properly secured.

1.8 Equipment Requirements

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

The anticipated major equipment requirements for operation and maintenance of the site are listed in the following table. These may vary based upon incoming tonnages and equipment replacement schedules.

Table 1 Equipment Requirements

Description	Primary Function (Allocation)
1) Compactor	Waste placement and compaction
2) Dozers (2)	Stripping and grading of borrow areas, fine grading, slope work, and site cleanup
3) Rubber-Tired Front End Loader	Moving waste on tipping floor of transfer station
4) Rubber-Tired Backhoe	General site operations; backup for front end loader
5) Yard Tractor	Moving transfer trailers
6) Transfer Trailers (Multiple)	Waste transportation (Contractor-Owned)
7) Excavator	Loading and placement of cover soils; general site operations
8) Farm Tractor w/ Pavement Brush	General site operations; road cleaning
9) Pans (2)	Loading and hauling of cover soil
10) Leachate Truck	Hauling of leachate

1.9 Personnel Requirements

1.9.1 C&D Landfill

At least one member of the facility supervisory staff will be certified as a Manager of Landfill Operations (MOLO) by the Solid Waste Association of North America (SWANA) (or other DWM-approved program) and operations staff will go through appropriate training. At least one certified (SWANA Landfill Operations Specialist or other DWM-approved program) operator will be present on-site during times when the landfill is receiving or disposing of waste. As part of this training, personnel learn to recognize loads which may contain prohibited wastes.

1.9.2 Transfer Station

At least one member of the facility supervisory staff will be trained in the management of transfer station operations and operations staff will go through appropriate training. As part of this training, personnel learn to recognize loads which may contain prohibited wastes.

1.10 Health and Safety

All aspects of the facility operations were developed with the health and safety of the operating staff, customers, and neighbors in mind. Prior to commencement of operations of the facility, a member of the operating staff will be designated site safety officer. This individual, together with the facility's management will modify the site safety and emergency response program to remain consistent with SWANA and Occupational Safety and Health Administration (OSHA) guidance.

Safety equipment provided includes equipment rollover protective cabs, seat belts, audible reverse warning devices, hard hats, safety shoes, and first aid kits. Facility personnel will be encouraged to complete the American Red Cross Basic First Aid Course. Other safety requirements as designated by the County will also be implemented.

Facility employees will be routinely trained in health and safety by supervisory staff. All training will be documented. The following are some general recommendations for the health and safety of workers:

1.10.1 Personal Hygiene

The following items are recommended as a minimum of practice:

- Wash hands before eating, drinking, or smoking.
- Wear personal protective equipment as described in Section 1.10.2.

- Wash, disinfect, and bandage ANY cut, no matter how small it is. Any break in the skin can become a source of infection.
- Keep fingernails closely trimmed and clean (dirty nails can harbor pathogens).

1.10.2 Personal Protective Equipment

Personal Protective Equipment (PPE) must be evaluated as to the level of protection necessary for particular operating conditions and then made available to facility employees. The list below includes the PPE typically used and/or required in a solid waste management facility workplace.

- Safety shoes with steel toes.
- Noise reduction protection should be used in areas where extended exposure to continuous high decibel levels are expected.
- Disposable rubber latex or chemical resistant gloves for handling and/or sampling of waste materials.
- Dust filter masks (voluntary).
- Hard hats (in designated areas).

Following use, PPE's should be disposed of or adequately cleaned, dried, or readied for reuse.

1.10.3 Mechanical Equipment Hazard Prevention

All equipment should be operated with care and caution. All safety equipment such as horns, backup alarms, and lights should be functional. A Lockout-Tagout program will be used to identify equipment in need or under repair and insure that operation is "off-limits" prior to maintenance or repair. All operators will be trained in the proper operation of equipment.

1.10.4 Employee Health and Safety

Some general safety rules are:

- Consider safety first when planning and conducting activities.
- Review the equipment O&M manual(s) prior to attempting repairs/changes.
- Remember the buddy system for repair of mechanical equipment.
- Post emergency contact phone numbers.
- Provide easy and visible access to the Right to Know materials.
- Provide easy and visible access to first aid kits and fire extinguishers.

1.10.5 Physical Exposure

Facility personnel may come in contact with the fluids, solids, and airborne constituents found at the facility. Routine training should be conducted regarding the individual and collective materials used at the facility and their associated hazards. Training concerning safe work practices around these potential exposures should cover the use of equipment and proper disposal procedures.

1.10.6 Material Safety Data Sheets

Material Safety Data Sheets (MSDS) will be made available for all chemicals stored on site for use at the facility. MSDS sheets will be stored in a location with all other Right to Know information for the site.

1.11 Utilities

Electrical power, water, telephone, and restrooms will be provided at the scale house and transfer station.

1.12 Record Keeping Program

The County will maintain the following records in an operating record at the facility:

A. Current permit(s) (Permit to Construct, Permit to Operate, etc.);
B. Current operations manual/plan(s) and engineering plan for each landfill unit;
C. Inspection reports;
D. Audit and compliance records;
E. Annual reports (including survey and other documentation related to airspace usage in landfill units);
F. Waste inspection records (see Section 2.3.1);
G. Daily tonnage records - including source of generation;
H. Waste determination records (if applicable);
I. Quantity, location of disposal, generator, and special handling procedures for all special wastes disposed of at the site;
J. List of generators and haulers that have attempted to dispose of restricted wastes;
K. Employee training procedures and records of training completed;
L. All ground water monitoring and surface water quality information (See the current Water Quality Monitoring Plan) including:
    1. Monitoring well construction records;
    2. Sampling dates and results;
    3. Statistical analyses (if applicable); and
    4. Results of inspections, repairs, etc.

M. LFG monitoring results and remedial measures as required (see the current LFG Monitoring Plan);
N. All closure and post-closure information, where applicable, including:
    1. Notification of intent to close;
    2. Testing;
    3. Certification; and
    4. Recording.
O. Cost estimates or financial assurance documentation;
P. A notation of the date of cover placement;
Q. NPDES records (see Section 3.1.4); and
R. Leachate records (see Sections 3.2 and 3.3).

The operating record will be kept up to date by the Solid Waste Operations Manager or his designee. It will be presented upon request to the DWM for inspection. A copy of this Operations Manual will be kept at the landfill and will be available for use at all times.

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2.0 WASTE HANDLING OPERATIONS

This section describes the required waste handling operations for the Harnett County Anderson Creek Landfill facility. In addition to the MSW and C&D waste disposed of at or transferred from this facility, the County also collects/processes yard waste and recyclables including used tires, white goods, and scrap metal. These materials are stored at the landfill facility until there are sufficient quantities for pick up by various recycling contractors.

2.1 Acceptable Wastes

2.1.1 Transfer Station

Non-hazardous solid waste as defined by NCGS 130A-290(a)(35) generated within the approved service area may be accepted at the transfer station.

2.1.2 C&D Landfill Unit

Only the following wastes generated within the approved service area may be disposed of in the C&D landfill unit:

- Construction and Demolition (C&D) Solid Waste: as defined in 15A NCAC 13B.0532(8) means solid waste resulting solely from construction, remodeling, repair, or demolition operations on pavement and buildings or structures. C&D waste does not include municipal and industrial wastes that may be generated by the on-going operations at buildings or structures.
- Land Clearing and Inert Debris Landfill: as defined in 15A NCAC 13B.0101(22) means a facility for the disposal of land-clearing waste, concrete, brick, concrete block, uncontaminated soil, gravel and rock, untreated and unpainted wood, and yard trash.
- Land Clearing Waste: as defined in 15A NCAC 13B.0101(23) means solid waste which is generated solely from land-clearing activities, limited to stumps, trees, limbs, brush, grass, and other naturally occurring vegetative material.
- Asphalt: in accordance with NCGS 130A-294(m).
- Industrial solid waste that is generated by mobile or modular home manufacturers and asphalt shingle manufacturers. The waste must be separated at the manufacturing site to exclude municipal solid waste, hazardous waste, and other waste prohibited from disposal in a Construction and Demolition Landfill.
- Other Wastes as Approved by the Solid Waste Section of the Division of Waste Management.

In addition, asbestos as described in Section 2.4.3 may also be disposed of in the C&D landfill unit.

2.2 Prohibited Wastes

2.2.1 Transfer Station

The following wastes are prohibited from acceptance at the transfer station:

- Used Oil and Motor Vehicle Oil Filters;
- Yard Waste;
- White Goods;
- Antifreeze (ethylene glycol);
- Aluminum Cans;
- Whole Scrap Tires;
- Lead Acid Batteries;
- Certain Recyclable Rigid Plastic Containers (per NCGS 130A-309.10(f)(11));
- Wooden Pallets;
- Oyster Shells;
- Discarded Computer Equipment and Televisions;
- Construction and Demolition Debris (C&D) (Except when allowed by the County).

In addition, operating criteria prohibit other materials from disposal within the MSW landfill unit. These materials include:

- Hazardous waste as defined by NCGS 130A-290(a)(8), including hazardous waste from conditionally exempt small quantity generators.
- Polychlorinated biphenyls (PCB) wastes as defined in 40 CFR 761 with the exception of trace amounts found in materials such as consumer electronics.
- Bulk or non-containerized liquid wastes unless the waste is household waste other than septic waste and waste oil; or the waste is leachate or gas condensate derived from the MSW landfill unit. A liquid determination will be performed by the paint filter test (see Appendix B for apparatus and procedure).
- Containers holding liquid wastes unless the waste is household waste.

