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Mr. Allen Gaither, PE  
 Regional Engineer  
 Solid Waste Permitting Section  
 Division of Waste Management  
 North Carolina Department of Environment and Natural Resources  
 2090 U.S. Highway 70  
 Swannanoa, North Carolina 28778

RE: Permit Renewal Application for  
 Macon County MSW Landfill Facility  
 Permit No. 57-03  
 Macon County, North Carolina

Dear Mr. Gaither:

On behalf of Macon County, McGill Associates is submitting the following material in support of Macon County's permit renewal request for the Macon County MSW Landfill Facility, Permit No. 57-03. Please find enclosed an original copy of the revised Operations Plan with associated Appendices and Figures. We have also enclosed a digital copy of the revised Operations Plan and Appendices along with digital copies of Figure 1 – Overall Site Plan, Figure 2 – June 8, 2009, Existing Conditions, and Figure 3 – Projected Grades, Five-Year Permitting Period.

Please call should you have any questions or need any additional information.

Sincerely,  
 MCGILL ASSOCIATES, P.A.



WILLIAM H. SPERRY, PE  
 Project Manager

Enclosure

cc: Mr. Chris Stahl, Macon County

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Engineering • Planning • Finance

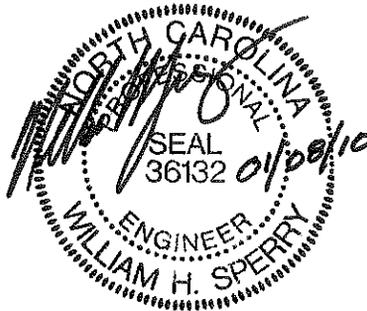
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**OPERATIONS PLAN**

**MACON COUNTY MSW LANDFILL  
MACON COUNTY, NORTH CAROLINA**

**WILLIAM H. SPERRY, PE**



Engineering • Planning • Finance  
*Asheville, North Carolina*

**June 2007**  
**Revised January 2010**

**09.00730**

**OPERATIONS PLAN**  
**Macon County MSW Landfill**

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**OPERATIONS PLAN**  
**Macon County MSW Landfill**

**Introduction**

Macon County currently manages the operation of a single active MSW cell (Phase II, Cell 1) at the Macon County Municipal Solid Waste Landfill (MSWLF) facility. Phase II, Cell 1 began to receive waste in February 1999, at which time, Phase I Cell 1 was temporarily closed with an intermediate cover. The County stopped receiving wastes at their Highlands Construction & Demolition Landfill (C&DLF) on June 30, 2008, and now disposes of construction and demolition wastes in the MSWLF. Existing MSWLF facilities include a landfill office, scales and scalehouse, Waste Treatment and Processing Facility, vehicle maintenance shop, equipment storage building, leachate collection system, yard waste facility and a recycling processing center. Existing MSW Phase 2 is expected to provide five (5) years of additional landfill airspace. The following Figures are attached: Figure 1- Overall Site Plan, which includes the current facilities, the landfill units, borrow areas, stockpile areas, and the revision to the facility boundary near the southwest margin of the property; Figure 2- June 8, 2009, Existing Conditions, which illustrates the grades at the time of the last capacity survey; and Figure 3 – Projected Grades 5-Year Permitting Period, which illustrates the projected grades at the end of the five (5)-year permitting period on July 20, 2015. Appendix 9 includes the waste and volume projections for the five (5)-year permitting period.

The Macon County Municipal Solid Waste Landfill is owned and operated by Macon County, North Carolina. Operation and maintenance of the landfill is under the supervision of the Macon Solid Waste Director, Mr. Chris Stahl.

**This Operations Plan has been prepared as required under Rule .1617 and in accordance with Rule .1625 of the North Carolina Solid Waste Management Rules (15A NCAC 13B). Macon County shall maintain and operate the Macon County MSW Landfill in accordance with the following requirements.**

**1.0 Waste Acceptance and Disposal Requirements**

The Macon County Municipal Solid Waste Landfill will only accept municipal solid waste, construction and demolition waste, and non-hazardous industrial waste generated in Macon County. Macon County will notify the Division of Waste Management, Solid Waste Section within 24 hours of any attempts to dispose of non-permitted waste.

## 1.1 Prohibited Wastes

The following wastes are prohibited from disposal at the landfill:

- Hazardous waste as defined within 15A NCAC 13A, including hazardous waste from conditionally exempt small quantity generators.
- Polychlorinated biphenyls (PCB) waste as defined in 40 CFR 761.
- Liquid wastes unless they are managed in accordance with Rule .1626(9).
- Wastes prohibited by Statute GS 130A-309.10 of the North Carolina Solid Waste Management Rules. These wastes include:
  - Used oil,
  - Yard trash,
  - White goods,
  - Antifreeze (ethylene glycol),
  - Lead-acid batteries,
  - Aluminum cans,
  - Whole scrap tires.
  - Motor oil filters,
  - Recyclable plastic bottles (excluding motor oil bottles),
  - Wooden pallets.
- Wastes prohibited by Macon County Solid Waste Ordinance passed on July 2, 1996. These wastes include:
  - Burning or smoldering materials, or any other materials that would create a fire hazard,
  - Cardboard,
  - Radioactive Waste,
  - Wet sludges that cannot pass the paint filter test,
  - Aluminum cans,
  - Metal drums of 50 gallons or more capacity unless drain holes are provided to prevent containers from holding liquid or unless filled with identifiable solid waste which is otherwise acceptable,
  - Automobiles, truck or other motor vehicle bodies, large pieces of metal such as manufactured homes or farm equipment,
  - Ash unless approved by the Solid Waste Director,
  - Regulated medical waste,
  - Wood waste greater than 6 inches in diameter at the butt end and greater than 4 feet in length, and
  - Friable Asbestos.

## 1.2 Hazardous Wastes

Hazardous waste may be gases, liquid, solids or sludges that are listed or exhibit the characteristics described in 40 CFR Part 261.

PCB wastes are defined in 40 CFR 761. They may be liquids or non-liquids (sludges or solids). PCB wastes do not include small capacitors found in white goods (e.g., washers, dryers, refrigerators) or other consumer electrical products (e.g., radio and television units).

## 1.3 Liquid Wastes

Bulk or non-containerized liquid waste may not be placed in Macon County Municipal Solid Waste Landfill cell unless:

1. The waste is household waste other than septic waste.
2. The waste is leachate or gas condensate derived from the cell itself.

Containers holding liquid waste may not be placed in the Macon County Municipal Solid Waste Landfill unless:

1. The container is a small container similar in size to that normally found in household waste.
2. The container is designed to hold liquids for use other than storage.
3. The waste is household waste.

Note: Liquid Waste means any waste material that is determined to contain "free liquids" as defined by Method 9095 (Paint Filter Liquids Test), as described in "Test Methods for Evaluating Solid Wastes, Physical/Chemical methods" (EPA Pub. No. SW-846).

## 1.4 White Goods

The Macon County Municipal Solid Waste Landfill does accept white goods, which are taken to a white goods pad that is located behind the Recycling Processing Center. All appliances containing chlorofluorocarbon (CFC) refrigerants are segregated from the other scrap metals. Freon (type 12 for refrigeration units and type R22 for air conditioning units) is removed by certified staff (State Board of Refrigeration Examiners certification number NC-820-3177) using model CR-600 refrigerant extraction pumps. The Freon is collected into 50-pound storage tanks and then transferred to a 250-pound storage tank located inside the Recycling Facility. The Freon is shipped to a certified Freon recycler for final processing when the 250-pound tank is full. Once a white good unit is empty, it is marked, logged into the Freon records book and transferred to the scrap metal pile located on the same concrete pad behind the refrigeration units. Any refrigerators with locking doors will have the door removed immediately.

Non-freon containing white goods are placed into the scrap metal area on the white goods pad for removal by a contractor. Freon and non-freon items are stored separately on the pad.

### **1.5 Car Wash Sediment**

The Macon County Municipal Solid Waste Landfill does not accept car wash sediment unless a TCLP test on metals has been performed at the potential customer's expense and the test is negative. Any waste accepted must not contain any free liquids and must pass the paint filter test as well.

### **1.6 Lights Containing Mercury**

Lights containing mercury (LCM's) are not accepted by the Macon County Municipal Solid Waste Landfill, except for disposal from households and small businesses, where disposal is due to normal home or building maintenance. Bulk disposal of LCM's from commercial sources, especially businesses that service, manufacture, or dispose of LCM's, is strictly prohibited. Unless fluorescent light tubes are from households or small businesses as described above, the generator must test the tubes and verify that they do not contain mercury and that they are non hazardous before they can be disposed of at the Macon County MSW Facility. Ballasts for fluorescent lighting fixtures may contain PCB's. These ballasts are commonly unmarked and therefore will not be accepted by the Macon County MSW Facility unless manufacturer's markings of "NO PCB's" are found on the ballasts and/or PCB levels do not exceed 50 ppm.

### **1.7 Automobile Fuel Tanks**

Steel automobile gasoline tanks are accepted at the Macon County MSW Facility as long as they do not contain any explosive vapors or any free liquids and they have been perforated or rendered incapable of retaining liquids. Terne-coated gasoline tanks cannot be landfilled due to the tanks exhibiting TCLP leachability for lead well in excess of 5.0 ppm, which is the EPA hazardous threshold.

### **1.8 Asbestos**

All waste containing asbestos shall be managed in accordance with 40 CFR 61. Only non-friable asbestos is accepted at the Macon County Municipal Solid Waste Landfill. A small sample of the asbestos must be brought to the Landfill for inspection prior to bringing the full load to the landfill. The Solid Waste Director or a NCDENR representative will verify if the asbestos is acceptable for disposal in the Macon County Municipal Solid Waste Landfill. Asbestos is considered non-friable if it cannot be crushed into a powder form or into multiple smaller pieces when squeezed in a fist. Non-friable asbestos will only be accepted between 8:00 am and 3:00 pm, Monday through Friday. The asbestos must be double-bagged in heavy duty trash bags. Prior to sealing the bags, the asbestos must be sprayed with water to discourage creation of airborne

particles in the event that the bags rip or become opened. Asbestos waste should be brought to the landfill separately from any other waste. Upon entry to the landfill, the generator/hauler will inform the scalehouse attendant of the nature of the waste. The scalehouse attendant will direct the customer to a landfill operator at the Waste Treatment and Processing Facility, not to the landfill. One of the Waste Treatment and Processing Facility or landfill operators will escort the customer to a determined disposal location and stay with the customer until the waste is deposited. The operator will then immediately cover the waste with additional loose waste at the toe of the working face or place bales on top of the asbestos waste to cover the bags. Asbestos waste will not be placed with a compactor or bulldozer.

### **1.9 Food, Animal, & Regulated Medical Waste**

No hazardous, liquid, or regulated medical waste shall be accepted or disposed of in the Landfill. Spoiled foods, animal carcasses, abattoir waste, hatchery waste, and other animal waste delivered to the disposal site shall be covered immediately. These wastes will be placed at the toe of the working face and shall be covered immediately.

### **1.10 Wastewater Sludge**

Wastewater sludges may be disposed of in the landfill. Sludges disposed in the landfill must pass the paint filter test and must be designated non-hazardous with the Toxicity Characteristic Leaching Procedure (TCLP) test.

## **2.0 Random Waste Inspections**

Macon County has a program in place for detecting and preventing the disposal of hazardous and banned wastes by conducting a random inspection program. The frequency of random inspections shall be based on the type and quantity of wastes received daily, and the accuracy and confidence desired in conclusions drawn from inspection observations. Currently, the random inspection rate represents approximately 5–10% of the average daily waste load. At a minimum, inspected loads will always represent more than 1% of the waste stream. Inspections will be performed at the Waste Treatment and Processing Facility. If these inspections indicate that unauthorized wastes are being brought to the Macon County Municipal Solid Waste Landfill site, then the random inspection program should be modified to increase the frequency of inspections.

Inspection priority also will be given to haulers with unknown service areas, to loads brought to the facility in vehicles not typically used for disposal of municipal solid waste, and to loads transported by previous would-be offenders. For wastes of unidentifiable nature, the inspector should question the transporter about the source/composition of the materials. The program will include the following:

Landfill personnel will conduct random inspections of incoming loads. The frequency of the random inspections will be based on the type and quantity of waste, but not less than 1% of the waste stream. Inspections will occur at the Waste Treatment and Processing Facility. The driver will be directed to dump his/her load on the tipping floor of the Facility off to the side of the regular waste stream. The load will be carefully spread using the bucket of a rubber-tired loader. Landfill personnel who have been adequately trained to identify hazardous and banned waste will then inspect the load. Any unacceptable wastes are removed from the load and taken to the proper disposal area. If hazardous or unknown wastes are discovered, the waste is secured away from the operating area at an isolated location of the tipping floor. The waste generator/hauler would then be questioned on the source and nature of the waste and the Solid Waste Director notified immediately. If the nature of the waste presents an acute or immediate hazard to personal safety, the Emergency Management Services will be contacted. NCDENR will be notified of the situation by telephone within 24 hours and in writing within 15 days of the occurrence. The written notice will take the form of a Special Waste Handling Occurrence Report, which is located at the Solid Waste Administration Building.