2.2.2 C&D Landfill Unit

Only wastes as defined in Section 2.1.2 above may be accepted for disposal in the C&D landfill unit. Prohibited wastes include waste exclusions listed in 15A NCAC 13B 0.0542 as follows:

- Wastewater treatment sludge. Wastewater treatment sludge may be accepted, with the approval of the DWM, for utilization as a soil conditioner and incorporated into or applied onto the vegetative soil layer

component of the final cover system. In this case, the sludge will be applied at no greater than agronomic rates and to a maximum depth of six inches.

- Containers such as tubes, drums, barrels, tanks, cans, and bottles unless they are empty and perforated to ensure that no liquid, hazardous, or municipal solid waste is contained therein;
- Garbage as defined in G.S. 130A-290(a)(7);
- Hazardous waste as defined in G.S. 130A-290(a)(8), to also include hazardous waste from conditionally exempt small quantity generators;
- Industrial solid waste unless a demonstration has been made and approved by the DWM that the landfill meets the requirements of Rule .0503(2)(d)(ii)(A);
- Liquid wastes;
- Medical waste as defined in G.S. 130A-290(a)(18);
- Municipal solid waste as defined in G.S. 130A-290(a)(18a);
- Polychlorinated biphenyls (PCB) wastes as defined in 40 CFR 761;
- Radioactive waste as defined in G.S. 104E-5(14);
- Septage as defined in G.S. 130A-290(a)(32);
- Sludge as defined in G.S. 130A-290(a)(34);
- Special wastes as defined in G.S. 130A-290(a)(40);
- White goods as defined in G.S. 130A-290(a)(44); and
- Yard trash as defined in G.S. 130A-290(a)(45).

The following wastes cannot be received if separate from C&D waste:

- Lamps or bulbs including but not limited to halogen, incandescent, neon or fluorescent;
- Lighting ballast or fixtures;
- Thermostats and light switches;
- Batteries including but not limited to those from exit and emergency lights and smoke detectors;
- Lead pipes;
- Lead roof flashing;
- Transformers;
- Capacitors;
- Copper chrome arsenate (CCA) and creosote treated woods; and
- Pallets.

Waste accepted for disposal in the C&D landfill unit must be readily identifiable as C&D waste and must not have been shredded, pulverized, or processed to such an extent that the composition of the original waste cannot be readily ascertained except as specified as follows:

- C&D waste that has been shredded, pulverized, or otherwise processed may be accepted for disposal from a facility that has received a permit from an authorized regulatory authority which specifies such activities

are inspected by the authority, and whose primary purpose is recycling and reuse of the C&D material. For this case, a waste screening plan and waste acceptance plan will be prepared and made available to the DWM upon request.

The County will not dispose of C&D waste that is known to be generated within the boundaries of a unit of local government that by ordinance:

(A) Prohibits generators or collectors of C&D waste from disposing that type or form of C&D waste.
(B) Requires generators or collectors of C&D waste to recycle that type or form of C&D waste.

2.3 Waste Screening Programs

In order to assure that prohibited wastes are not entering the landfill facility, screening programs have been implemented. Waste received at both the scale house and waste taken to the transfer station or active landfill unit is inspected by trained personnel. These individuals have been trained to spot indications of suspicious wastes, including: hazardous placarding or markings, liquids, powders or dusts, sludges, bright or unusual colors, drums or commercial size containers, and "chemical" odors. Screening programs for visual and olfactory characteristics of prohibited wastes are an ongoing part of the facility operation.

Records of information gathered as part of the waste screening programs will be maintained at the facility during its active life and as long as required by the County and the DWM.

2.3.1 Waste Receiving and Inspection

All vehicles must stop at the scale house located near the entrance of the facility and visitors are required to sign-in. All waste transportation vehicles are weighed and the content of the load assessed. The scale attendant(s) requests from the driver of the vehicle a description of the waste it is carrying to ensure that unacceptable waste is not allowed into the facility. The attendant(s) then visually checks the vehicle as it crosses the scale. Signs informing users of the acceptable and unacceptable types of waste are posted at the scale house. Once passing the scales, the vehicles are routed to the transfer station, C&D landfill unit, or other area (convenience center, etc.) as appropriate.

Vehicles are randomly selected for screening on a regular basis, depending on personnel available. ***At least two (2) vehicles per week will be randomly selected by inspection personnel.*** However, if something suspicious is spotted in any waste load, that load is inspected further.

Vehicles selected for inspection are directed to an area of intermediate cover adjacent to the working face or to an area of the tipping floor of the transfer station where the vehicle will be unloaded. Waste is carefully spread using suitable equipment. An attendant trained to identify wastes that are unacceptable inspects the waste discharged at the screening site. If unacceptable waste is found, including wastes generated from outside of the service area, the load will be isolated and secured by berming off the area. For unacceptable wastes that are non-hazardous, the Solid Waste Operations Manager will then notify officials of the DWM (see **Section 1.1.2**) within 24 hours of attempted disposal of any waste the landfill is not permitted to receive in order to determine the proper course of action. For unacceptable wastes that are thought to be hazardous, the Hazardous Waste Contingency Plan outlined in **Section 2.3.2** will be followed. The hauler is responsible for removing unacceptable waste from the facility property.

If no unacceptable waste is found, the load will be pushed to the working face and incorporated into the daily waste cell or loaded into a transfer trailer. All random waste inspections will be documented by facility staff using the waste screening form provided in **Appendix C**.

In addition to random waste screening described above, waste unloaded on the active face of the landfill or on the tipping floor of the transfer station will be inspected by the equipment operators, trained to spot unacceptable wastes, before and during spreading and compaction or loading onto transfer trailers. Any suspicious looking waste is reported immediately to the designated primary inspector for further evaluation.

2.3.2 Hazardous Waste Contingency Plan

In the event that identifiable hazardous waste or waste of questionable character is detected at the facility, appropriate equipment, protective gear, personnel, and materials as necessary will be employed to isolate the wastes. The DWM will be notified immediately (see **Section 1.1.2**) that an attempt was made to dispose of hazardous waste at the facility. If the vehicle attempting disposal of such waste is known, all attempts will be made to prevent that vehicle from leaving the site or, if the vehicle has left 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 County will assist the DWM as necessary and appropriate in the removal and disposition of the hazardous waste and in the prosecution of responsible parties. If needed, the hazardous waste will be covered with either on-site soils or other tarping material until such time when an appropriate method can be implemented to properly handle the waste. The cost of the removal and disposing of the hazardous waste will be charged to the owner of the vehicle

involved. Any vehicle owner or operator who knowingly dumps hazardous waste in the facility may be barred from using the facility.

Should an incident where hazardous waste is found at the facility occur, the event will be documented by facility staff using the waste screening form provided in Appendix C.

2.4 Waste Disposal

2.4.1 Access

Traffic will be clearly directed to the appropriate active access road. The location of access roads during waste placement will be determined by facility staff in order to reflect waste placement strategy. Additionally, access will be maintained for site monitoring locations.

2.4.2 General Procedures

For each active landfill unit, 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 (the spotter is typically the compactor operator). This procedure will be used in order to minimize the potential of unloading un-acceptable 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 approach to the working face will be maintained such that two or more vehicles may safely unload side by side (A minimum separation distance of 10 feet is encouraged.). 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. 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.

Waste unloading at the landfill will be controlled to prevent disposal in locations other than those specified by site management. 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. Normally, only one working face will be active on any given day, with all deposited waste in other

areas covered by either daily/periodic, intermediate, 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 (thicker lifts may be necessary at the operators discretion depending on waste type and location of waste placement), and compaction on relatively flat slopes (i.e. 5H:1V max.) using a landfill compactor and a minimum number of three full passes.

Caution will be used in wet conditions such that no waste will be placed into ponded water. Likewise, surface water will not be allowed to be impounded over waste.

Wind screens adjacent to the working face may be used as required to control windblown waste.

The use of portable signs with directional arrows and portable traffic barricades will facilitate the unloading of wastes to the designated disposal locations. These signs and barricades will be placed along the access route to the working face of the landfill or other designated areas which may be established.

The removal of solid waste from any landfill unit is prohibited unless an appropriate recycling plan has been approved by the DWM. Regardless, the general public is prohibited from any waste removal activities from any landfill unit.

2.4.3 Special Waste Management

2.4.3.1 Asbestos Management (C&D Landfill Unit)

The County may dispose of asbestos within the C&D landfill unit. Asbestos will only be accepted if it has been processed and packaged in accordance with State and Federal (40 CFR 61) regulations. Asbestos will arrive at the site in vehicles that contain only the asbestos waste and only after advance notification by the generator.

Once the hauler brings the asbestos to the landfill, the hauler will be directed to the designated asbestos disposal area by facility staff. The designated disposal area will be prepared by facility staff by leveling a small area using a dozer or loader. Prior to disposal, the landfill operators will stockpile cover soil near the designated asbestos disposal area. The volume of soil stockpiled will be sufficient to cover the waste and to provide any berms, etc. to maintain temporary separation from other landfill traffic.