## **2.1 Waste Inspection Records and Notices**

A record will be kept of each inspection that is performed. These records will be included and maintained in the operating record of the landfill. A copy of the waste inspection record and a procedure of the random waste screening process are attached as Appendix 3.

Signs shall be placed in clear view of each incoming waste transporter, which shall include the following notice:

NOTICE: RANDOM WASTE SCREENING IS PRACTICED HERE. WE RESERVE THE RIGHT TO INSPECT ANY LOAD OR PORTION OF A LOAD ARRIVING AT OUR FACILITY. WE WILL REJECT ALL: HAZARDOUS WASTES, PCBs, LIQUIDS AND ANY UNACCEPTABLE WASTE AS DETERMINED BY OUR MANAGEMENT. YOUR PARTICIPATION IN THIS PROGRAM IS NOT OPTIONAL!

## **2.2 Training of Facility Personnel**

Landfill Operators and Transfer Station Operators maintain their Continuing Education Units (CEU's) through training courses offered by SWANA. Documentation of training will be placed in the operating record for the facility. There are four (4) certified Landfill Technical Associates employed at the Macon County MSW Landfill in addition to the Solid Waste Director, who currently has a Manager of Landfill Operations and a MSW Systems Management Certification.

Macon County, with the assistance of J&B Disposal, operates eleven (11) staffed convenience centers throughout rural parts of the County. Personnel at the convenience centers are trained to identify hazardous, liquid, and special wastes. If any banned or hazardous wastes are identified by center personnel, they will instruct the individual attempting to dispose of the waste to remove it and require the individual to dispose of the waste in a hazardous facility or direct them to the landfill for proper disposal. Macon County will provide at least annual training to all landfill personnel in regard to recognizing hazardous and liquid waste.

## **2.3 Contingency Plan**

A Contingency Plan for handling prohibited wastes is included as part of the training plan. The Contingency Plan is described in the Waste Screening and Special Waste Handling Occurrence Procedures included in Appendix 3. The plan involves the identification of the waste by inspection. If the load has been determined to be of a hazardous nature, the landfill will not accept the waste and require that hauler remove the waste from the facility. The hauler will then be required to find a facility suitable for accepting the hazardous waste.

### **3.0 Waste Treatment and Processing Facility**

#### **3.1 Overview**

The Waste Treatment and Processing Facility consists of a pre-engineered metal building with a concrete tipping floor and concrete push wall. Incoming waste collection vehicles will deposit municipal solid waste (MSW) and construction & demolition wastes directly onto the concrete tipping floor of the Facility. Once the wastes have been dumped onto the tipping floor, it will be inspected for illegal and banned wastes, hazardous wastes, and/or other wastes requiring special handling. Illegal and hazardous wastes will be diverted from the waste stream and disposed of properly in a hazardous waste landfill. Once the wastes have been inspected for unacceptable materials, a loader will spread the remaining wastes over the tipping floor so that recyclable materials can be removed from the waste stream. Cardboard and scrap metal will be the principle materials targeted for recovery, along with clean wood and pallets, rigid plastics, #1 and #2 plastics, and electronics. Other recyclable wastes will only be recovered if they arrive in bulk form and/or are easily separable from the waste stream. The remaining wastes will be pushed to the rear of the Facility via a rubber tired loader. The waste will be collected along the push-wall that runs parallel to a 48-ft. walking floor trailer. The loader will pick up the waste along the push-wall and deposit it into the walking floor trailer. A road tractor will then carry the waste in the trailer to the landfill for disposal. It is anticipated that 1-3 loads will be taken to the landfill daily. The cycle time for off-loading the trailer is approximately 15 minutes. Wastes will be collected at the toe of the push-wall while the trailer is away from the facility. At the end of each operating day, all wastes will be removed from the tipping floor and partial trailer loads will be stored overnight in the walking floor trailer within the Treatment and Processing Facility.

Normal working hours for the Waste Treatment and Processing Facility are 7:30 a.m. to 4:30 p.m., Monday through Friday and 8:00 am to 2:00 pm on Saturdays. Note that should unexpectedly heavy volumes occur, Facility personnel would continue to load MSW wastes after the regularly scheduled hours. The Facility is closed on Sunday and the following holidays: Thanksgiving Day, Christmas Day and any federal holiday which falls on Tuesday through Thursday.

#### **3.2 Personnel**

The Facility is owned and operated by Macon County. A minimum of two (2) staff employees is required for the daily operation of the Waste Treatment and Processing Facility. These employees are properly trained in safety procedures and the inspection of incoming wastes. Training materials published by the Solid Waste Association of North America (SWANA) are utilized for initial training of on-site personnel and for continuing education. The Waste Treatment and Processing Facility employees also direct and coordinate the movement of collection vehicles into and out of the Facility

### **3.3 Characterization of Waste Stream**

The waste received at the Waste Treatment and Processing Facility will have the same characterization as the waste accepted by the MSW landfill. Certain waste types will bypass the Facility and be taken directly to the landfill for disposal. These materials include such wastes as asbestos wastes, sludges, non-regulated medical wastes, and potentially any other wastes that are difficult to process and/or contain no recoverable materials.

### **3.4 Inspection of Wastes**

Properly trained employees control access to the Waste Treatment and Processing Facility. As the contents of the collection vehicles are emptied onto the tipping floor, an employee will conduct periodic visual inspections of the waste materials as outlined in the Waste Screening and Special Waste Handling Occurrence Procedure found in Appendix 3. If unacceptable waste is found, the driver of the vehicle will be instructed to terminate dumping and the unacceptable waste will be reloaded onto the vehicle for removal from the site. Examples of unacceptable wastes include large containers of liquid waste, sludges, drums that have not been emptied and crushed prior to delivery, and containers either smoking or emitting noxious vapors. Waste collection agreements on file for each of the waste delivery accounts allow the Facility operator to maintain accountability for the different haulers using the Facility. If any hauler using the Facility develops a pattern of deceptive waste identification in order to circumvent proper regulation, the Asheville regional office of NCDENR will be notified within 24 hours of attempted disposal and informed as to the type of material and the hauler so that follow-up investigations can be conducted, if necessary.

If hazardous waste is identified during vehicle dumping, Facility personnel will immediately notify the driver and if necessary, contact NCDENR and the Hazardous Materials Emergency Response Team for the region, RRT6. The appropriate information concerning the waste will be provided to those officials and the recommended steps will be taken until properly trained handlers of hazardous waste arrive on-site.

Infectious or medical waste haulers are advised that the Facility does not accept such wastes and that the hauler will have to transport the infectious wastes to an approved facility for disposal.

Should a "hot load" occur in a vehicle using the Facility, the attendant will not permit the load to be unloaded. If the load must be dumped, it will be dumped in or adjacent to the Facility near the fire hydrants. Once the load has been extinguished and the cause determined, the load will be taken into the Facility for disposal. The fire department will be called if help is needed. No asbestos or animal wastes will be accepted at the Facility.

The above limitations on the types of wastes that will be accepted do not circumvent the incidental wastes that may be found in the residential waste stream that is expected at the facility.

### **3.5 Traffic Control**

Site personnel control access to the Waste Treatment and Processing Facility. As vehicles arrive at the Facility, site personnel will direct the driver to position the vehicle at the correct unloading location once there is sufficient room to maneuver on the concrete floor. When the contents of the vehicle are emptied, the driver is instructed to move the vehicle away from the tipping floor and exit the Facility. Directional signs located at the facility will aid traffic control.

During times when several vehicles are at the Facility at the same time, haulers are instructed to wait within the staging area located outside the entrance to the building. The tipping area will allow for two (2) trucks to dump simultaneously.

### **3.6 Housekeeping, Litter, and Vector Control**

Incoming wastes will be transported to the Facility in covered or enclosed vehicles. Throughout the day and at the end of each working day, facility personnel will police the building and surrounding site for litter. Collected litter is placed in containers for proper disposal. A yard hydrant is available to wash down the concrete tipping floor and adjacent equipment areas when needed. The equipment used for pushing trash on the tipping floor also has a bucket equipped with a squeegee. The wash water flows into drains located throughout the tipping floor. A metal grate covers the drain to block large debris that might clog the drains. The metal grates are raked periodically and the collected trash is placed into containers for proper disposal. The drain is connected to a six (6)-inch sewer line that also services the office, breakroom, and restrooms. The sewer line drains to a duplex pump station outside the Facility. This pump station pumps through a two (2)-inch force main to a 10-inch force main that runs between the East Franklin Pump Station and the Franklin Wastewater Treatment Plant. The pump station has an excess volume capacity of 200 gallons and a pumping capacity of 20 gpm. The pump station is equipped with automatic controls and high-water alarm. Final disposal of the leachate is at the Franklin Wastewater Treatment Plant. The Town of Franklin operates this wastewater treatment plant. See Appendix 1 for a letter from the Town of Franklin, which states that the Town of Franklin Wastewater Treatment Plant will accept an average flow of 875 gallons per day from the former Baling Facility (now the Waste Treatment and Processing Facility) at the Franklin Landfill.

Odors are controlled by prompt unloading and transfer of all delivered wastes at the Facility, which has seven (7) roll-up doors to allow adequate access to all areas of the building to ease operations, maintenance, and cleaning. The doors allow adequate fresh air exchange when opened, which aid in odor control. The building is also equipped with ventilation fans for operation during cold weather.

The daily removal of solid waste in conjunction with daily housekeeping procedures effectively controls the development of vector related problems. The tipping floor is constructed of concrete, which is a relatively impervious, cleanable material. Floor and equipment wash-downs at the Facility also reduce both odor and vector problems. As

described previously, wash water is diverted to the duplex pump station located outside the building. Licensed exterminators are also available to visit the Facility as needed.

### **3.7 Waste Treatment and Processing Facility Bypass Procedures**

Wastes from commercial haulers and convenience centers are disposed directly at the working face of the landfill, unless large quantities of recoverable materials are identified. Smaller loads utilize the Waste Treatment and Processing Facility. Unregulated wastes from hospitals and retirement facilities, animal wastes, and asbestos wastes are disposed directly at the working face of the landfill. Asbestos wastes require special handling as outlined in Section 1.8.

In the event that wastes cannot be processed through the Waste Treatment and Processing Facility due to equipment failure, the Facility may be bypassed. If the Facility is anticipated to be out of operation for only a short period, wastes will be stockpiled on the tipping floor. The tipping floor at the Facility can comfortably accommodate approximately 150 tons of wastes. If the Facility is anticipated to be out of operation for more than 2 or 3 hours, the Facility will be bypassed. The waste would then be taken directly to the MSW landfill by the collection trucks. All rules that apply to traditional landfilling practices will be followed. Inspections will be performed in the landfill adjacent to the working face and materials will be separated as required. The MSW will then be compacted and sufficiently covered. In all cases, wastes will not be allowed to remain on the tipping floor of the Facility overnight.

### **3.8 Dust and Fire Control**

Since collection and transfer vehicles travel at low speeds on paved roads, dust generation to the Facility is not a problem. The road from the Facility to the MSW Landfill is gravel so the County periodically wets the road to contain dust. Furthermore, periodic washdown of the tipping floor and equipment will also prevent excessive build-up of dirt and dust at the facility.

Hand-held fire extinguishers and two fire hoses located inside the building provide fire control. Fire protection will be provided by the local fire department, which is aware of the fire control needs for the Facility. In the event that a fire occurs, the local authorities will be notified immediately if help is needed. The telephone numbers of local fire, police, ambulance and hospital facilities are posted in and around the Facility at all times. Should a fire occur at the Facility, the NCDENR will be notified within 24 hours and written notification will be submitted within 15 days.

### **3.9 Wastewater Collection**

Wastewater flow at the Facility consists of wash-down water and liquids escaping the deposited wastes. These sources of wastewater are directed into six drains located throughout the Facility floor. The metal roof covering the Facility minimizes the generation of wastewater. The drains empty into the duplex pumping station located

outside of the building. The wastewater that accumulates in the pump station is pumped to the Franklin Wastewater Treatment Plant. Refer to Appendix 1 for a letter from the Town of Franklin, accepting flow from the former Baling Facility (now Waste Treatment and Processing Facility).