Once placed in the prepared area, the asbestos waste will be covered with a minimum of 18 inches of cover soil placed in a single lift. The surface of the cover soil will be compacted and graded using a tracked dozer or loader. The landfill compactor will be prohibited from operating over asbestos disposal areas until at least 18 inches of cover is in-place.

The facility staff will record the approximate location and elevation of the asbestos waste once cover is in-place (typically using a GPS device). The Solid Waste Operations Manager will then review pertinent disposal and location information to assure compliance with regulatory requirements and enter the information into the Operating Record.

Once disposal and recording for asbestos waste is completed, the disposal area may be covered with waste. No excavation into designated asbestos disposal areas will be permitted.

2.4.4 Daily or Periodic Cover (C&D Landfill Unit)

At the completion of waste placement each week, or sooner if the area of exposed waste exceeds one-half acre in size, a 6-inch layer of earthen material or other material as approved by the DWM will be placed over the exposed waste. Cover must be placed at more frequent intervals if necessary to control disease vectors, fires, odors, blowing litter, and scavenging.

2.4.5 Alternate Daily Cover

Alternate daily cover (ADC) materials may be used upon approval by the DWM.

2.4.6 Intermediate Cover

A 12 inch layer of soil cover should be placed on all waste surfaces that have not received waste in 30 days but are below final elevation. This intermediate cover should be seeded immediately and graded such that all precipitation run-off is channeled to the surface water systems.

2.4.7 Height Monitoring

Periodically the facility staff will monitor landfill top and side slope elevations with a level. When such elevations approach design grades, the final top-of-waste grades will be staked to limit over-placement of waste.

2.5 Transfer Station Operations

2.5.1 Waste Receipt

All wastes received for processing at the transfer station will have been weighed-in and visually inspected by scale house personnel (see Section 2.3). Vehicles to be unloaded on the tipping floor will be directed by the waste spotter to back into the transfer station building and unload onto the tipping floor.

2.5.2 Tipping Floor Operations

Unloaded wastes will be visually inspected on the tipping floor (see Section 2.3). Acceptable waste will be loaded into an awaiting open-top transfer trailer in the loading bay (lower floor of the building). The building has push walls on either side of the tipping floor to aid operations staff in pushing waste through the loading chute located above the loading bay.

2.5.3 Container Loading and Transport

The waste loaded into each transfer trailer should be placed to eliminate excessive voids, irregularities, and protruding wastes to the extent possible. Each loaded trailer will be immediately covered with a tarp prior to leaving the loading bay. Any partially loaded trailer will be left in the loading bay. The movement of trailers on the site is the responsibility of the County. The movement of trailers to and from the site is the responsibility of either the County or a contracted transfer trucking firm.

Once loaded, trailers will be moved from the loading bay to await transport to a disposal facility. The disposal facility will be appropriately permitted to receive waste from the transfer station's service area. Waste can be stored in covered containers at the facility after hours, but no longer than 48 hours.

2.5.4 Equipment Operations Within the Transfer Station

Equipment operations will be carried out in a safe manner to avoid damage to the structure and transport vehicles.

2.5.5 Daily Cleaning

Daily cleaning will be used to control the potential for disease vectors, fire, odors, blowing litter, and scavenging. Any waste remaining on the tipping floor at the end of each day will be placed into a transfer trailer and the partially filled trailer will be covered overnight with a tarp. Additionally, the tipping floor will be swept clean and rinsed with water at the end of each working day. Wash-down

water, which becomes leachate upon contact with waste or waste residue, will be directed toward the drains located in the mid-section of the tipping floor and in the loading bay. From the drains, the wash-down water flows to a concrete storage tank located to the southwest of the building (see Section 3.2 for management of leachate at the transfer station).

2.5.6 Weekly Cleaning

A thorough cleaning of the transfer station will be performed at least on a weekly basis. An anti-bacterial detergent shall be used once weekly to sanitize the work area (tipping floor, push walls, and loading bay). Waste handling equipment will also be washed at least weekly.

2.6 Asphalt Shingle Recycling

Asphalt shingles are collected for recycling in a dedicated container at the convenience center. An asphalt company picks up the container when full.

2.7 Convenience Center Operations

The operation of the citizen's convenience center is as follows:

The convenience center is set up with roll-off containers and other facilities for the collection and temporary storage of MSW (small loads) and recyclables. The County currently typically collects the following materials for recycling in co-mingled containers:

- Fiber (Newspaper, Cardboard, Paperboard, Mixed Residential Paper, and Office Paper);
- Glass Beverage Containers (Clear, Brown, and Green);
- Aluminum and Steel Food and Beverage Containers; and
- Recyclable Rigid Plastic (#1 through #7).

The convenience center also includes collections facilities for:

- Used Tires;
- Used Vehicle Oil Filters;
- Automotive Batteries;
- Pallets; and
- White Goods, Scrap Metal, and Consumer Electronics (in concrete surfaced area adjacent to the transfer station).

The list of accepted materials may change from time to time at the discretion of the County and depending on available recycling markets.

Used tires are collected at the convenience center in a roll-off container. Once full, the used tires are taken to a tire recycler for recycling.

The operation of the white goods and scrap metal handling area is as follows:

- County personnel segregate materials suspected of containing chloroflourocarbon (CFC) refrigerants (i.e. refrigerators, freezers, and air conditioners containing Freon), and set aside to minimize the potential for damage prior to CFC removal. CFC refrigerants are removed prior to loading these materials in a roll-off container or truck.
- Other white goods and scrap metal are stockpiled or loaded directly in a roll-off container or truck.
- Periodically the County hauls the full roll-off containers or trucks to a local salvage yard, where the white goods and scrap metal can be recycled.

2.8 Yard Waste Processing Area Operations

The operation of the yard waste processing area is as follows:

Within the yard waste processing area, acceptable wood and yard wastes are stockpiled in separate windrows with a maximum height of 15 feet over and width of 50 feet. Sufficient space is provided between windrows to allow equipment access in case of fire and the windrows are kept a minimum of 75 feet from the property line.

Once sufficient material is accumulated at the site, a contractor is brought in to grind the waste. This typically occurs 2 to 4 times per year (or as needed). Once the waste is ground and becomes mulch, it is used either around the site, primarily for surface stabilization, or placed in windrows (with similar maximum dimensions to pre-processed materials) to be otherwise used in the future at the site. Mulch may also be taken off-site for use as boiler fuel. Typically, approximately 1,000 tons of material is ground each year.

Unacceptable wastes found in this area, if not otherwise prohibited, will be routed to either the transfer station or C&D landfill unit as appropriate.

2.9 Material Recovery

The County may elect to perform some material recovery at the facility for purposes of recycling and reuse. It is anticipated that most of the materials to be recovered will arrive at the facility as C&D waste. Thus, MSW will not be processed.

General procedures for material recovery will be as follows:

1. Staff will separate materials to be recovered near the active face of the landfill.

2. Only the following materials may be recovered:

    - Non-treated, non-painted clean wood (lumber);
    - Pallets (damaged and un-damaged);
    - Cardboard;
    - Metal (ferrous and non-ferrous);
    - Brick and block (undamaged and un-painted); and
    - Concrete (non-asphaltic).

3. Materials to be recovered may be stockpiled within the current or future limits of the C&D landfill (current Phases I & II and borrow area located to the north of Phases I & II), placed with similar materials stockpiled elsewhere (i.e. scrap metal), or placed in containers. Brick and block and concrete may be stockpiled until a load is generated; it is used as on-site as beneficial fill; or it is removed from the site for sale as fill, aggregate, etc.

3.0 ENVIRONMENTAL MANAGEMENT

This section reviews the overall environmental management tasks required for the successful operation of the facility.

3.1 Surface Water Control

As used herein, the definition of "surface water" is water which results from precipitation or site run-on that has not contacted the waste.

Proper control of surface water at the facility will accomplish the following goals:

- Minimize the potential for the discharge of pollutants to waters of the United States, including wetlands (point or non-point sources);
- Prevent the run-on of surface water into the landfill unit(s) or the active face(s);
- Prevent the run-off of surface water that has come into contact with the waste (i.e. leachate);
- Limit the erosion caused by surface waters;
- Limit sediments carried off-site by surface waters; and
- Maximize the SEPARATION of SURFACE water from LEACHATE.

Separate erosion and sedimentation control plans have been provided for the various landfill units and other site activities. These plans describe both short and long term engineered features and practices for preventing erosion and controlling sedimentation at this site. The following is a brief discussion of some of these features and practices, focusing more on the landfill units.

3.1.1 Surface Water Run-On Control

The perimeter berms and/or perimeter channels around the landfill unit(s) are designed to prevent the run-on of surface water from adjacent land into the landfill. Additional structures such as diversion berms, channels, down pipes, etc. carry surface water away from the landfill.

3.1.2 Erosion Control

The serviceability of the landfill relies heavily on soil berms, barrier layers, and agricultural layers that are readily eroded by flowing water. Erosion control provisions incorporated in the landfill include the following:

- The slope of the working face should typically be no steeper than 5H:1V where practical to limit erosion of the daily/periodic cover.
- Intermediate cover that has been exposed for more than 30 days must be seeded immediately and repaired when erosion features are identified.
- Drainage breaks (diversion berms, etc.) are provided on the final cover to

limit the flow length of run-off.

- Water collected by each drainage break is routed to stormwater drainage channels or down pipes so that the run-off volume does not accumulate going down the slope.
- The vegetative soil layer placed over the final cover must be seeded immediately.

Additional erosion control measures have been taken within the drainage channels and at points of stormwater discharge. All final cover should be inspected regularly for erosion damage and promptly repaired. Revegetation should be performed in accordance with the requirements of the applicable erosion and sedimentation control plan and/or the NC Erosion and Sedimentation Control Planning and Design Manual[2].

3.1.3 Sedimentation Control

Stormwater run-off from the landfill unit(s) is conveyed to one of the on site sediment basins and/or traps. These basins and/or traps should be inspected regularly for sediment build-up or erosion damage. The basins and/or traps should be cleaned out when sediment fills the lower half of the basin.

3.1.4 NPDES Requirements

The County will follow the requirements of applicable National Pollutant Discharge Elimination System (NPDES) permit requirements for the site. Requirements include periodic inspections, qualitative monitoring, and sampling of stormwater discharge points. The County will keep records of all inspections, monitoring, and sampling activities (including any test results) in the operating record.

3.2 Leachate Management - Transfer Station

All wash-down water which comes into contact with the waste, tipping floor, loading bay floor, or waste handling equipment will be treated as leachate. Wash-down water, which is collected in floor drains in the tipping floor and loading bay and flows to a concrete storage tank located to the southwest of the building. The floor drains will be visually inspected during routine cleaning activities. If there is evidence that the drains are not working properly the County will initiate the necessary maintenance activities.

The leachate storage tank level will be checked at least once per week. The tank will be pumped out whenever the tank approaches full capacity (typically quarterly or more frequently if larger storms are forecast). The leachate will then be hauled to an

[2] NC Division of Land Resources (Current Update), North Carolina Erosion and Sediment Control Planning and Design Manual, NCDENR - Division of Land Resources - Land Quality Section, Raleigh, NC.

approved wastewater treatment plant for treatment and disposal. The tank will be routinely inspected during pumping activities. If there is evidence that the tank is not functioning properly, the County will initiate the necessary maintenance actions.

It is anticipated that any leachate getting outside of the building or leachate storage tank will be minor (i.e. no more than a few gallons - such as the case of a leaky fitting during loading of leachate that is quickly repaired). In the event of a larger spillage of leachate, the spill will be contained as much as practical by County staff (using excavation, soil berms, or other means) and the DWM will be verbally notified (see Section 1.1.2). Any impacted soils will be excavated and properly disposed of.

3.2.1 Record Keeping

Records of leachate hauled from the transfer station will be placed in the facility operating record as described in Section 1.12.

3.3 Leachate Management - Landfill Units

3.3.1 Leachate Seeps

Leachate seeps can occur due to a variety of circumstances. The goal in dealing with leachate seeps is to prevent seepage from leaving the limits of waste disposal areas and to minimize the potential for reoccurrence. If evidence of leachate seeps is observed, the County will take the following actions. Depending on the circumstances, various combinations of actions may be appropriate.

1. If leachate is observed outside of the limits of waste disposal areas, notify the DWM (see Section 1.1.2).
2. Contain the flow of leachate using soil berms and/or excavation.
3. Excavate the area of seepage to attempt to allow flow into the underlying waste (i.e. break-up soil layers that may be causing the seep.).
4. For contained leachate that will not flow into underlying waste, a pump may be required to route the leachate to the existing leachate collection system (see Section 3.3.2) or to a tanker truck.
5. The use of soil (particularly clay) to plug the seepage may also be successful in the case where flows are minor.
6. Remove and dispose of impacted cover soils accordingly.
7. Repair/regrade landfill cover as necessary.

3.3.2 Leachate Management and Operational Plan

There is an existing leachate collection system for the active C&D landfill and closed MSW and C&D landfill units at the site. Collected leachate is pumped and hauled to a local wastewater treatment plant (WWTP). A copy of the approved leachate management and operational plan (prepared by C.T. Clayton Sr., P.E., Inc.) is provided in **Appendix D**. This plan includes monitoring, disposal, and spill response requirements.

3.3.3 Record Keeping

Records associated with leachate management at the site will be placed in the facility operating record as described in **Section 1.12**.

3.4 Water Quality Monitoring

The monitoring program and procedures outlined in the current water quality monitoring plan(s) will be followed for the monitoring of site groundwater monitoring wells and surface water monitoring locations. Documentation of the water quality monitoring program will be placed in the facility operating record as described in **Section 1.12**.

3.5 Landfill Gas (LFG) Management

Landfill gas (LFG) generated from the landfill units will be vented using passive vents placed at the time of closure. Refer to the appropriate permit application for details of these vents.

3.6 Landfill Gas (LFG) Monitoring Plan

The County will implement a routine landfill gas (LFG) monitoring program to ensure that methane concentrations do not exceed 25 percent of the lower explosive limit (LEL) (1.25% methane (CH_4)) in facility structures, or 100 percent of the LEL (5% CH_4) at property boundaries. LFG monitoring activities and remedial actions for concentrations exceeding these requirements will be in accordance with the current landfill gas monitoring plan(s) for the facility.

3.6.4 Record Keeping

Results of LFG monitoring and description of any remedial measures will be placed in the facility operating record as described in **Section 1.12**.

3.7 Vector Control

3.7.1 Transfer Station

Control of insects, rodents, and birds will be accomplished by regular cleaning of the transfer station and the control of litter. If vector control becomes a problem, additional measures will be taken to ensure the protection of human health.

3.7.2 C&D Landfill Unit

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

3.8 Litter Control

The vegetative trees/bushes act as a barrier to keep litter contained within the site and a litter control crew will pick up litter around the site and on access roads daily as necessary. Wind screens adjacent to active areas will be used as required to control windblown waste. Additionally, facility staff will make operational changes as practical based on wind conditions that may spread litter.

3.9 Odor Control

3.9.1 Transfer Station

Odorous or potentially odorous materials will be pushed into a transfer trailer and covered as soon as possible to avoid odor problems. Additionally, regular cleaning of the transfer station will help minimize the potential for odor problems. If odor control becomes a problem, additional measures will be taken to ensure odor control.

3.9.2 C&D Landfill Unit

Due to the nature of the waste disposed in this landfill unit, odor control is not anticipated to be of concern. However, if odor control becomes a problem, additional measures (such as additional cover over wastes such as drywall) will be taken to ensure odor control.