### **3.10 Stormwater Management and Erosion Control**

Areas adjacent to the Facility are graded away from the building. Gutters and downspouts are positioned on the building to divert discharge of stormwater to diversion ditches and stormdrains. The Macon County Landfill operates under a stormwater discharge permit issued by the NCDENR-Division of Water Quality, permit number: NCG120083, which requires regular monitoring of stormwater discharge locations.

### **3.11 Zoning**

Since the Waste Treatment and Processing facility is located on the Macon County Landfill property, zoning approved for the current solid waste management facilities allows for the Waste Treatment and Processing Facility. Refer to Appendix 6 for a letter from the county where zoning for the Macon County Landfill property is given.

### **3.12 Facility Inspections**

Regular maintenance inspections of the Facility are conducted at least annually. The inspections are conducted by site personnel who are familiar with the buildings and equipment at the site, as well as operations of the Facility. No records of inspections are kept. Observations include the following:

1. Building, foundation, and push walls
2. Ventilation system
3. Fire equipment
4. Electrical systems
5. Floor drains and yard hydrant
6. Leachate pump station

If the Waste Treatment and Processing Facility personnel note any unsatisfactory conditions, the concerns will be reported to the Macon County Solid Waste Director. If a threat to safety or to the environment is identified, immediate action will be taken to correct the situation. If necessary, operations at the Facility will be suspended temporarily until the proper authority can be contacted.

#### **4.0 Waste Placement & Cover Material Requirements**

The waste will be placed first in subcell 1, in the southwest corner of Phase II, Cell 1 and then continued to the North into subcell 2 and later to the East into subcells 3 and 4. Waste placement will continue in a phased manner until the final grades are reached. The initial 5-foot depth of waste in each subcell shall be carefully screened for objects that could be pushed through the composite liner. A compactor shall not be used on this initial lift of waste to reduce the potential for impacting the geomembrane. The initial lift of waste will be compacted only by the equipment used to place the waste. Following placement of the initial lift, the solid waste will be placed and compacted as densely as possible using compactors and dozers. Waste placement will be in lifts not to exceed 10 feet. In order to increase compaction, waste should be placed from the downgradient to upgradient direction when possible. The working face shall be maintained in as small an area as possible to increase compaction and to reduce the amount of daily cover required. All windblown material resulting from daily waste placement will be recovered and returned to the cell for disposal at the end of each workday.

#### **4.1 Daily Cover**

Macon County shall cover the disposed solid waste with six (6) inches of earthen material at the end of each operating day, or at more frequent intervals if necessary, to control disease vectors, fires, odors, blowing litter, and scavenging.

#### **4.2 Alternative Daily Cover**

As an alternative to the six inches of earthen material, Macon County may use an alternative daily cover (ADC) that has been approved by the Solid Waste Division. The County will abandon the use of the 4 mm thick polyethylene film as an ADC in conjunction with the removal of the baling process from the landfill operation. Two types of ADC have been approved by the NCDENR-Solid Waste Division for use at the landfill. Macon County has obtained the approval of a 48ft x 50ft landfill tarp as an ADC. The tarp will be spread over the sloped working face of the landfill at the end of each day. The second method of approved ADC is the use of 3-inches of ground pallets and wood waste in conjunction with 3-inches of native soil instead of the 6-inches of earthen material. Correspondence pertaining to both of the approved ADC's is included in Appendix 8.

Each day at closing, the ADC tarp is walked onto the landfill face. The sides of the tarp will be weighted with soil as needed to prevent the tarp from being blown off of the landfill face by high winds. The size of the working face will be maintained so that the tarp completely covers all wastes not otherwise covered with at least six inches of earthen material or approved ADC. On rare occasions, such as the beginning or end of a landfill lift, it may be necessary to maintain a larger working face. Under such circumstances, a second tarp will be taken to the landfill for additional temporary coverage. The second tarp will be placed so that a maximum overlapping of the tarps is maintained. Care is taken to make sure that no vehicle traffic or landfill equipment is allowed to pass over the

cover, which could result in shearing or tearing of the cover. The spare tarp will be stored at the Waste Treatment and Processing Facility.

The second type of approved ADC consists of 3-inches of native soil and 3-inches of ground pallets and yard waste. The ground materials will only be placed in the vicinity of the active working face and primarily during wet weather conditions to assist in alleviating the muddy conditions that impede efficient operation. The daily cover will reduce nuisances caused by odors, vectors, litter, etc., and will assist landfill operations during wet weather conditions. The soil component of the daily cover will also create isolated pockets of waste within the cell to prevent and control landfill fires. Using the ground pallets and yard waste should not increase the potential for landfill fires, since the material will be placed in conjunction with a separate soil layer and will be predominately used in wet weather conditions.

The ADC's will be placed to meet or exceed the performance criteria of an ADC as outlined in Rule .1626 2 (b) by providing control of disease vectors, fires, odors, blowing litter, and scavenging.

Macon County shall cover all waste areas that will be inactive for more than twelve (12) months and have not reached final elevations with a minimum of one foot of intermediate cover. Any area inactive for more than ninety (90) days will be hydro-seeded to prevent erosion of the cover layer.

#### **4.3 Disease & Vector Control**

Macon County will control the spread of disease vectors by maintaining daily cover requirements and picking up windblown trash at the end of each day.

## 5.0 Explosive Gases Control

### 5.1 Methane Gas Recovery System

Macon County currently does not have any methane gas recovery system.

### 5.2 Routine Methane Monitoring Program

The routine monitoring program currently being used by the Macon County Municipal Solid Waste Landfill involves a quarterly inspection. There are 14 gas monitoring wells located around the landfill site. During each monitoring event, each of these wells is checked for the presence of an explosive vapor or gas. A copy of the quarterly methane monitoring form is located in Appendix 4 and the Methane Monitoring Site Sampling Plan is included in Appendix 5. Several wells have a lower case letter as part of their identification description. These wells are not intended to be compliance wells for property line LEL evaluation. Instead, these wells are monitored for historical trend data only and a detection in these wells will not be viewed as a compliance action event.

The methane gas monitoring system was designed in accordance with the factors outlined in Rule .1624(4)(b)(i). The soils above the potentiometric surface in the landfill area consist of silty sands and sandy clays. A conservative assumption is that the methane gas will migrate at a vertical to horizontal rate of 2:1 in these types of soils. From the boring and piezometer data, the potentiometric surface was established. The methane monitoring wells and points were placed to monitor gas migration above the potentiometric surface and to ensure that the methane gas generated by the landfill does not exceed 25% of the LEL in the facility structures or at the landfill property line. The monitoring system consists of fourteen (14) gas-monitoring wells.

### 5.3 Methane Sampling Instrument

The hand-held instrument used in the sampling process is a **CES LANDTECH GEM 2000 GAS METER** that is capable of measuring Methane, Oxygen, Carbon Dioxide, and percent lower explosive limit (%LEL). A magnehelic gauge is used to measure pressure differentials in the probes. The procedure used at each monitoring well is as follows:

1. Calibrate the gas meter according to the manufacturer's instructions.
2. Remove the lock from the well casing. If the probe does not have a permanent valved cap in place, replace the cap with a cap equipped with a bibbed cock valve.
3. Attach the hose to the probe and measure the probe pressure/vacuum with the magnehelic gauge and record the information on the field worksheet.
4. Attach the Air Cadet portable pump to the probe and open the valve. Prior to purging, operate the pump with the valve closed to ensure there are no leaks in the connection. Evacuate two (2) volumes of air from the probe based on the probe depth, diameter and pump volume.

5. Attach the gas meter probe tubing to the monitoring port on top of each well. Open the valve. Operate the meter until the methane, carbon dioxide and oxygen levels stabilize.
6. Record the %LEL reading and methane concentration along with the following pertinent information.
  - Inspector's Name,
  - Date and time sample taken,
  - Well identification,
  - Temperature and atmospheric pressure,
  - Probe pressure/vacuum,
  - Oxygen level,
  - Carbon dioxide level, and
  - General observations such as the presence of odors or audible/visual venting of gases.
7. Return the cap if necessary to the probe. Lock probe casing.
8. Run gas meter in between well measurements to purge any landfill gas from the meter.
9. Proceed to the next well and repeat steps 2 through 8.

#### **5.4 Methane Response Plan**

In the event that methane gas levels exceed 25% of the lower explosive limit (LEL) in facility structures or exceed the LEL at the property boundary, immediate steps must be taken to protect human health such as:

1. Building should be vented if applicable
2. All personnel should be evacuated from the area immediately.
3. Notify the Division of Solid Waste

NOTE: Methane is explosive when present in the range of 5 to 15 percent by volume in air. When present in air at concentrations greater than 15 percent, the mixture will not explode. This 15 percent threshold is the Upper Explosive Limit (UEL). The UEL is the maximum concentration of a gas or vapor above which the substance will not explode when exposed to a source of ignition. The explosive hazard range is between the LEL and the UEL. However, methane concentrations above the UEL remain a significant concern; fire and asphyxiation can still occur at these levels. In addition, even a minor dilution of the methane by increased ventilation can bring the mixture back into the explosive range.

Following the immediate response, the following steps must be taken:

1. Within 7 days of detection, place in the operation record documentation that methane gas concentrations exceeded the criteria, along with a description of immediate actions taken to protect human health.

2. A remediation plan must be prepared and implemented within 60 days after exceeding the methane level. The remediation plan should describe the nature and extent of the methane problem as well as a proposed remedy. A copy of this plan must be placed in the operating record.

## **6.0 Air Quality**

### **6.1 Clean Air Act**

The Macon County MSW Landfill is not required to have an air quality permit as under the State Implementation Plan (SIP) approved or promulgated by the U.S. EPA Administrator pursuant to Section 110 of the Clean Air Act, as amended. The Macon County Landfill would be required to obtain a Title V operating permit at the point in time that the Macon County MSW Landfill reaches an on-site volume of more than 2.5 million Megagrams of waste. The closed Phase I contains approximately 0.16 million Megagrams of waste and Phase II, Cell 1 will accommodate approximately 0.46 million Megagrams of waste at full capacity. The County has not exceeded the 2.5 million Megagram threshold at this time nor expects to for the life of the facility.

### **6.2 Open Burning**

No open burning of solid waste shall be allowed at the landfill, except for the infrequent burning of land clearing debris generated on site or debris from emergency clean-up operations. The Division of Solid Waste must approve any such infrequent burning.

### **6.3 Hot Loads**

If a hot load of waste is delivered to the landfill, the driver shall not be allowed to dump the load. If a hot load must be dumped, it will be dumped in or adjacent to the Waste Treatment and Processing Facility near the fire hydrants. The fire should be extinguished if possible and the local fire department called if needed.

If a load of "hot" waste is unknowingly discharged in the Waste Treatment and Processing Facility, it will immediately be watered and extinguished by landfill personnel if possible and the local fire department called if needed. The Waste Treatment and Processing Facility is equipped with a two-inch hose bib at the side of the tipping floor. Hoses will remain connected to the hose bib to allow quick access. Fire hydrants are located just outside the Waste Treatment and Processing Facility.

Equipment and a stockpile of soil shall also be maintained in close proximity to the Waste Treatment and Processing Facility and the Landfill for controlling accidental fires. The local fire department has been contacted and informed of the potential fire hazards at the Landfill. Arrangements have been made with the fire department to provide access to the landfill site. The fire department has also been provided with operational information of the facility in case of emergency.

### **6.4 Fire Notification Requirements**

Macon County shall provide verbal notification to the Solid Waste Division within 24 hours of a fire at the Landfill and written notice within 15 days. The Fire Occurrence Notification Form is included in Appendix 3.

## **7.0 Access and Safety Requirements**

A fence currently encloses the site with access controlled by means of gates. A security check station and weigh scales is located at the landfill entrance to evaluate waste stream and proper disposal. An attendant will be on duty at the site at all times while it is open for public use to insure compliance with operational requirements. Access roads to the site shall be of all weather construction and maintained in good condition.

### **7.1 Dust Control**

Dust generated due to landfill activities will be controlled. Dust will be controlled through the application of water by truck or other approved dust control products, if necessary. Removal of mud and dirt from the roads will also be a part of the dust control measures. Additionally, final cover will be vegetated as soon as practical in order to minimize the blowing of dust on-site.

### **7.2 Signage**

Signs providing information on disposal procedures, the hours that the site is open for public use, the permit number, stating that no hazardous or un-permitted waste can be received without written permission, stating that no liquid waste can be received for disposal, and other pertinent information will be posted at the site entrance. Traffic signs and markers shall be provided as necessary to promote an orderly traffic pattern to and from the discharge area and maintain efficient operating conditions.

### **7.3 Scavenging**

Scavenging of solid waste is prohibited unless approved by the owner or operator and the removal is not performed on the working face.

### **7.4 Barrels and Drums**

Barrels and drums shall not be disposed of unless they are empty and perforated sufficiently to ensure that no hazardous or liquid waste is contained therein. The only exception is drums that contain non-friable asbestos.