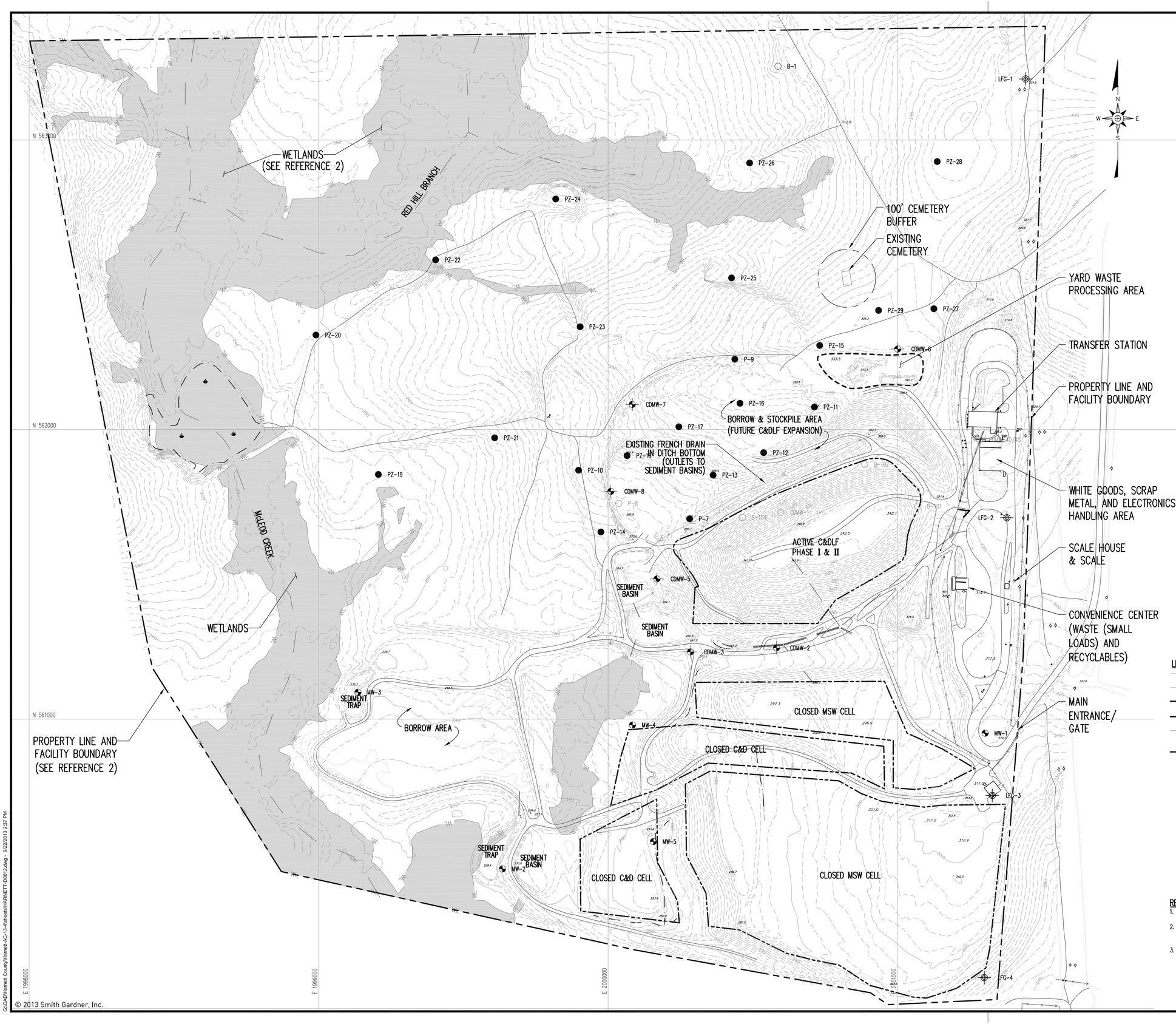
3.10 Dust Control

Dust related to waste hauler traffic on the access roads will be minimized by using a water truck to limit dust on the gravel portions of site roads. Dust generated by

excavation of cover soil will be limited by watering the cut soil areas if accessible to the water truck.

3.11 Air Quality

The County will follow all air quality requirements which are applicable to the landfill facility. This includes applicable requirements developed under a State Implementation Plan (SIP) approved or promulgated by the U.S. EPA Administrator pursuant to Section 110 of the Clean Air Act.



LEGEND

- EXISTING 10' CONTOUR (SEE REFERENCE 1)
- EXISTING 2' CONTOUR
- APPROXIMATE PROPERTY LINE
- CELL LIMITS
- WETLAND BOUNDARY (SEE REFERENCE 2)
- STREAM (APPROXIMATE)
- PZ-14 PIEZOMETER (SEE REFERENCE 3)
- CDMW-2 C&D MONITORING WELL
- MW-4 MONITORING WELL
- LFG-1 LANDFILL GAS MONITORING WELL
- B-104 WELL/PIEZOMETER (REMOVED)

REFERENCES

1. OVERALL SITE BASE TOPOGRAPHY BASED ON AERIAL SURVEY BY MAPPING RESOURCE GROUP, DATED 7/16/13.
2. OVERALL EXISTING SITE CONDITIONS PROVIDED BY C.T. CLAYTON, SR., P.E., INC., IN DRAWING TITLED "03001C ACLF Exp MAS-1", DATED 5/31/13.
3. WELL DATA AND LOCATIONS FROM C.T. CLAYTON, SR., P.E., INC., IN DRAWING TITLED "03001C ACLF Exp MAS-1", DATED 5/31/13.

0 150' 300' 450'

PREPARED FOR:

HARNETT COUNTY
NORTH CAROLINA
SOLID WASTE DEPARTMENT

PREPARED BY:

NC LIC. NO. C-0828 (ENGINEERING)

SMITH+
GARDNER
ENGINEERS
14 N. Boylan Avenue, Raleigh NC 27603 | 919.828.0577

SEAL

SEAL

REV.	DATE	DESCRIPTION

PROJECT TITLE:

ANDERSON CREEK
LANDFILL FACILITY

DRAWING TITLE:

EXISTING AND PROPOSED
LANDFILL UNITS
AND SOLID WASTE
MANAGEMENT ACTIVITIES

DESIGNED: P.K.S.	PROJECT NO: HARNETT-AC-13-4
DRAWN: K.C.B.	SCALE: AS SHOWN
APPROVED:	DATE: SEPT 2013
FILENAME: HARNETT-D0012	
SHEET NUMBER:	DRAWING NUMBER: FIG. 1

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Appendix A

Fire Occurrence Notification Form

Operations Manual
Harnett County Anderson Creek Landfill Facility
Harnett County, North Carolina

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SOLID WASTE MANAGEMENT FACILITY
FIRE OCCURRENCE NOTIFICATION
NC DENR Division of Waste Management
Solid Waste Section

Notify the Section verbally within 24 hours and submit written notification within 15 days of the occurrence.
(If additional space is needed, use back of this form.)

NAME OF FACILITY: _____ PERMIT # _____

DATE AND TIME OF FIRE: _____ @ _____

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:

DESCRIBE PLAN OF ACTIONS TO PREVENT FUTURE INCIDENTS:

NAME: _____ TITLE: _____ DATE: _____

****

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:

Revised 6/8/09

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Appendix B

Paint Filter Liquids Test

Operations Manual
Harnett County Anderson Creek Landfill Facility
Harnett County, North Carolina

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METHOD 9095
PAINT FILTER LIQUIDS TEST
From EPA SW-846

1.0 Scope and Application

1.1 This method is used to determine the presence of free liquids in a representative sample of waste.

1.2 The method is used to determine compliance with 40 CFR 264.314 and 265.314.

2.0 Summary of Method

2.1 A predetermined amount of material is placed in a paint filter. If any portion of the material passes through and drops from the filter within the 5 minute test period, the material is deemed to contain free liquids.

3.0 Interferences

3.1 Filter media were observed to separate from the filter cone on exposure to alkaline materials. This development causes no problem if the sample is not disturbed.

4.0 Apparatus and Materials

4.1 Conical paint filter: Mesh number 60 (fine meshed size). Available at local paint stores such as Sherwin-Williams and Glidden for an approximate cost of $0.07 each.

4.2 Glass funnel: If the paint filter, with the waste, cannot sustain its weight on the ring stand, then a fluted glass funnel or glass funnel with a mouth large enough to allow at least 1 inch of the filter mesh to protrude should be used to support the filter. The funnel is to be fluted or have a large open mouth in order to support the paint filter yet not interfere with the movement, to the graduated cylinder, of the liquid that passes through the filter mesh.

4.3 Ring stand and ring or tripod.

4.4 Graduated cylinder or beaker: 100-mL.

5.0 Reagents

5.1 None.

6.0 Sample Collection, Preservation, and Handling

6.1 All samples must be collected according to the directions in Chapter Nine of EPA SW-846.

6.2 A 100 mL or 100 g representative sample is required for the test. If it is not possible to obtain a sample of 100 mL or 100 g that is sufficiently representative of the waste, the analyst may use larger size samples in multiples of 100 mL or 100 g, i.e., 200, 300, 400 mL or g. However, when larger samples are used, analysts shall divide the sample into 100-mL or 100-g portions and test each portion separately. If any portion contains free liquids, the entire sample is considered to have free liquids.

7.0 Procedure

7.1 Assemble test apparatus as shown in Figure 1.

7.2 Place sample in the filter. A funnel may be used to provide support for the paint filter.

7.3 Allow sample to drain for 5 minutes into the graduated cylinder.

7.4 If any portion of the test material collects in the graduated cylinder in the 5-min. period, then the material is deemed to contain free liquids for purposes of 40 CFR 264.314 and 265.314.