## **8.0 Erosion and Sedimentation Control Requirements**

Existing and proposed erosion/sedimentation control structures include sediment basins, storm drains, temporary slope drains, check dams, and diversion ditches. Sedimentation basins will be checked after periods of significant runoff. Sediment will be removed from the basin to its original dimension when sediment accumulates to one half of the design depth. The sedimentation basins, embankments, ditches, inlets and outlets will also be inspected for erosion damage. All necessary repairs will be made immediately. Any trash or debris within the riser pipes will be removed. The Macon County Landfill operates under a storm water permit issued for the NCDENR-Division of Water Quality, permit number: NCG120083.

Storm drain outlets and diversion ditches will be inspected for damage after each runoff event. Rip rap will be placed in ditches and at pipe outlets to prevent erosion and wash outs. Provisions for a vegetative ground cover sufficient to control erosion must be accomplished within twenty-one (21) working days upon completion of any phase of MSWLF development.

Embankment slopes shall be periodically inspected for erosion. The embankment slopes shall be mowed at a frequency sufficient to maintain a good stand of vegetation. The slopes shall not be mowed more than twice in any one (1) year period. The embankment slopes shall be refertilized in the second year unless vegetation growth is fully adequate. Any damaged areas will be reseeded, fertilized, and mulched immediately. Seeding, fertilizing and mulching shall be in accordance with the North Carolina Erosion and Sedimentation Control Guidelines.

## **9.0 Drainage Control and Water Protection Requirements**

### **9.1 Surface Water Diversion**

Surface water from outside the operational area will be diverted from the waste area by the use of perimeter ditches. The perimeter ditches direct surface water to the sedimentation basins.

### **9.2 Storm Water Cover**

The active waste area will be filled and graded so that no surface water will pond near or on waste and that no waste will be disposed of in ponded water.

Leachate will be collected within the active waste area on top of the HDPE liner. Leachate will be pumped with side slope riser pumps through a dual-contained force main to a leachate holding pond, located adjacent to the landfill on the property of the Town of Franklin Wastewater Treatment Plant.

### **9.3 Discharge of Pollutants**

There shall be no discharge of pollutants from the landfill into waters of the U.S., including wetlands, that violates any requirements of the Clean Water Act, including, but not limited to, the National Pollutant Discharge Elimination Systems (NPDES) requirements, pursuant to Section 402.

There shall be no discharge of a nonpoint source of pollution into waters of the U.S., including wetlands, that violates any requirement of area-wide or State-wide water quality management plan that has been approved under Section 208 or 219 of the Clean Water Act, as amended.

## 10.0 Recordkeeping Requirements

Landfill personnel shall record and retain the following information in an operating record at the landfill, or at an alternate location that has been approved by the Division.

- Inspection of leachate management system,
- Inspection records and waste determination records,
- Training received by landfill personnel,
- Waste amounts received by weight, which includes source of generation,
- Gas monitoring results and any necessary remediation plans,
- Any demonstration, certification, finding, monitoring, testing, or other analytical data required by sections .1630 to .1637 of the Rules (15A NCAC 13B),
- Any monitoring, testing, or analytical data as required by Rule .1627 (15A NCAC 13B),
- Any cost estimates and financial assurance documentation required by Rule .1628 (15A NCAC 13B), and
- Yearly Landfill Capacity and Volume Calculations

This information will be readily available for inspection by the Division of Solid Waste. A copy of this Operation Plan will remain at the facility at all times.

## **11.0 Leachate Management Plan**

### **11.1 LCRS System Maintenance**

Landfill personnel shall maintain records of all inspections, cleaning, and repairs made on the leachate collection system.

### **11.2 Leachate Testing**

The leachate quality will be sampled on a semi-annual basis. Leachate will be analyzed for Appendix 1 constituents as well as BOD, COD, phosphate, nitrate, sulfate, pH, and Specific Conductance.

### **11.3 Pump Requirements**

Phase II, Cell 1 will have a maximum working area of approximately 3.8 acres at any one time during operation of the landfill. The effects of an intense storm event would be greatly dampened by the waste due to the time it would take the stormwater to percolate through the layers of waste and daily cover. The average combined flow that will reach the sumps is estimated to be 8.3 gpm. A peaking factor of 4.0 was applied to the average flow for a pump station design flow of 33.3 gpm. Although the flow will be divided between the two sumps, both pumps were conservatively sized to pump the full design flow of 33.3 gpm. Both existing pumps will pump approximately 42.3 gpm at 72.5 feet of head. Thus, each pump can pump over 5 times the estimated average flow of leachate. See the Phase II, Cell 1 Engineering Plan for design calculations.

### **11.4 Leachate Disposal**

The leachate will be pumped to the adjacent Town of Franklin Wastewater Treatment Plant. There is an agreement between the Landfill and the Town that the WWTP accept leachate from the landfill and the landfill receive sludge from the WWTP. A letter approving disposal of leachate at the plant is included in Appendix 7. A copy of the Macon County Landfill Pretreatment Permit is also included in Appendix 7. The average daily leachate production for Phase II, Cell 1 has been calculated to be 12,594 gallons.

### **11.5 LCRS System Inspection**

The landfill operator is responsible for periodic inspection and maintenance of the LCRS. Landfill personnel will perform monthly inspections of the leachate collection system equipment, specifically the pumping stations. A copy of the inspection form has been attached as Appendix 2. The pump stations will be inspected for proper operation and run-time hours will be documented. If the monthly inspection reveals any equipment deficiency, remedial measures will be taken immediately to correct the problem. An incident report will be completed that includes details of the incident and any corrective measures required. If an incident report is required, a copy of the report shall be attached to the inspection form where the deficiency was identified.

## **11.6 Leachate Records**

Comprehensive records of the amount of leachate generated will be maintained at the Town of Franklin Wastewater Treatment Plant, which is located adjacent to the Landfill facility. Leachate generation will be determined from the hours of pump operation and pump rates. An annual summary of leachate generation will be maintained in the operating record. The leachate disposal schedule given in section 11.4 corresponds to approximately 12,594 gallons per day of leachate removed from the site.

## **11.7 LCRS Contingency**

In the event that there is a temporary failure with any of the leachate removal and storage equipment, the geometry of the landfill will allow for the landfill to contain the leachate for a period of several months. Action will be taken to remedy any malfunction within 2 days. Due to the conservative design of the leachate removal and storage equipment and the geometry of the landfill, the possibility of leachate overflowing the perimeter berm is virtually impossible.

In the event that extreme levels of particular constituents are found to be present in the leachate during sampling, or extremely excessive leachate production occurs, the Solid Waste Division and the Town of Franklin Wastewater Treatment Plant will be notified. Additional pre-treatment methods will be utilized if problems are encountered with leachate quality.

## **12.0 Composting Operation**

### **12.1 Overview**

The Composting Operation has been dormant since 2004 due to the lack of a feedstock; however, if a feedstock should become available, the County may resume Composting Operations. The County will notify the NCDENR-Solid Waste Section upon reinstatement of the Composting Operation and apply for an updated permit.

## **13.0 Yard Waste Treatment and Processing Operation**

### **13.1 Overview**

The Yard Waste Treatment and Processing Operation at the Macon County Municipal Solid Waste Facility generate mulch for use as an alternate daily cover for the Landfill. Incoming waste collection vehicles will deposit yard waste at the unloading area. The hauler will unload the yard waste in a manner to keep the unloading area free of debris. A contractor will grind the yard waste to produce mulch. The yard waste operation can store approximately 2,500 cubic yards of material.

### **13.2 Personnel**

The facility is owned and operated by Macon County. The employees are properly trained in safety procedures and the inspection of incoming wastes. Training materials published by the Solid Waste Association of North America (SWANA) are utilized for initial training of on-site personnel and for continuing education.

### **13.3 Characterization of Waste Stream**

The waste received by the Yard Waste Operation will include untreated, unpainted pallets and wood, leaves and land clearing debris consisting entirely of weedy material such as roots, brush, saplings and stumps. If municipal solid waste is mixed with yard waste, the hauler will need to dispose of the MSW at the Waste Treatment and Processing Facility before unloading the yard waste. The following items are not accepted at the Yard Waste Operation: treated or painted lumber wastes, household waste, cardboard, any non-recyclable material or any non-yard waste materials.

### **13.4 Procedures**

Vehicles containing yard waste will be weighed on the scales upon entry to and from the Landfill. The hauler will be directed to the Yard Waste Management Area. If there is Municipal Solid Waste or other material mixed with the yard waste, the hauler will be directed to the Waste Treatment and Processing Facility to unload the MSW before the yard waste. The hauler will proceed to the Yard Waste Management Area along the gravel drive along the northeast side of the adjacent MSW landfill. The unloading area is of sufficient size to allow two or three vehicles to unload simultaneously. The hauler will unload the yard waste in such a manner as to keep the unloading area free of debris. Larger loads that may come in by dump truck will be unloaded as far from the access roadway as possible. As necessary, the County staff will use a bulldozer and loader to push the waste into stockpiles. The stockpiles will be configured so that stormwater runoff flows in a laminar fashion across the graded and grassed slopes to prevent erosion and point source runoff. The yard waste pile will be maintained so that air can freely flow through the pile in order to keep the internal temperature below 110-degrees Fahrenheit (F). A qualified contractor will grind the yard waste to make mulch. The primary use of the mulch will be an approved alternative daily cover for the Municipal

Solid Waste and in the composting process. Mulch will be hauled to the Municipal Solid Waste Landfill and the Composting Pad using a dump truck.

### **13.5 Traffic Control**

The Scale personnel will direct vehicles that contain yard waste to the Yard Waste Management Area. The unloading area is adequately sized to allow two to three vehicles to unload simultaneously. The hauler will empty their load themselves onto the stockpiles.

## **14.0 Recycling Operation**

### **14.1 Overview**

Macon County operates a Recycling Processing Center at the Landfill facility. The Recycling Center accepts materials dropped off at the facility as well as processes incoming recycling waste from the eleven collection sites located throughout Macon County. The recyclable material is baled and shipped to corresponding recycling companies.

### **14.2 Personnel**

The Recycling Processing Center is owned and operated by Macon County. The employees are properly trained in safety procedures and the inspection of incoming wastes. Training materials published by the Solid Waste Association of North America (SWANA) are utilized for initial training of on-site personnel and for continuing education.

### **14.3 Characterization of Waste Stream**

The waste received by the Recycling Processing Center will include the following items:

- Newspaper,
- Cardboard
- Mixed Paper
- Aluminum Cans,
- Steel Cans,
- Clear, Brown and Green Glass,
- #1 Plastic (PETE), and
- #2 Plastic (HDPE),
- Mixed rigid plastics,
- White Goods and scrap metal,
- Used clothing.

Additional materials recovered by the County:

- Batteries,
- Anti-freeze,
- Oil,
- Oil filters.

## **Appendix 1**

**Correspondence from Town of Franklin Wastewater Treatment Facility Approving Wastewater from (former) Baling Facility (now Waste Treatment and Processing Facility)**

**Town of Franklin**

70 West Main Street  
Franklin, North Carolina 28734  
(704) 524-2516

February 20, 1997

Mr. A. Preston Howard, P.E.  
North Carolina Department of Environment, Health and  
Natural Resources  
Post Office Box 29535  
Raleigh, North Carolina 27626-0535

Dear Mr. Howard:

The Town of Franklin will accept the wastewater (875 gpd) from the proposed Macon County Solid Waste Baling Facility for treatment at the Town of Franklin Wastewater Treatment Plant.

Sincerely,



David E. Henson  
Mayor

## **Appendix 2**

### **Leachate Collection System Inspection Report**

## LEACHATE SYSTEM INSPECTION REPORT

DATE: \_\_\_\_\_ TIME: \_\_\_\_\_ AM/PM NAME: \_\_\_\_\_

### Phase I Cell I

Gravity System through landfill dike to leachate pond.

- Are manholes free of debris:  Yes  No
  - Is there any leachate standing in the manhole:  Yes  No
  - Is there indication of a leachate spill along main:  Yes  No
- 

### Phase II Cell I

Pump system with two pumping stations and force main that becomes gravity and empties into leachate pond.

#### Leachate Pump Station; Upper:

- Is pump station operational:  Yes  No
  - Are control panels working properly:  Yes  No
  - Is there indication of leachate spill along main:  Yes  No
  - Current water depth in well: \_\_\_\_\_ inches
  - Pump runtime meter: \_\_\_\_\_ hours
- 

#### Leachate Pump Station; Lower:

- Is pump station operational:  Yes  No
  - Are control panels working properly:  Yes  No
  - Is there indication of leachate spill along main:  Yes  No
  - Current water depth in well: \_\_\_\_\_ inches
  - Pump runtime meter: \_\_\_\_\_ hours
- 

#### Leachate Pond:

Leachate from landfill empties into pond. Treated by aeration and pumped to head works of Wastewater Treatment Plant.