8.0 Quality Control

8.1 Duplicate samples should be analyzed on a routine basis.

9.0 Method Performance

9.1 No data provided.

10.0 References

10.1 None required.

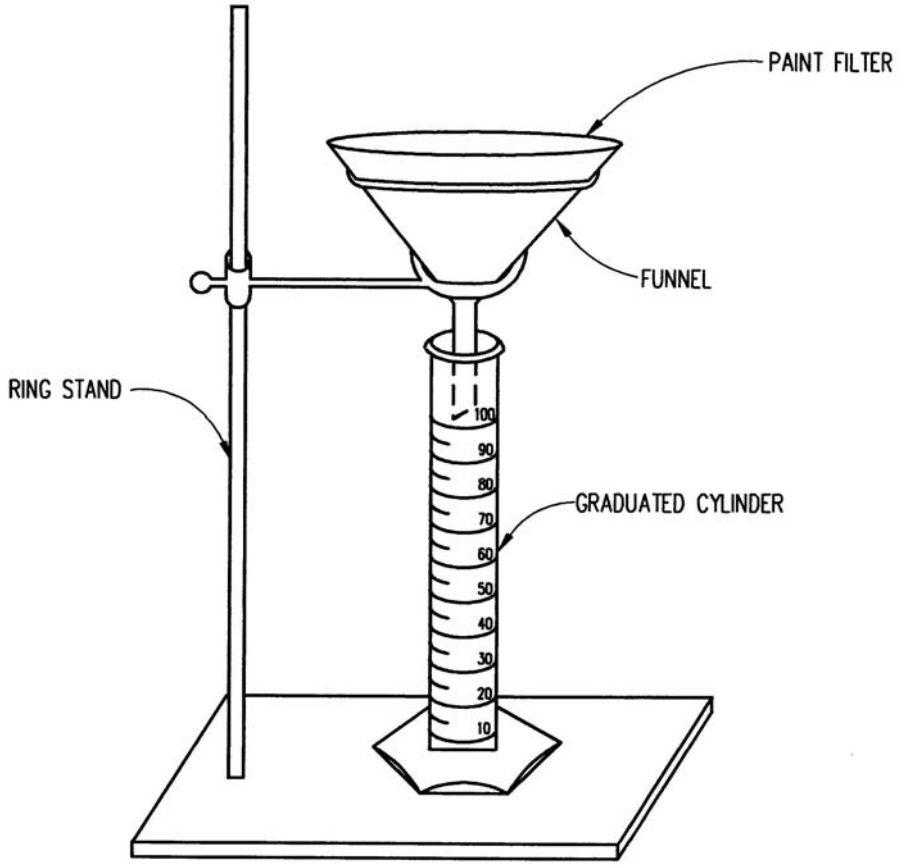
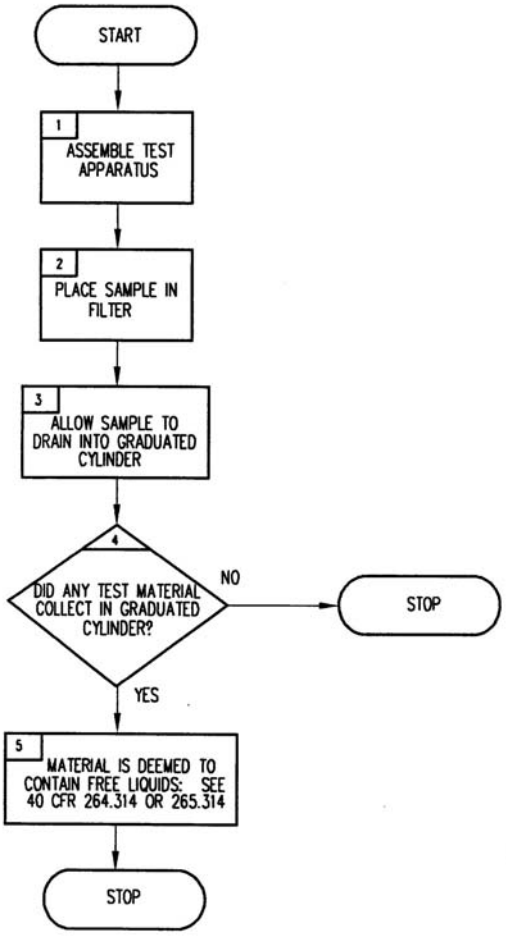


FIGURE 1. PAINT FILTER TEST APPARATUS.

METHOD 9095
PAINT FILTER LIQUIDS TEST



Appendix C

Waste Screening Form

Operations Manual
Harnett County Anderson Creek Landfill Facility
Harnett County, North Carolina

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Harnett County Solid Waste Department
Anderson Creek Landfill Facility
Permit Nos. 43-03 (Landfill) and 43-09T (Transfer Station)
(910) 893-5626

WASTE SCREENING FORM

Day / Date: _____ Time Weighed in: _____
Truck Owner: _____ Driver Name: _____
Truck Type: _____ Vehicle ID / Tag No: _____
Weight: _____ Tare: _____
Waste Generator / Source: _____

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

Inspection Location: _____

Approved Waste Determination Form Present? Yes _____ No _____ N/A _____

Description of Load: _____

Load Accepted (signature) _____ Date _____
Load Not Accepted (signature) _____ Date _____

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

Description of Suspicious Contents:
Color: _____ Hazardous Waste Markings: _____
Texture: _____
Drums Present: _____ Smell: _____
Est. Cubic Yards in Load: _____
Est. Tons in Load: _____

Harnett County Emergency Management Contacted? Yes _____ No _____

Company or Authority Contacted? _____
Hazardous Materials Present: _____

Hauler Notified (if waste not accepted) Phone: Time Contacted:
Other Observations: _____

Final Disposition
Signed: _____ Date _____
Waste Screening Inspector or Solid Waste Operations Manager

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

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Appendix D

Approved Leachate Management and Operational Plan

Operations Manual
Harnett County Anderson Creek Landfill Facility
Harnett County, North Carolina

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North Carolina Department of Environment and Natural Resources
Division of Waste Management

Beverly Eaves Perdue
Governor

Dexter R. Matthews
Director

Dee Freeman
Secretary

August 12, 2010

Jerry Blanchard
Harnett County General Services
103 E Ivey Street
P. O. Box 940
Lillington, NC 27546

Re: Leachate Management Plan *[DIN 11314]*
Anderson Creek Landfill
Harnett County, North Carolina
Permit No. 43-03
Doc ID No. 11322

Dear Mr. Blanchard:

The above referenced document is approved under the following conditions:

1. For pumping operations at the temporary loading stations, we recommend the overflow valve used to release storm water be closed prior to pumping leachate to ensure the valve is in working condition. The valve would then be closed after pumping leachate so that the valve is normally open for releasing storm water.

2. The pipes carrying leachate from the cells to the pumping tank or eventual pump station must be double lined (pipe within a pipe) to protect against leaks in the primary pipe. This design is consistent with the standard requirements for secondary containment at leachate collection facilities.

3. This authorization does not release the facility owner or operator from any liability for adverse impacts to human health or the environment in the operation of the leachate collection system. The owner and operator is responsible for obtaining and maintaining all other permits and licenses necessary for the construction, installation and operation of the facility.

Thank you for your efforts and cooperation in this matter. If you have questions about the permit conditions or questions arise during construction, please contact either me at 919.508.8495 or Drew Hammonds, Environmental Senior Specialist for the facility, at 910.433.3351.

Sincerely

Digitally signed by Geoffrey H. Little
Location: NC-DENR DWM Solid Waste Section
Date: 2010.08.12 10:53:14 -04'00'

Geoffrey H. Little
Environmental Engineer II

c: Paul Crissman, DWM
Ed Mussler, DWM
Drew Hammonds, DWM
Ryan Sadler, CT Clayton
Zinith Barbee, DWM
Mark Poindexter, DWM

1646 Mail Service Center, Raleigh, North Carolina 27699-1646
Phone: 919-508-8400 \ FAX: 919-715-4061 \ Internet: www.wastenotnc.org

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Fac/Perm/Co ID #	Initials Trail	Date	Doc ID #
43-03	GL	07/09/2010	DIN 11314

Clayton Engineering
Civil & Environmental

July 7, 2010 PN: 03034

Mr. Geof Little
Solid Waste Section
Division of Waste Management
North Carolina Department of Environment and Natural Resources
Mail Service Center 1646
Raleigh, NC 27699-1646

RE: Leachate Management System
Anderson Creek Landfill
Permit 43-03
Harnett County, North Carolina

Dear Mr. Little:

On behalf of Harnett County, C. T. Clayton, Sr., P.E., Inc. (CTC) would like to inform you of our proposed leachate management system for the Anderson Creek C&D Landfill (ACLF) Permit 43-03.

Over the last year, routine landfill inspections have uncovered several leachate pop-outs on the active C&D cell that have required attention. The standard method of repair has been to dig back down and into the cell down-gradient of the pop-out and fill the area with stone. This directs the leachate back into the cell. The cap material and vegetative cover would then be replaced.

At the lower end of the landfill cells, several of these standard repairs have been attempted and in the last month, inspections have indicated that this method will not work any further. Therefore, the Owner has implemented a two-phased plan to manage the leachate. Phase 1, the temporary solution, is shown on the attached drawings and operational requirements described in the attached Leachate Management Plan. In summary, the system is as follows:

- Sumps will be dug into the side of the landfill where a perforated 36" corrugated plastic pipe (CPP) will be surrounded with rip-rap.
- A 4" PVC pipe will be inserted into the 24" CPP and exit out the top and down the slope to a truck loading area. The 4" PVC pipe will have a valve located at the discharge point. This pipe will act as a suction pipe.
- An all-weather road will be constructed to the leachate loading station(s).

PO Box 578 – 46 West Washington Street - Coats, North Carolina 27521
Phone: 910-897-7070 - Fax: 910-897-6767
Offices located in Coats and New Bern, North Carolina
License No. C-2570 - dba C. T. Clayton, Sr., P. E., Inc. - www.ctclayton.com

- The leachate loading station(s) will be graded on a 8:1 slope with a clay base and surrounded by a clay containment berm to hold any potential spills. A geosynthetic liner will be installed over the clay base and berm. A 4" PVC drain pipe will be installed on the lower end of the loading station to allow release of storm water. If the hauler has a spill, a plug valve is located on this line which the driver would immediately close to contain the spill within the berm. See the attached Operations Plan for more information.
- The permitted septic hauler will transport the leachate to the Harnett County WWTP in Lillington, NC which has a septic receiving station at the facility.

Phase 2 will be the permanent leachate management solution and will involve installing a pumping station on the ACLF facility and running a force main to the nearest gravity sewer that discharges to the Harnett county owned Lillington WWTP, building a constructed wetlands onsite for treatment, or taking over operation of the Carolina Lakes lagoon and spray fields adjacent to the ACLF parcel.

Discussions and planning are currently occurring within the Harnett County Departments of Solid Waste & Public Utilities to decide the most cost effective and otherwise advantageous alternative. Once the permanent solution is decided upon, NCDENR will be notified. It is anticipated that a permanent solution will not be utilized for at least 2-3 years.