- Is leachate flowing into pond:  Yes  No
  - Is foot-valve clean:  Yes  No
  - Are Aeration Pumps operational:  Yes  No
  - Is control panel for aeration pumps operational:  Yes  No
  - Is leachate pump #1 functioning properly:  Yes  No
  - Is leachate pump #2 functioning properly:  Yes  No
  - Are pump controls functioning properly:  Yes  No
  - Is flow meter/totalizer functioning properly:  Yes  No
  - What is the depth of leachate in pond: \_\_\_\_\_ feet
  - Inquire from WWTP Operators as to any noticed changes in leachate flow, volume or characteristics that cannot be explained by change in weather (i.e. heavy rain event). Note changes below on incident report:
-

**LEACHATE SYSTEM INCIDENT REPORT**

If YES was answered to any of the previous questions or if a breakdown has occurred in the leachate management system, an incident report must be completed. On the report, list the nature of the problem and steps taken to correct the problem. If the breakdown resulted in a leachate spill outside of the landfill liner perimeter, notify the Solid Waste Director and report to DENR immediately.

**Incident Report:**

**Nature of Incident:**

**Corrective Action Taken:**

### **Appendix 3**

#### **Waste Screening and Special Waste Handling Occurrence procedure**

## **WASTE SCREENING AND SPECIAL WASTE HANDLING OCCURRENCE PROCEDURES**

### **Waste Screening Program**

Macon County has established the following program for screening and detecting hazardous and banned wastes, and preventing such wastes from disposal in the Macon County Municipal Solid Waste (MSW) Landfill.

#### **Convenience Centers:**

Convenience Center employees are trained to recognize and refuse banned wastes from disposal at the drop-off centers. Signs are posted at the centers to inform the public as to waste types not accepted at the centers.

#### **Scale House:**

All loads entering the landfill must cross the scales at the entrance to the landfill. Scale house attendants are trained to recognize potential hazardous or banned wastes, and question generators/haulers as to the nature of the wastes. Scale house attendants refuse banned wastes from disposal. Customers hauling questionable wastes are directed to the tipping floor of the Waste Treatment and Processing Facility where the Solid Waste Director or Landfill Operator will inspect the waste and determine proper disposal of the waste.

#### **Waste Treatment and Processing Facility/Landfill:**

The Solid Waste Operations personnel conduct regular random load inspection of waste entering the Waste Treatment and Processing Facility. Currently, inspections are conducted on approximately 5-10% of the waste stream. At a minimum, inspected loads will always represent 1% of the waste stream. Operators receive yearly training from SWANA On-site Waste Screening and Healthy and Safety Training Courses. These courses teach operators to recognize potentially hazardous wastes by container markings and waste characteristics such as noxious odor. Completed inspection reports are kept at the baling facility until being filed at the Solid Waste Administration Building. The records are updated monthly. Most banned wastes are non-hazardous and common in nature; such as tires, metal, lead-acid batteries, etc., and are simply removed from the waste stream and taken to the proper disposal area. Banned wastes that are brought in by individuals are refused and the generator/hauler is instructed as to proper disposal of the waste. If a waste of suspected hazardous or unknown nature is found, procedures for a Special Waste Handling Occurrence are followed.

#### **Random Load Inspection Procedures:**

- Driver is directed to dump load on the tipping floor of the bale facility off to the side of the regular waste stream.
- The load is spread using the bucket of a rubber-tired loader.
- The load is then inspected by landfill personnel to search for hazardous/banned wastes.
- Any unacceptable wastes found are removed from the load and taken to the proper disposal area. If hazardous or unknown wastes are discovered, procedures for a Special Waste Handling Occurrence are followed.

- Remaining, acceptable wastes are then incorporated back into the waste stream for disposal.

### **Special Waste Handling Occurrence Procedures:**

If a known hazardous waste or waste of unknown nature that exhibits potentially hazardous characteristics is discovered, the following steps should be taken:

1. **Secure the waste.** Move waste away from the operating area to an isolated section of the tipping floor. If necessary, construct a dam around the suspected waste using absorbent material or socks. Remove public and personnel from contact with the waste. Depending on the nature of the hazard, this would include: at minimum, placing cones or other restrictive barrier around waste; and up to, complete evacuation of public and personnel from the bale facility and a safe perimeter around the facility. In the event of a closing of the Waste Treatment and Processing Facility, waste would be directed to the landfill.
2. **Identify waste generator/hauler.** Hold and question generator/hauler of the waste as to the source and nature of the waste.
3. **Notify Solid Waste Director Immediately.**
4. **Contact Emergency Management Services.** If the nature of the waste presents an acute or immediate hazard to personal safety, contact EMS by dialing 911. EMS may also contact the Regional Hazardous Waste Management Team located in Asheville, North Carolina.
5. **Notify NCDENR.** Notify NCDENR by telephone of the situation within 24 hours of the occurrence. NCDENR should also be notified in writing of the occurrence within 15 days. This notice will be sent by completion of a Special Waste Handling Occurrence Report. Blank forms are located at the Solid Waste Administration Building.
6. **Properly dispose of waste.** Follow up, and include in the report, on final status of the waste. Either, the waste was identified and acceptable for burial in the landfill or the waste was handled by contractor or other agent to remove the waste for proper disposal at acceptable waste handling facility.

# Special Waste Handling Occurrence Notification



## NC DENR Division of Waste Management Solid Waste Section

The Solid Waste Rules require verbal notification within 24 hours and submission of a written notification within 15 days of the occurrence requiring special handling of waste at the landfill. The completion of this form shall satisfy that requirement. *(If additional space is needed, use the back of this form.)*

NAME OF FACILITY: \_\_\_\_\_ PERMIT #: \_\_\_\_\_

DATE AND TIME OF OCCURRENCE: \_\_\_\_/\_\_\_\_/\_\_\_\_ @ \_\_\_\_:\_\_\_\_ AM/PM (circle one)

HOW WAS THE WASTE REPORTED AND BY WHOM \_\_\_\_\_

LIST ACTIONS TAKEN \_\_\_\_\_

WHAT WAS THE SOURCE OF THE WASTE \_\_\_\_\_

DESCRIBE THE AREA AND TYPE AND AMOUNT OF WASTE INVOLVED \_\_\_\_\_

CURRENT STATUS OF WASTE \_\_\_\_\_

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 occurrence or that might prevent future occurrences: \_\_\_\_\_

FOLLOW-UP REQUIRED:

NO  PHONE CALL  SUBMITTAL  MEETING  RETURN VISIT BY: \_\_\_\_\_ (DATE)

ACTIONS TAKEN OR REQUIRED:

# 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 of a fire at a landfill unit. 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 AND 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
------	-------	------

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:	
<input type="checkbox"/> NO	<input type="checkbox"/> PHONE CALL
<input type="checkbox"/> SUBMITTAL	<input type="checkbox"/> MEETING
<input type="checkbox"/> RETURN VISIT	BY: _____ (DATE)
ACTIONS TAKEN OR REQUIRED:	

**Appendix 4**

**Methane Monitoring Form**

# Landfill Gas Measurements Field Worksheet

Macon County MSW Landfill : #57-03

Name of Person Taking Readings:

Date:

Weather Conditions:

Ambient Temp:

Atmospheric Pressure:

Gas Monitoring Equipment: Land-Tec GEM 2000 Serial #: GM05480

Factory Calibration Date: Field Calibration 50% Methane:

## Gas Readings Field Worksheet

Well or Probe ID	Readings	Time	%LEL	%CH <sub>4</sub>	%CO <sub>2</sub>	%O <sub>2</sub>	Probe Pressure/Vacuum
GP-1	Stable						
GP-1a	Stable						
GP-1b	Stable						
GP-1c	Stable						
GP-2	Stable						
GP-3	Stable						
GP-4	Stable						
GP-5	Stable						
GP-6	Stable						
GP-7	Stable						
GP-8	Stable						
GP-9	Stable						
GP-10	Stable						
GP-10a	Stable						

Field Observation Notes:

**Appendix 5**

**Methane Monitoring Plan**

# **Macon County Department of Solid Waste Management**

109 Sierra Drive, Franklin, North Carolina 28734, Ph.:(828)349-2100, Fax:(828)349-2185

## **Methane Monitoring Site Sampling Plan Macon County Municipal Solid Waste (MSW) Landfill Permit Number: 57-03 Revised January 2004**

The following description, Table and Site Map represent the current site-sampling plan for quarterly methane monitoring at the Macon County MSW Landfill; permit #57-03.

The purpose of this update is to clarify the compliance boundary and incorporate methane probes that have been added to, or deleted from, the site plan for various reasons since the original site plan was submitted. The current proposed site-sampling plan appears on **Sheet 3, Base Grading Plan, Phase 2, Cell 1** prepared by McGill and Associates, August 21, 1997. This plan does not incorporate five methane-monitoring probes (GP-1; GP-2; GP-3; GP-4; GP-5) that were part of the Phase 1, Cell 1 plan that would have been prepared by Westinghouse Environmental and Geotechnical Services, Inc. as part of the Phase 1, Cell 1 Plan.

The following is a description of actual methane probes in the site-sampling plan regarding the nine monitoring wells referenced on the McGill plan as MGW-1 through MGW-9. Information in the description was taken from maps, conversations with the construction contractors, and physical analysis of the site.

- MGW-1: There is no indication that this probe was ever installed. The proposed probe location lies between Phase 2, and Phase 3. The probe may have been omitted because of this positioning whereby there would be no compliance boundary between the landfill cells.
- MGW-2: Exists as shown on the plan and has been monitored since June 27, 2002. The probe was given the descriptive nomenclature of Pond/Mulch Probe.
- MGW-3: Was installed in a borrow area, but was destroyed during construction of the Phase 2 landfill cell.
- MGW-4: Construction of this probe was attempted at various locations in the vicinity of the location on the plan. Due to the vicinity of the probe to the Little Tennessee River, the probes kept filling with water, and were therefore abandoned.
- MGW-5: Exists as shown on the plan and has been monitored since June 27, 2002. The probe was given the descriptive nomenclature of River Probe.
- MGW-6: Same as MGW-5. However, an additional probe (GP-6), was installed in the vicinity of MGW-6 by Altamont Environmental on June 13, 2001 (Reference letter to Mark Poindexter from Altamont Environmental, dated September 7, 2001.)
- MGW-7: Does not exist, presumably due to an overlap with the previously sited Phase 1 probe (GP-5) that already existed at that location.
- MGW-8: Exists as shown on the plan and has been monitored since June 27, 2002. The probe was given the descriptive nomenclature of McCall House Probe.

## Macon County Department of Solid Waste Management

109 Sierra Drive, Franklin, North Carolina 28734, Ph.:(828)349-2100, Fax:(828)349-2185

- MGW-9: Exists as shown on the plan and has been monitored since June 27, 2002. The probe was given the descriptive nomenclature of Cemetery/Baler Probe.

Two additional probes (GP-7 and GP-8) were installed along the property boundary to replace GP-2, as referenced in letter to Mark Poindexter (see above).

Lastly, two additional probes were installed along the toe-of-slope between the MSW landfill and Town of Franklin Wastewater Treatment Plant (Reference letter from this office to Jim Patterson dated February 10, 2003). These probes were installed by Altamont Environmental on February 5, 2003, and have been sampled since February 6, 2003. The probes were given the nomenclature GP-WP1 and GP-WP2.

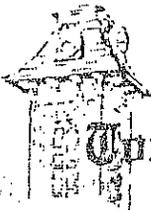
The following legend incorporates all of above probe additions/deletions into one site-sampling plan. Additionally, the new nomenclature designates new compliance point probes from previous probes to simplify examination of monitored probes for DENR review. To wit, compliance point probes are designated with whole numbers (e.g.: GP-1), while non-compliance point probes are designated with a lower case letter following the whole number (e.g.: GP-1a, GP-1b). The non-compliance point probes will continue to be sampled for historic trend tracking only.

### Legend:

Old Probe ID Number or Name	New Site Plan ID
GP-WP1	GP-1
GP-7	GP-1a
GP-8	GP-1b
GP-2	GP-1c
GP-WP2	GP-2
GP-3	GP-3
GP-4	GP-4
GP-5/MGW-7	GP-5
McCall House/MGW-8	GP-6
Cemetery/Baler/MGW-9	GP-7
Pond/Mulch/MGW-2	GP-8
River/MGW-5	GP-9
GP-6/MGW-6	GP-10
GP-1	GP-10a

**Appendix 6**

**Letter from Zoning Committee**



**Town of Franklin**

70 West Main Street  
Franklin, North Carolina 28734  
(704) 524-2516

December 19, 1989

Mr. Jack Horton  
Macon County Manager  
5 West Main Street  
Franklin, NC 28734

Dear Mr. Horton,

As you are aware the Board of Aldermen of the Town of Franklin, at the regular meeting on December 4, 1989 passed an ordinance setting forth an Extraterritorial Jurisdiction area around the perimeter of the Town and to also establish the zoning as it appeared on the planning maps at that time.

This action was taken by the authority granted in G.S. 160A-360, Article 19 and G.S. 160A-381,382,383,384,385,386,387,388,389 and 390.

The area in which the proposed Macon County Landfill will be sited is now zoned residential, but the Board adopted amendments to the existing Zoning Ordinance that will permit landfills that are approved by the State of North Carolina in the residential zone. A copy of the amended zoning ordinance will be made available to you as soon as we receive it from the printers.

I hope this answers the questions you had, but if you have others please let me know.

Sincerely,

Jim Williamson  
Town Administrator

JW/ss

## **Appendix 7**

**Correspondence from Town of Franklin Wastewater Treatment Facility Approving  
Leachate Acceptance and Pretreatment Permit**

**TOWN OF FRANKLIN**

hereafter in this permit referred to as the Control Authority

**DISCHARGE PERMIT**

**Industrial User Pretreatment Permit (IUP)  
To Discharge Wastewater Under the  
Industrial Pretreatment Program**

**0002**

IUP Number

In compliance with the provisions of North Carolina General Statute 143-215.1, any applicable federal categorical pretreatment regulations, all other lawful standards and regulations promulgated and adopted by the North Carolina Environmental Management Commission, and the Control Authority Sewer Use Ordinance. The following Industry, hereafter referred to by name or as the permittee:

Industry name, permittee: <b>MACON COUNTY</b>
Facility Located at Street Address <b>1448 LAKE SIDE DRIVE</b>
City <b>FRANKLIN</b>
State, Zip <b>NORTH CAROLINA, 28734</b>

is hereby authorized to discharge wastewater from the facility located at the above listed address into the sanitary sewer collection system and the wastewater treatment facility of the Control Authority listed below:

IUP Control Authority WWTP name: <b>TOWN OF FRANKLIN WWTP</b>
NPDES Number: <b>NC0021547</b>
WWTP Address: <b>70 WEST MAIN STREET</b>
City, State, Zip <b>FRANKLIN, NC 28734</b>

in accordance with effluent limitations, monitoring requirements, and all other conditions set forth in Parts I, II, and III of this Industrial User Pretreatment Permit (IUP).

Effective date, this permit and the authorization to discharge shall become effective at midnight on this date: <b>November 15, 2005</b>
Expiration date, this permit and the authorization to discharge shall expire at midnight on this date: <b>July 31, 2010</b>

*Wayne Price*  
Mr. Wayne Price

*11-14-05*  
Date

## IUP, PART I, Industrial User (IU) Specific Conditions

### IUP, PART I, OUTLINE:

- A.) IUP Basic Information
- B.) IUP Modification History
- C.) Authorization Statement
- D.) Description of Discharges
- E.) Schematic and Monitoring Locations
- F.) Effluent Limits & Monitoring Requirements
- G.) Definitions and Limit Page(s) notes

#### A. IUP Basic Information:

Receiving POTW name : <b>TOWN OF FRANKLIN WWTP</b>	POTW NPDES # : <b>NC0021547</b>
IUP Name : <b>MACON COUNTY LANDFILL</b>	IUP Number : <b>0002</b>
IUP Effective date : <b>February 29, 2004</b>	Pipe Numbers, list all regulated pipes: <b>1</b>
IUP Expiration date : <b>July 15, 2005</b>	IUP 40 CFR# (if applicable), or N/A: <b>N/A</b>

#### B. IUP Modification History:

Date Modified	Reason for & Description of modifications.
October 31, 1997	Original permit issuance
May 1, 1998	Modified limits and monitoring frequency.
July 31, 2001	Permit renewal with no modifications.
February 29, 2004	Identified separate monitoring frequencies for Permittee and Control Authority
July 31, 2005	Permit renewal, modified limits for Chromium and Nickel.
November 15, 2005	Permit revisions, Modified TPO Monitoring, Updated sampling point diagram

## IUP, PART I, Industrial User (IU) Specific Conditions

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**C.) Authorization Statement:**

- 1.) The Permittee is hereby authorized to discharge wastewater in accordance with the effluent limitations, monitoring requirements, and all other conditions set forth in this Industrial User Pretreatment Permit (IUP) into the sewer collection system and wastewater treatment facility of the Control Authority.
- 2.) The Permittee is hereby authorized to continue operation of and discharge wastewater from the following treatment or pretreatment facilities. These facilities must correspond to the treatment units listed on both the application and inspection forms.

IU Treatment Units	
AERATION	Three floating aerators in 480,000 gallon leachate collection lagoon.
CHEMICAL ADDITION and FLOCCULATION	Facility has the capability to introduce chemicals for pH adjustment and polymer to aid in flocculation if needed. System is not currently in operation and is not expected to be operated. Components include 1-800 gallon tank, 1-1,100 gallon tank, and a flocculation tank.

- 3.) The Permittee is hereby authorized to, if required by the Control Authority and after receiving Authorization to Construct (A to C) from the Control Authority, construct and operate additional pretreatment units as needed to meet final effluent limitations.

**D.) Description of IUP Discharge(s):**

1. Describe the discharge(s) from all regulated pipes.

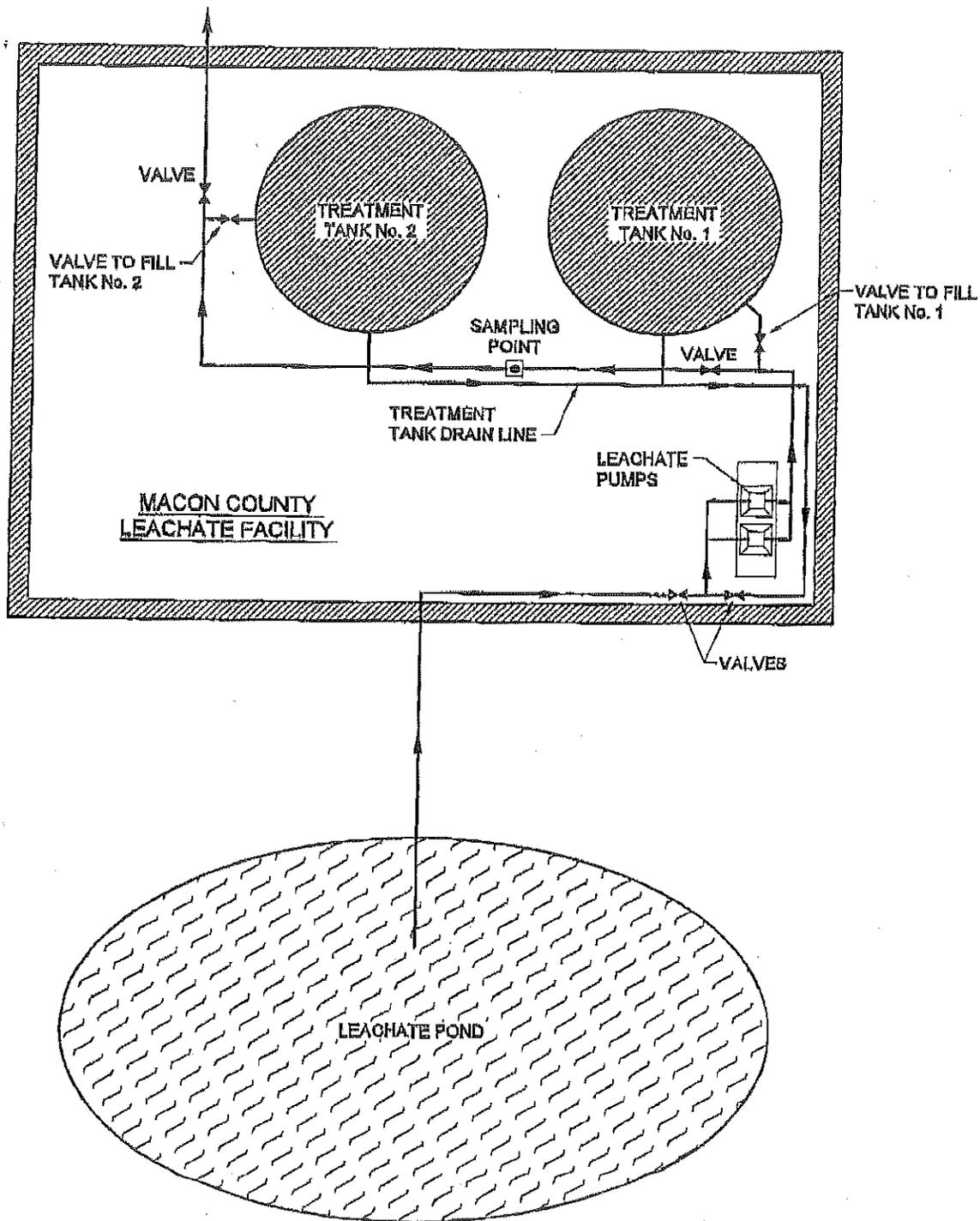
Pipe # 001, Description of Discharge:  LANDFILL LEACHATE ONLY.
--

**E.) Schematic and Monitoring Locations:**

The facility schematic is show on the attached location map. The discharge shall be monitored prior to discharge to the WWTP.

# MACON COUNTY LANDFILL SAMPLING POINT DIAGRAM TOWN OF FRANKLIN PRETREATMENT PROGRAM

MACON COUNTY, NORTH CAROLINA



## IUP, PART I, Industrial User (IU) Specific Conditions

**F.) Effluent limits and Monitoring Requirements:**

Effective November 15, 2005 and lasting to July 31, 2010 the permittee is authorized to discharge from pipe 001. Parameters not limited in this permit shall be discharged in accordance with the Town of Franklin Sewer Use Ordinance. This discharge shall be limited and monitored as specified below:

PARAMETER	DAILY MAXIMUM	SAMPLE TYPE	MONITORING FREQUENCY	
			Permittee	Control Authority
FLOW	0.040 MGD	Meter*	Each sample	Each Sample
BOD	1,000 mg/l	Composite	Quarterly	2/Year
TSS	500 mg/l	Composite	Quarterly	2/Year
CADMIUM	0.02 mg/l	Composite	Quarterly	2/Year
CHROMIUM	0.10 mg/l	Composite	Quarterly	2/Year
COPPER	0.50 mg/l	Composite	Quarterly	2/Year
CYANIDE	0.05 mg/l	Grab	Quarterly	2/Year
LEAD	0.03 mg/l	Composite	Quarterly	2/Year
MERCURY	0.03 mg/l	Composite	Quarterly	2/Year
NICKEL	0.50 mg/l	Composite	Quarterly	2/Year
SILVER	0.15 mg/l	Composite	Quarterly	2/Year
ZINC	0.30 mg/l	Composite	Quarterly	2/Year
OIL & GREASE	100 mg/l	Grab	Quarterly	2/Year
TTO		Composite/Grab	At each Permit Renewal	At each Permit Renewal
pH	5 - 12	Grab	Quarterly	2/Year
TEMPERATURE	40° C	Grab	Quarterly	2/Year

All samples shall be taken at the location designated in IUP, Part I, E. Schematic and Monitoring Locations, taken from Pipe No. 001.

\*Discharge Flow Meter shall be read and recorded at the beginning and end of each sample period.

# IUP, PART I, Industrial User (IU) Specific Conditions

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**G.) Definitions and Limit Page(s) notes:**

In addition to the definitions in the Control Authority Sewer Use Ordinance the following definitions apply:

1. Composite Sample:

Unless defined differently below, a composite sample for the monitoring requirements of this IUP, is defined as the automatic or manual collection of one grab sample of constant volume, not less than 100 ml, collected every hour during the entire discharge period on the sampling day. Sampling day shall be a typical production, and discharge day.

2. Composite Sample, alternative definition:

A composite sample for the monitoring requirements of this IUP is the same as described above unless specifically defined below as the automatic or manual collection of constant volume and constant time grab samples collected and composited according to the following criteria:

specific volume of each grab sample =	N/A	milliliters
specific time interval between samples =	N/A	hours
total duration of sample collection period =	N/A	hours
total number of grab samples to be composited =	N/A	samples

3. Daily Monitoring Frequency

Daily Monitoring Frequency as specified in this IUP shall mean each working day.

4. Grab Sample

Grab sample for the monitoring requirements of this IUP, is defined as a single "dip and take" sample collected at a representative point in the discharge stream.