In order to not incur any violations for leachate release, the County is proceeding with Phase 1 immediately as weather allows (The sump on the C&D cell has been constructed and is operational). If you have any problems or concerns with this plan, please contact CTC and Harnett County Solid Waste Department immediately. Also, please inform us of any permitting requirements that will be needed, and they will be addressed right away.

Should you have any questions or comments, please contact me or Ryan Sadler at the telephone numbers below or by e-mail at tyrus@ctclayton.com or ryan@ctclayton.com.

Sincerely,

C. Tyrus Clayton, Jr., P. E.

attachments: Leachate Extraction System Drawings (2 sheets)
Leachate Management Plan

cc: C. T. Clayton, Sr., P. E.
Jerry Blanchard
Drew Hammonds, NCDENR-SWS

LEACHATE MANAGEMENT AND OPERATIONAL PLAN

FOR

TEMPORARY PUMP AND HAUL STATION(S)

ANDERSON CREEK

CONSTRUCTION AND DEMOLITION

LANDFILL

SWS PERMIT 43-03

HARNETT COUNTY, NORTH CAROLINA

Prepared by:

Clayton Engineering
Civil & Environmental

46 West Washington Street – PO Box 578 - Coats, NC 27521
910-897-7070 Phone – 910-897-6767 Fax
www.ctclayton.com – NCPE Firm C-2570

NORTH CAROLINA PROFESSIONAL SEAL 028909 ENGINEER C. TYRUS CLAYTON, JR. 7/2/10

CTC PN#3034
JUNE 2010

LEACHATE MANAGEMENT PLAN

FOR

TEMPORARY PUMP AND HAUL STATION

ANDERSON CREEK

CONSTRUCTION AND DEMOLITION LANDFILL

HARNETT COUNTY, NORTH CAROLINA

Table of Contents

1.0 Temporary Loading Station Construction 1

2.0 Leachate Monitoring 1

3.0 Leachate Disposal 2

4.0 Loading Station Spill Response Plan 2

1.0 Temporary Loading Station(s) Construction

To control repeating leachate pop-outs, sumps will be dug into the side of the landfill cells where a perforated 36" corrugated plastic pipe (CPP) will be surrounded with rip-rap. A 4" PVC pipe will be inserted into the 36" CPP and exited out the top and down the slope to the temporary truck loading area. The 4" PVC pipe will have a valve located at the discharge point. This pipe acts as a suction pipe.

An all-weather road will be constructed to the temporary leachate loading station. The temporary leachate loading station will be graded on an 8:1 slope with a clay base and perimeter containment berm. A layer of HDPE geosynthetic liner will be installed over the clay base and berm. A cushion layer of sand will be placed next to protect the HDPE liner from puncture. Finally, an all-weather road material of mixed stone will be placed for vehicular traffic.

A liner penetration will be made for a 4" PVC drain pipe with plug valve which will be installed on the lower end of the loading station. During normal operation, the valve is to remain open to allow release of storm water. If the hauler has a spill, the driver will immediately close the plug valve to contain the spill within the lined berm.

2.0 Leachate Monitoring

The temporary loading station and leachate sump piping network are to be checked daily and immediately after any precipitation event. See attached landfill inspection checklist which is filled out by the landfill operator daily and kept on file. Any components found to be not properly functioning shall be promptly repaired or replaced.

The operator also, on a weekly basis, visually observes the landfill side slopes for leachate pop-outs which are to be documented and promptly repaired.

The leachate sump will be outfitted with a visual level indicator on a float system. When the leachate in the sump reaches a certain level, a visible colored rod will rise out of the sump which informs the landfill staff that it is time to pump the leachate. A rain gauge will also be installed at this location.

3.0 Leachate Disposal

A permitted septic hauler is contracted to pump from the temporary loading station into trucks and transport the leachate to the Harnett County Wastewater Treatment Plant (WWTP) in Lillington, NC which has a septic receiving station at the facility. There is no pre-treatment required at this time. If in the future Harnett County Public Utilities requires a pre-treatment process, this Leachate Management Plan will be updated to include those items.

4.0 Loading Station Spill Response Plan

In the event of a spill in the temporary loading station, the driver of the contracted hauler is instructed to immediately close the valve on the stormwater bypass pipe exiting the containment area. If this valve is properly closed and the leachate is contained within the temporary loading station, the contaminated soils on top of the geosynthetic liner shall be carefully removed and taken to the on-site Anderson Creek Transfer Station for disposal at a lined MSW landfill. The cushion layer and all-weather layer will be replaced with new materials.

If the driver of the contracted hauler is unable to close the valve on the stormwater bypass pipe in time to prevent a release beyond the liner limits, the following actions will occur:

A) Should the leachate collect in a sediment pond or other surface waters:
   1. The County will notify SWS of the release within 24-hours.
   2. The County will analyze the contaminated water for Appendix I list of constituents and BOD_5, COD, phosphate, nitrate and sulfate. The sample results will be forwarded to SWS and used to determine whether the pond or surface waters are impacted by the release. At that time, the County will respond as the SWS deems necessary.

B) If the leachate release is contained to a soil covered area and does not impact the sediment pond or other surface waters:
   1. The County will remove the contaminated soils within 24-hours of release and take the soils to the on-site Anderson Creek Transfer Station for disposal at a lined MSW landfill.
   2. Document the leachate release and cleanup activities.

HARNETT COUNTY LANDFILL DAILY/WEEKLY CHECK LIST

Inspector: _____ **Facility:** DELF ACLF

Inspection Dates: __/__/20___ to __/__/20___ **Landfill Cell:** ☐ Active C&D ☐ Active LCID ☐ Closed MSW/C&D(Weekly)

	DAILY OPERATION REQUIREMENTS	Mon	Tue	Wed	Thu	Fri	Sat	COMMENTS/NOTES (utilize back of form for more description as necessary)
Daily Inspection Items for Active Cells	Trucks using designated roads/approved parking areas per permit							
	Operations conducted during permitted operating hours							
	Access controlled per plan							
	Access road(s) maintained (erosion, dust, litter, mud, etc) per plan							
	Vehicles directed promptly to unloading area							
	Vehicles promptly unloaded							
	Inspection procedures implemented for prohibited wastes per plan							
	No unapproved wastes							
	Solid waste spread and compacted into layers per plan							
	No waste <15 ft. from edge of liner, berm, edge marked, etc.							
	Procedures followed for special handling and residual wastes							
	No open burning							
	Vectors minimized and controlled per plan							
	Odors minimized and controlled per plan							
	Other nuisances minimized and controlled per plan							
	Litter minimized and controlled per plan							
	Approved weekly cover placed							
Daily & Weekly Inspection Items- All Cells	Vegetation established and maintained per plan							
	Surface and groundwater pollution discharges prevented/controlled							
	Soil and erosion control BMPs are maintained per plan							
	Leachate popouts detected							
	Leachate popouts repaired							
	Flow from leachate management system monitored daily							
	Leachate management facilities operated and maintained							
	Landfill gas controlled per plan/ LFG Flare Operational							
	Daily operational records being made and maintained							
	Salvaged materials are stored in an approved area							
	Recyclable materials collection center maintained							
	No immediate threats to public health and safety							

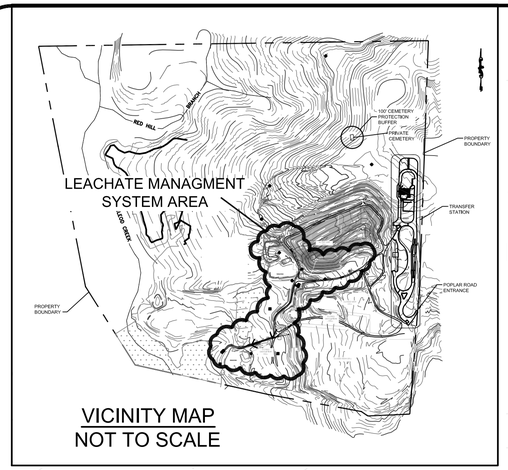
Inspector Signature: _____ **Date**: _____ **Key** = Yes, No, NA (not applicable), ND (not determined)

(FRONT)

HARNETT COUNTY LANDFILL DAILY/WEEKLY CHECK LIST

ADDITIONAL INSPECTION COMMENTS:

(BACK)



VICINITY MAP
NOT TO SCALE

PROPOSED 292 LF 4" PERFORATED LEACHATE EXTRACTION LINE

ACTIVE C&D CELL

CDMW-5

PROPOSED 168 LF 4" EACHATE EXTRACTION LINE

PROPOSED LEACHATE EXTRACTION SUMP

PROPOSED 600 LF 4" PERFORATED LEACHATE EXTRACTION LINE

PROPOSED 16'x30' TEMPORARY LINED LEACHATE LOADING STATION

Sediment Basin

CDMW-2

HAUL ROAD

CDMW-3

4" TEE AND GATE VALVE

PROPOSED 60 LF 4" LEACHATE EXTRACTION LINE

PROPOSED LEACHATE EXTRACTION SUMP

PROPOSED 1006 LF 4" LEACHATE EXTRACTION LINE

PROPOSED 100 LF 4" PERFORATED LEACHATE EXTRACTION LINE

CLOSED MSW CELL

MW-4

PROPOSED 505 LF 4" LEACHATE EXTRACTION LINE

PROPOSED 240 LF 4" PERFORATED LEACHATE EXTRACTION LINE

CLOSED DEMOLITION CELL

PROPOSED 620 LF 4" LEACHATE EXTRACTION LINE

HAUL ROAD

PROPOSED 260 LF 4" LEACHATE EXTRACTION LINE

PROPOSED LEACHATE EXTRACTION SUMP

CLOSED DEMOLITION CELL

MW-5

PROPOSED 275 LF 4" PERFORATED LEACHATE EXTRACTION LINE

CLOSED MSW CELL

PROPOSED LEACHATE EXTRACTION SUMP

MW-2

Sediment Basin

PROPOSED 200 LF 4" PERFORATED LEACHATE EXTRACTION LINE

PROPOSED 16'X30' LINED LEACHATE LOADING STATION. (TO BE CONVERTED TO FUTURE PUMP STATION.)

LEGEND

- LEACHATE EXTRACTION PUMP
- LINED LEACHATE LOADING STATION
- 4" PERFORATED EXTRACTION LINE
- LEACHATE EXTRACTION LINE
- MW-4 — existing monitoring well
- CDMW-2 — existing monitoring well
- WETLANDS
- existing major contour
- existing minor contour
- existing limits of waste

0 30' 60' 120'
SCALE 1" = 60'

No.	Revision/Issue	Date

THIS DOCUMENT ORIGINALLY ISSUED AND SEALED BY C. TYRUS CLAYTON, Jr., PE No. 028909 ON JULY 2, 2010. THIS ELECTRONIC MEDIUM IS NOT CONSIDERED A CERTIFIED DOCUMENT.

21-56.1103(d) BOARD RULES NORTH CAROLINA ADMINISTRATIVE CODE TITLE 21, CHAPTER 56 BOARD OF EXAMINERS FOR ENGINEERS AND SURVEYORS

Signature

Date

CLAYTON Engineering
dba C.T. Clayton & Associates
Civil and Environmental
PO Box 578 · Coats, North Carolina 27521
Phone 910-897-7070 · Fax 910-897-6767
License No. C-2570 · www.ctclayton.com

ANDERSON CREEK LANDFILL
LEACHATE EXTRACTION SYSTEM

HARNETT COUNTY, NC

Project No: 3034	File Name: 3034MAS
Designed By: CTC Sr.	Drawn By: SBK
Checked By: CTC Sr.	Proj. Eng.: CTC Sr.

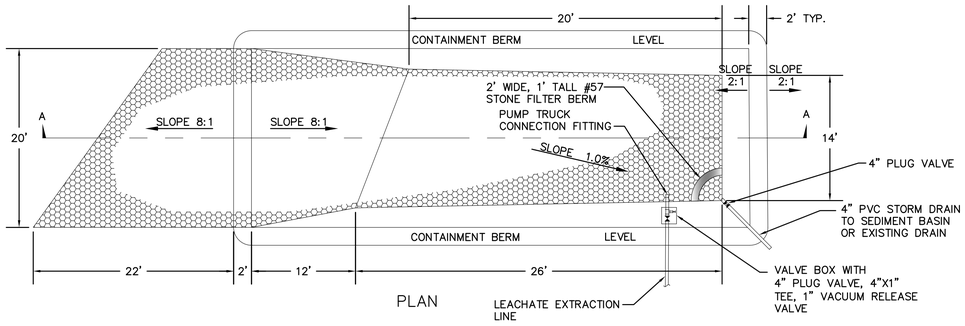
Sheet Title: LEACHATE EXTRACTION SYSTEM SITE PLAN

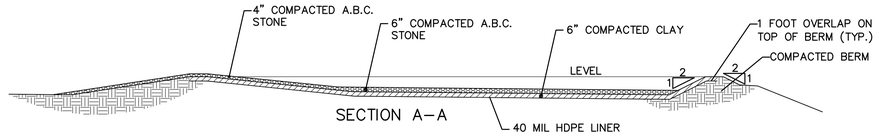
Date: 24 JUNE 2010

Scale: 1" = 60'

Sheet 1 OF 2

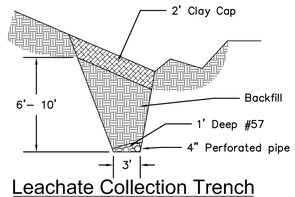
P:\03 Harnett County\3034 ACLF Leachate Management\CAD\3034 ACLF Leachate.dwg



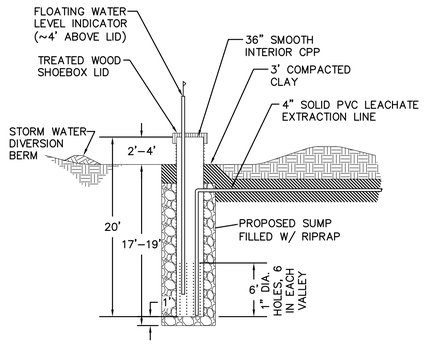


TEMPORARY LEACHATE LOADING STATION DETAIL

NOT TO SCALE



Leachate Collection Trench



LEACHATE EXTRACTION SUMP DETAIL

NOT TO SCALE

General Notes

No.	Revision/Issue	Date

THIS DOCUMENT ORIGINALLY ISSUED AND SEALED BY C. TYRUS CLAYTON, JR., PE No. 028909 ON JULY 2, 2010. THIS ELECTRONIC MEDIUM IS NOT CONSIDERED A CERTIFIED DOCUMENT.

21–56.1103(d) BOARD RULES NORTH CAROLINA ADMINISTRATIVE CODE TITLE 21, CHAPTER 56 BOARD OF EXAMINERS FOR ENGINEERS AND SURVEYORS

Signature

Date

CLAYTON Engineering
Civil and Environmental
PO Box 578 · Coats, North Carolina 27521
Phone 910-897-7070 · Fax 910-897-6767
License No. C-2570 · www.ctclayton.com

ANDERSON CREEK LANDFILL
LEACHATE EXTRACTION SYSTEM

HARNETT COUNTY, NC

Project No:	3034	File Name:	3034MAS
Designed By:	CTC Sr.	Drawn By:	SBK
Checked By:	CTC Sr.	Proj. Eng.:	CTC Sr.

Sheet Title: LEACHATE EXTRACTION SYSTEM DETAILS

Date: 24 JUNE 2010

Scale: NOT TO SCALE

Sheet 2 OF 2

P:\03 Harnett County\03034 ACLF Leachate Management\CAD\3034 ACLF Leachate.dwg

SMITH+GARDNER
ENGINEERS

ADDRESS
14 N. Boylan Avenue, Raleigh NC 27603

TEL
919.828.0577

WEB
www.smithgardnerinc.com

September 24, 2013

Mr. Ming-Tai Chao, P.E.
Environmental Engineer
NC DENR - Division of Waste Management
1646 Mail Service Center
Raleigh, North Carolina 27699

RE: Permit Renewal Application
Harnett County Anderson Creek Transfer Station (Permit No. 43-09T)
Spring Lake, North Carolina

Dear Mr. Chao:

On behalf of Harnett County, Smith Gardner, Inc. (S+G) would like to submit for your review a permit renewal application for the Harnett County Anderson Creek Transfer Station located near Spring Lake. This application consists of the attached operations manual which replaces the previously permitted operations manual for the facility. Note that this operations manual covers both the operation of the transfer station and the other activities at the site, including the active construction and demolition debris (C&D) landfill.

Should you have any questions or require clarification, please contact me at your earliest convenience.

Sincerely,
SMITH GARDNER, INC.

Pieter K. Scheer, P.E.
Vice President, Senior Engineer
pieter@smithgardnerinc.com

Attachment: Operations Manual

cc: Ed Mussler, P.E., DWM
Dennis Shakelford, DWM
Robert Hearn, DWM
Amanda Bader, P.E., Harnett County
Randy Smith, Harnett County
Andrew Holland, Harnett County

From:	Pieter Scheer
To:	Chao, Ming-tai
Cc:	Mussler, Ed; Shackelford, Dennis; Hearn, Robert; Amanda Bader; Randy W. Smith; Andrew Holland; pieter@smithgardnerinc.com
Subject:	Harnett County - Anderson Creek Transfer Station - Permit Renewal Application
Date:	Tuesday, September 24, 2013 11:09:46 AM
Attachments:	M Chao 09-24-13 (HC AC TS Permit Renewal).pdf HC AC Operations Manual 09-13.pdf

---

Ming:

Attached is a copy of the permit renewal application for the Anderson Creek Transfer Station. Please advise if the County has been billed for the $3,000 review fee. If not, we can bring with us to our meeting on Dunn-Erwin Thursday. Thanks.

Pieter

Pieter K. Scheer, P.E.
Vice President, Senior Engineer

SMITH + GARDNER

14 N. Boylan Avenue
Raleigh, NC 27603

P (919) **828.0577**
F (919) **828.3899**
C (919) **815.9377**

www.smithgardnerinc.com