5. Instantaneous measurement

An Instantaneous measurement for the monitoring requirements of this IUP is defined as a single reading, observation, or measurement.

**PART II**  
**General Conditions**  
**Industrial User Pretreatment Permit (IUP)**

---

**Outline of PART II,**

- |                                       |   |
|---------------------------------------|---|
| 1. Representative Sampling            | 18. Penalties                               |
| 2. Reporting                          | 19. Need to Halt or Reduce                  |
| 3. Test Procedures                    | 20. Transferability                         |
| 4. Additional Monitoring by Permittee | 21. Property Rights                         |
| 5. Monitoring By Control Authority    | 22. Severability                            |
| 6. Duty to comply                     | 23. Modification, Revocation, Termination   |
| 7. Duty to Mitigate                   | 24. Reapplication                           |
| 8. Facilities Operation, Bypass       | 25. Dilution Prohibition                    |
| 9. Removed substances                 | 26. Reports of Changed Conditions           |
| 10. Upset Conditions                  | 27. Construction of pretreatment facilities |
| 11. Right of Entry                    | 28. Reopener                                |
| 12. Availability of Records           | 29. Categorical Reopener                    |
| 13. Duty to provide information       | 30. General Prohibitive Standards           |
| 14. Signatory Requirements            | 31. Reports of Potential Problems           |
| 15. Toxic Pollutants                  | 32. Total Toxic Organics (TTO) Definition   |
| 16. Civil and Criminal Liability      | 33. Flow Measurement Requirements           |
| 17. Federal and/or State Laws         |   |

### 1. Representative Sampling

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. All samples shall be taken at the monitoring points specified in this permit and, unless otherwise specified, before the effluent joins or is diluted by any other wastestream, body of water, or substance. Monitoring points shall not be changed without notification to, and approval by, the permit issuing authority.

### 2. Reporting

- a.) Monitoring results obtained by the permittee shall be reported on forms specified by the Control Authority, postmarked no later than the twentieth day of the month following the month in which the samples were taken. If no discharge occurs during a reporting period (herein defined as each calendar month) in which a sampling event was to have occurred, a form with the phrase "no discharge" shall be submitted. Copies of these and all other reports required herein shall be submitted to the Control Authority.
- b.) If the sampling performed by the permittee indicates a violation, the permittee shall notify the Control Authority within 24 hours of becoming aware of the violation. The permittee shall also repeat the sampling and analysis and submit the results of the repeat analysis to the Control Authority within 30 days after becoming aware of the violation.

### 3. Test Procedures

Test procedures for the analysis of pollutants shall be performed in accordance with the techniques prescribed in 40 CFR part 136 and amendments thereto unless specified otherwise in the monitoring conditions of this permit.

### 4. Additional Monitoring by Permittee

If the permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit, using approved analytical methods as specified above, the results of such monitoring shall be submitted to the Control Authority. The Control Authority may require more frequent monitoring or the monitoring of other pollutants not required in this permit by written notification.

**PART II**  
**General Conditions**  
**Industrial User Pretreatment Permit (IUP)**

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**5. Monitoring by Control Authority**

The control authority may collect samples for analysis as deemed appropriate. All samples collected and properly analyzed by the permittee and/or the control authority may be used as the basis of compliance with this permit and other applicable regulations.

**6. Duty to Comply**

The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Control Authority Sewer Use Ordinance and is grounds for possible enforcement action.

**7. Duty to Mitigate - Prevention of Adverse Impact**

The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health, the POTW, the waters receiving the POTW's discharge, or the environment.

**8. Facilities Operation, Bypass**

The permittee shall at all times maintain in good working order and operate as efficiently as possible, all control facilities or systems installed or used by the permittee to achieve compliance with the terms and conditions of this permit. Bypass of treatment facilities is prohibited except when approved in advance by the Control Authority. Bypass approval shall be given only when such bypass is in compliance with 40 CFR 403.17.

**9. Removed Substances**

Solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters shall be disposed of in a manner such as to prevent any pollutants from such materials from entering the sewer system. The permittee is responsible for assuring its compliance with any requirements regarding the generation, treatment, storage, and/or disposal of "Hazardous waste" as defined under the Federal Resource Conservation and Recovery Act.

**10. Upset Conditions**

An "upset" means an exceptional incident in which there is an unintentional and temporary noncompliance with the effluent limitations of this permit because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed or inadequate treatment facilities, lack of preventative maintenance, or careless or improper operations.

An upset may constitute an affirmative defense for action brought for the noncompliance. The permittee has the burden of proof to provide evidence and demonstrate that none of the factors specifically listed above were responsible for the noncompliance.

**11. Right of Entry**

The permittee shall allow the staff of the State of North Carolina Department of Environment, Health, and Natural Resources, Division of Environmental Management, the Regional Administrator of the Environmental Protection Agency, the Control Authority, and/or their authorized representatives, upon the presentation of credentials:

1. To enter upon the permittee's premises where a real or potential discharge is located or in which records are required to be kept under the terms and conditions of this permit; and
2. At reasonable times to have access to and copy records required to be kept under the terms and conditions of this permit; to inspect any monitoring equipment or monitoring method required in this permit; and to sample any discharge of pollutants.

**PART II**  
**General Conditions**  
**Industrial User Pretreatment Permit (IUP)**

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**12. Availability of Records and Reports**

The permittee shall retain records of all monitoring information, including all calibration and maintenance records as well as copies of reports and information used to complete the application for this permit for at least three years. All records that pertain to matters that are subject to any type of enforcement action shall be retained and preserved by the permittee until all enforcement activities have concluded and all periods of limitation with respect to any and all appeals have expired.

Except for data determined to be confidential under the Sewer Use Ordinance, all reports prepared in accordance with terms of this permit shall be available for public inspection at the Control Authority. As required by the Sewer Use Ordinance, effluent data shall not be considered confidential.

**13. Duty to Provide Information**

The permittee shall furnish to the Director of Public Works or his/her designees, within a reasonable time, any information which the Director, his/her designee, or the Division of Environmental Management may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The permittee shall also furnish, upon request, copies of records required to be kept by this permit.

**14. Signatory Requirements**

All reports or information submitted pursuant to the requirements of this permit must be signed and certified by a ranking official or duly authorized agent of the permittee.

**15. Toxic Pollutants**

If a toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established under Section 307(a) of the Federal Clean Water Act for a toxic pollutant which is present in the discharge and such standard or prohibition is more stringent than any limitation for such pollutant in this permit, this permit may be revised or modified in accordance with the toxic effluent standard or prohibition and the permittee so notified.

**16. Civil and Criminal Liability**

Nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance.

**17. Federal and/or State Laws**

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable Federal and/or State law or regulation.

**18. Penalties**

The Sewer Use Ordinance of the Control Authority provides that any person who violates a permit condition is subject to a civil penalty not to exceed \$10,000 dollars per day of such violation.

Under state law, (NCGS 143-215.6B), under certain circumstances it is a crime to violate terms, conditions, or requirements of pretreatment permits. It is a crime to knowingly make any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance. These crimes are enforced at the prosecutorial discretion of the local District Attorney.

**19. Need to Halt or Reduce not a Defense**

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity to maintain compliance with the conditions of the permit.

**PART II**  
**General Conditions**  
**Industrial User Pretreatment Permit (IUP)**

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**20. Transferability**

This permit shall not be reassigned or transferred or sold to a new owner, new user, different premises, or a new or changed operation without approval of the Town.

**21. Property Rights**

This permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

**22. Severability**

The provisions of this permit are severable and, if any provision of this permit or the application of any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this permit shall not be affected thereby.

**23. Permit Modification, Revocation, Termination**

This permit may be modified, revoked and reissued or terminated with cause in accordance to the requirements of the Control Authority Sewer Use Ordinance and North Carolina General Statute or implementing regulations.

**24. Re-Application for Permit Renewal**

The permittee is responsible for filing an application for reissuance of this permit at least 180 days prior to its expiration date.

**25. Dilution Prohibition**

The permittee shall not increase the use of potable or process water or in any other way attempt to dilute the discharge as a partial or complete substitute for adequate treatment to achieve compliance with the limitations contained in this permit.

**26. Reports of Changed conditions**

The permittee shall give notice to the Control Authority of any planned significant changes to the permittee's operations or system which might alter the nature, quality, or volume of its wastewater at least 180 days before the change.

**27. Construction**

No construction of pretreatment facilities or additions thereto shall be begun until Final Plans and Specifications have been submitted to the Control Authority and written approval and an Authorization to Construct (A to C) have been issued.

**28. Reopener**

The permittee shall be modified or, alternatively, revoked and reissued to comply with any applicable effluent standard or limitation for the control of any pollutant shown to contribute to toxicity of the WWTP effluent or any pollutant that is otherwise limited by the POTW discharge permit. The permit as modified or reissued under this paragraph may also contain any other requirements of State or Federal pretreatment regulations then applicable.

**PART II**  
**General Conditions**  
**Industrial User Pretreatment Permit (IUP)**

---

**29. Categorical Reopener**

This permit shall be modified, or alternatively, revoked and reissued, to comply with any applicable effluent standard or limitation issued or approved under Sections 302(b)(2)(C) and (D), 304(b)(2), and 307(a)(2) of the Clean Water Act, if the effluent standard or limitation so issued or approved:

- 1.) contains different conditions or is otherwise more stringent than any effluent limitation in this permit; or
- 2.) controls any pollutant not limited in this permit.

The permit as modified or reissued under this paragraph shall also contain any other requirements of the Act then applicable.

**30. General Prohibitive Standards**

The permittee shall comply with the general prohibitive discharge standards in 40 CFR 403.5 (a) and (b) of the Federal pretreatment regulations.

**31. Reports of Potential Problems**

The permittee shall notify by telephone the Control Authority immediately of all discharges that could cause problems to the POTW including any slug loadings as defined by 40 CFR 403.5(b). If the permittee experiences such a discharge, they shall inform the Control Authority immediately upon the first awareness of the commencement of the discharge. Notification shall include location of the discharge, type of waste, concentration and volume if known and corrective actions taken by the permittee. A written follow-up report thereof shall be filed by the permittee within five (5) days, unless waived by the Control Authority.

**32. Total Toxic Organics (TTO) Definition**

"TTO", or Total Toxic Organics, is the sum of the concentrations of the toxic organic compounds tested for by methods EPA 608, EPA 624, EPA 625 that are found in the permittee's process discharge at a concentration greater than 0.01 mg/l.

**33. Flow Measurement Requirements**

The permittee shall maintain appropriate discharge flow measurement devices and methods consistent with approved scientific practices to ensure the accuracy and reliability of measurements of the volume of monitored discharges. Devices installed shall be a continuous recording flow meter capable of measuring flows with a maximum deviation of less than 10% from true discharge rates throughout the range of expected discharge volumes. The devices shall be installed, calibrated, and maintained to ensure accuracy. The meter shall be calibrated once per year. Modifications to the flow metering equipment shall be approved by the Control Authority prior to installation. If a required flow measurement device fails, the Control Authority shall be notified within 24 hours.

## **Appendix 8**

**Correspondence regarding approved methods of Alternate Daily Cover**

# Macon County Department of Solid Waste Management

109 Sierra Drive, Franklin, North Carolina 28734, Ph.:(828)349-2100, Fax:(828)349-2185

October 9, 2006

Mr. James Coffey, Regional Engineer  
NCDENR  
Division of Solid Waste Management  
Asheville Regional Office  
2090 US Highway 70  
Swannanoa, North Carolina 28778

**Re: Request for Demonstration and Approval of Alternate Daily Cover  
Macon County MSW Landfill; Permit # 57-03**

Dear Mr. Coffey:

The Macon County Department of Solid Waste Management (Department) is formally requesting the use of an Alternate Daily Cover (ADC) at the Macon County MSW Landfill. The Department proposes a 90-180 day demonstration period, during which Field Specialists with the Solid Waste Section will be able to verify the ADC's effectiveness in meeting the requirements of Rule .1626(2)(a).

The proposed ADC will consist of a Landfill Tarp system. The tarp will be approximately 50'x50' in size, and 6.5-8.5 oz/sq ft. The tarp is constructed of a woven polypropylene that is puncture, tear and U.V. resistant. Actual material specifications will be available for inspection at the time of implementation of the tarp system.

Macon County has recently abandoned our Bale Facility, and waste is being diverted directly to the landfill working face. In conjunction with the direct fill, Macon County has purchased a Terex 110,000 pound Compactor. Currently, we have approved as an ADC a 2 mil polyethylene film designed to drape over the vertical face of the bale fill. Under the direct fill method currently employed, the open or working face is at a 4:1 to 5:1 slope, rendering the film ineffective as an ADC. The tarp, therefore, would replace the film as an ADC, and would be utilized in much the same manner as the film.

As we have already made the above changes, we would like to begin the demonstration period for approval of the ADC as soon as possible. The tarp will be put into use once we receive permission to proceed with the demonstration. An amended operating plan detailing the tarping system operational procedures will be submitted to your office upon successful completion of the demonstration period and final approval of the tarp as an ADC. Use of the tarp will follow the general operations listed below, and will be designed to ensure protection of public and environmental health and all requirements of Rule .1626(2)(a).

Operations Plan: ADC; Polypropylene Tarp.

*By the end of each day of operations, the horizontal or lateral expansion of the working face will be covered with at least six (6) inches of earthen material, or an earthen material and ground LCID mixture; as approved. The working face will be maintained at a minimum of a 4:1 slope and compacted to reach maximum waste density possible to minimize the size of the working face; preserve*

## Macon County Department of Solid Waste Management

109 Sierra Drive, Franklin, North Carolina 28734, Ph.: (828)349-2100, Fax: (828)349-2185

landfill space; and deter wind-blown litter. At the end of each operating day, a 50'x50', 8.5 oz/sq ft tarp will be pulled over the slope of the working face. The tarp will cover all exposed portions of the working face, and the corners and sides of the tarp will be weighted with dirt and/or small stones to prevent the wind from exposing any waste. At the beginning of the next operating day, the tarp will be walked off of the working face and stored in an adjacent area to the working face.

Thank you for your time and consideration of this request. Please contact me at your convenience should you need any additional information or have any additional requirements of this department with regards to the request. I look forward to your response.

Sincerely,



Michael Chris Stahl  
Director of Solid Waste Management, Macon County

CC: Sam Greenwood, County Manager  
Mark Cathey, Jeff Bishop, McGill & Associates  
Jim Patterson, Waste Specialist, NC DENR

# PACTEC

P.O. Box 8069 Clinton, LA 70722 (800) 272-2832 Fax (225) 683-8711 www.pactecinc.com

## 6 oz. Coated Woven Polypropylene

<u>Properties</u>	<u>Test Method</u>	<u>Value</u>
Coating		1.5 Mil, one side
Weight		7.5 oz/yd <sup>2</sup> coated
Thickness		20 Mil
Color		White
Warp Grab	ASTM D 5034-90	370 lbs
Weft Grab	ASTM D 5034-90	380 lbs
Warp Tear	ASTM D 2261-83	170 lbs
Weft Tear	ASTM D 2261-83	160 lbs
Mullen Burst	ASTM D 3786-87	800 psi
Puncture	ASTM D 4833	106 lbs
Accelerated UV Weathering	ASTM G53	>70% @ 1200 hrs

This product is manufactured for the sole purpose described in this spec sheet. The buyer or user of this product is solely responsible for determining whether this product is suitable for any intended use and for its proper installation and use.



**North Carolina Department of Environment and Natural Resources**

Dexter R. Matthews, Director

Division of Waste Management  
Solid Waste Section

Michael F. Easley, Governor  
William G. Ross Jr., Secretary

October 20, 2006

Mr. Chris Stahl, Director  
Macon County Solid Waste Management  
109 Sierra Drive  
Franklin, NC 28734

Re: Alternate Daily Cover Demonstration Authorization Letter,  
Macon County Municipal Solid Waste Landfill, Permit Number 57-03

Dear Mr. Stahl:

This letter is in response to your request for approval to demonstrate the capability of an alternate daily cover (ADC) at the referenced landfill. This Authorization Letter conditionally approves the Demonstration Project as described in your letter dated October 6, 2006, for a period of nine (9) months. This period of time provides the operator with six (6) months of time to perform the Demonstration Project, and three (3) months to compile and submit the certified Demonstration Report to the Solid Waste Section for review.

After six (6) months of using the conditionally approved ADC, the facility operator may then either:

- (1) provide a written report demonstrating the feasibility and request approval for the use of the ADC material on a full-time basis, or
- (2) cease use of the ADC material, properly dispose of any remaining ADC material, and provide a written report detailing the findings of the use of the material during the approval period and what actions were taken to dispose of the material.

If the operator decides to request approval for the use of the ADC material on a full-time basis, a Demonstration Report and revised facility Operation Plan that incorporates the ADC operation, both certified by a professional engineer licensed in North Carolina, shall be submitted to the Solid Waste Section for review and approval.

The certified Demonstration Report would include documentation addressing the performance and effectiveness of the material, the number of times the ADC material was used, the quantities of the ADC material, and other supportive information, including photographs.

Following satisfactory demonstration of the ADC material and application, the Solid Waste Section would issue a modified permit for the facility that includes the ADC operation.

Mr. Chris Stahl  
ADC Demonstration Authorization Letter  
October 20, 2006  
Page 2

If you have any questions, please call me, phone number 828-296-4703 or Jim Patterson, phone number 828-296-4700 at the Asheville Regional Office.

Sincerely,

James C. Coffey Digitally signed by James C. Coffey  
DN: CN = James C. Coffey, C = US  
Date: 2006.10.20 07:50:17 -0400

James C. Coffey  
Asheville Regional Engineer  
Solid Waste Section

cc. Jim Patterson

## **Appendix 9**

### **Airspace Volume Calculations – Five-Year Permitting Period**

## **Appendix 9**

### **Airspace Volume Calculations – Five-Year Permitting Period**

Notes:

- 1) Calculations begin at date of last capacity survey, June 8, 2009.
- 2) Five-Year permitting period runs from July 20, 2010 to July 20, 2015.
- 3) Waste tonnage and compaction rates realized for period of June 6, 2008 through June 8, 2009 utilized for projections.
- 4) Assume a 2% annual increase in waste growth.
- 5) Available airspace remaining in MSW Phase 2 after the June 8, 2009 capacity analysis:  
364,593 cy

#### **Waste Trends**

June 6, 2008 – June 8, 2009 waste tonnage: 32,146 tons.  
Total waste tonnage projected (@2% annual increase) through  
end of five-year permitting period: 247,960 tons

#### **Compaction Rate**

June 6, 2008 – June 8, 2009 airspace used: 40,320 cy  
June 6, 2008 – June 8, 2009 waste tonnages: 32,146 tons  
Compaction rate:  $32,146 \text{ tons} / 40,320 \text{ cy} = 0.7973 \text{ tons/cy}$   
Note: average compaction rate realized at Macon County Landfill over the past four (4)-years was 0.906 tons/cy; however, use more conservative estimate of 0.7973 tons/cy.

#### **Airspace Utilized through the End of the Five-Year Permitting Period**

Volume of airspace utilized through July 20, 2015:  $\frac{247,960 \text{ tons}}{0.7973 \text{ tons/cy}} = 311,000 \text{ cy}$

Available airspace is 364,593 cy, which is sufficient for five(5)-year period.

**Figure 1**

**Overall Site Plan**



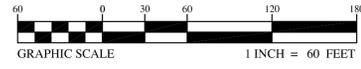
**Figure 2**

**June 8, 2009, Existing Conditions**

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PLAN



NOTES:

1. SOLID CONTOURS ARE FROM SURVEY PERFORMED BY MCGILL ASSOCIATES ON JUNE 8, 2009.
2. DASHED CONTOURS REPRESENT A COMPILATION OF PREVIOUS SURVEYS PERFORMED BY MCGILL ASSOCIATES.
3. ACTIVE WASTE DISPOSAL AREA JUNE 6, 2008 THROUGH JUNE 8, 2009 SHOWN SHADED.

NO.	DATE	BY	REVISION DESCRIPTION

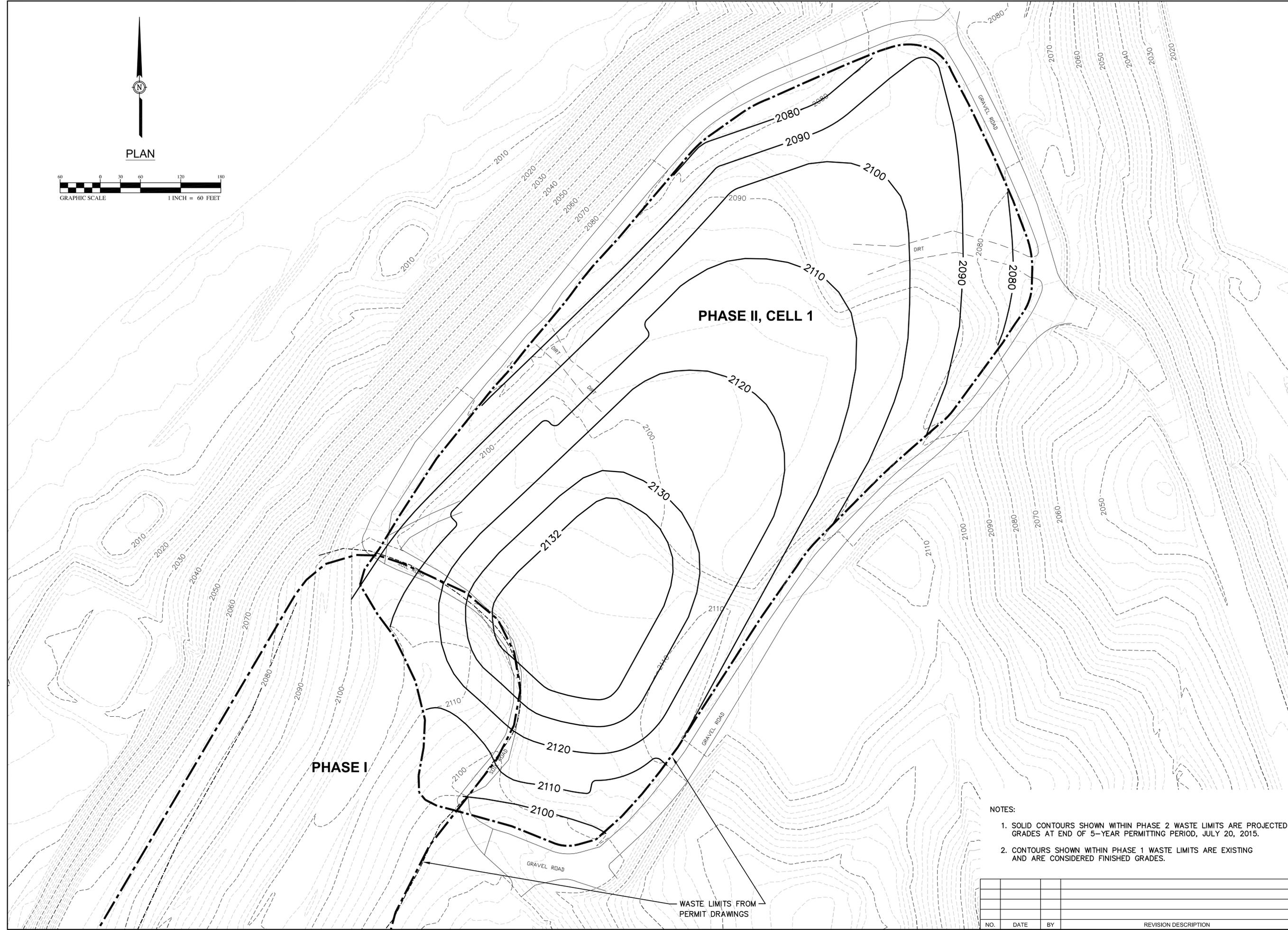
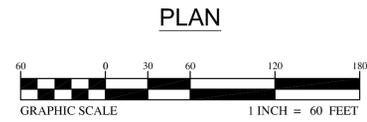


JOB NO.: 09.00730  
 DATE: JANUARY 2010  
 DESIGNED BY: KS  
 CADD BY: KS  
 DESIGN REVIEW: XXX  
 CONST. REVIEW: XXX  
 FILE NAME: 050000-008-Existing-conditions.dwg

**Figure 3**

**Projected Grades, Five-Year Permitting Period**

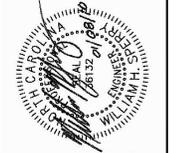
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NOTES:

1. SOLID CONTOURS SHOWN WITHIN PHASE 2 WASTE LIMITS ARE PROJECTED GRADES AT END OF 5-YEAR PERMITTING PERIOD, JULY 20, 2015.
2. CONTOURS SHOWN WITHIN PHASE 1 WASTE LIMITS ARE EXISTING AND ARE CONSIDERED FINISHED GRADES.

NO.	DATE	BY	REVISION DESCRIPTION



JOB NO.: 09.00730  
 DATE: JANUARY 2010  
 DESIGNED BY: KS  
 CADD BY: KS  
 DESIGN REVIEW: XXX  
 CONST. REVIEW: XXX  
 FILE NAME: 00730\Project\Social Waste\Drawings\Permitting\05.00730-Projected-Grades-5-Year-Permitting-Period-Dec-2010.dwg