McGill ASSOCIATES

July 14, 2009

Fac/Perm/Co ID #	Date	Doc ID#
57-03	7,15,09	8007

Mr. Allen Gaither
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: Modifications to Permit to Operate
Macon County MSW Landfill
Permit # 57-03
Macon County, North Carolina

Dear Mr. Gaither:

On the behalf of Macon County, we are requesting the following modifications to the existing Permit to Operate #57-03 for the Macon County MSW Landfill.

1. Modification to the facility boundary to remove 10.055 acres from the southwest corner of the landfill property. The County has recently transferred the property to the Town of Franklin for their use in developing a new Public Works Facility and to allow improvements to their existing wastewater treatment plant. Macon County retained a 300-foot buffer on the southern end of the of the original Cell 1 waste area. A revised copy of the Overall Site Plan is attached. The Facility Plan narrative has also been revised to reflect the property transfer and is attached.
2. The County plans to replace their existing scale and add one additional to allow both in-bound and out-bound access. The existing scale is being replaced in the present location with the new scale installed adjacent to the existing scale. The proposed location is shown on the attached Overall Site Plan.
3. Revise the Operations Plan to allow acceptance of Construction/ Demolition Waste generated in Macon County in the Macon County MSW Landfill. The County closed their Highlands C/D Waste Landfill in June 2008 and constructed a new solid waste transfer station on the Highlands property. All C/D waste will now be disposed of in the Macon County MSW Landfill. The Operations Plan has been revised and is attached.
4. The County has constructed a new Macon County Animal Shelter on a portion of their property across Lakeside Drive from the landfill entrance. The location of the new facility is shown on the revised Overall Site Plan.
5. Delineation of the area in the northeast corner of the landfill property used for the Macon County Maintenance Facility.

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

Sincerely,
McGILL ASSOCIATES, P.A.

JEFFREY R. BISHOP, P.E.
Senior Project Manager

Enclosure

cc: Ed Mussler, NCDENR Solid Waste Section
Deborah Aja, NCDENR Solid Waste Section, w/encl
Chris Stahl, Macon County Solid Waste Director w/encl

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OPERATIONS PLAN

MACON COUNTY MSW LANDFILL
MACON COUNTY, NORTH CAROLINA

JEFFREY R. BISHOP, P.E.

McGill ASSOCIATES

Engineering • Planning • Finance
Asheville, North Carolina

June 2007
Revised June 2009

07538

OPERATIONS PLAN
Macon County MSW Landfill

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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, scalehouse, Waste Treatment and Processing Facility, vehicle maintenance shop, equipment storage building, leachate collection system, compost facility, yard waste facility and a recycling processing center. Figure 1- Overall Site Plan, has been added to show the current facilities, the landfill units, borrow areas, stockpile areas, and the revision to the facility boundary near the southwest margin of the property.

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),
    - Whole scrap tires, and
    - Lead-acid batteries,
    - Aluminum cans,
    - Whole scrap tires.

- Upcoming State Landfill bans include these wastes:

    - 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. Theses 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 Oil Filters (Until new State ban takes place, October 1, 2009)

The Macon County MSW Facility does accept used oil filters that have been drained for a period of at least 24 hours. However, terne-coated oil filters are not accepted due to these filters having greater than 5.0 ppm leachable lead. The generator(s) of these filters must handle them as they handle any other hazardous waste.

1.9 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.

1.10 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.

1.11 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

Training courses will be held at least annually and will be made available to supervisors, designated inspectors, equipment operators and weigh station attendants. Documentation of training will be placed in the operating record for the facility. SWANA approved courses are conducted in-house by the Landfill Director, and include 1) Landfill operations; 2) Health & Safety; 3) Waste stream Inspection. There are five (5) 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 Manger 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 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 wastes targeted for recovery. Other recyclable wastes will only be recovered if they arrive in bulk form and are easily separable from the waste stream. It is anticipated that additional waste streams may be targeted in the future for additional recovery at the facility. 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. The trailer will be covered with a tarp prior to transport. A road tractor will then carry the waste in the trailer to the landfill for disposal. It is anticipated that 4-5 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 any partial trailer loads will be stored overnight in the walking floor trailer.

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 blocks 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

All wastes that enter the Franklin Landfill will be directed through the Waste Treatment and Processing Facility with the exception of recyclables, construction/demolition wastes from the transfer station at the Highlands C&DLF, and other special waste types such as unregulated Hospital and Retirement Home wastes, sludge waste and other special wastes that are not suitable for material recovery. These special waste materials will be taken directly to the MSW landfill for disposal, using traditional landfilling practices.

In the event that wastes cannot be processed through the 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.

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 puncturing 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. A Storm Water permit was issued for the Macon County Municipal Solid Waste Landfill at the time the Erosion Control Permit was issued in June 1997.

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 thirty (30) working days or 120 calendar 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 the 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 at the Macon County Municipal Solid Waste Facility is a Type 3 small solid waste compost facility. This site meets the requirements sent forth in the Solid Waste Rule .1404. The Composting Operation will use a windrow method to compost the material. The finished product will be used as a soil amendment at the landfill and sold to the public if there is extra material. The Composting Operation has been dormant since 2004 due to the lack of a feedstock; however, if a feedstock should become available, the County will resume Composting Operations. The County will notify the NCDENR-Solid Waste Section upon reinstatement of the Composting Operation.

12.2 Personnel

The facility is owned and operated by Macon County. One person will be utilized part time to mix the materials and monitor windrow temperatures. The employee is 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.

12.3 Characterization of Waste Stream

The waste received by the Composting Operation will include the following:

- Vegetative agricultural waste,
- Residential yard and garden waste,
- Silvicultural waste,
- Food processing waste, and
- Post consumer food waste.

12.4 Procedures

Composting is done using a windrow method and a front end loader for turning and mixing. As vehicles transporting organic waste for composting enter the landfill, the scale house attendant records the weight and source generation of waste material. An employee will visually inspect the load and remove any unacceptable material. The hauler will then deposit the load on the Composting Pad.

To start a windrow, ten to twelve inches of bulking agent materials (mulch for the Yard Waste Operations, untreated wood, yard waste and paper) are placed on the concrete composting pad with a front end loader. A layer of organic waste material is placed on top of the bulking material. Another layer of organic waste material follows this layer as it is received until the windrow is approximately six to eight feet high and ten feet wide.

Each organic layer will be covered daily to reduce vectors, air borne particulate and odors.

After a windrow has been created, it is watered and mixed. The temperatures of the windrows are monitored on Monday, Wednesday and Friday (daily when necessary). Temperatures will be taken at the middle and each end of the windrow and recorded on yearly calendar that will be kept on file at the Solid Waste Management Department. Each windrow must reach a temperature of 131 degrees Fahrenheit (F) or greater for at least 15 consecutive days. Once a windrow has reached this temperature, it will be turned a minimum of five (5) times. The windrows will be turned as needed to maintain aerobic conditions. Once a windrow's temperature drops five (5) degrees Fahrenheit (F), it will be turned.

Nitrogen bearing material will be added if it is necessary to minimize odor. During times of excessive rain, the windrows will be turned more often. The windrows will be watered during times of low rain.

The finished compost product shall be visually inspected for any remaining unacceptable materials. Any unacceptable materials should be removed and disposed of properly. Samples of the finished product will be taken from a depth of two to six feet and analyzed for foreign matter, cadmium, copper, lead, nickel, zinc and pathogens by the North Carolina Department of Agriculture in accordance with section .1408 of the North Carolina Solid Waste Rules. The results of these tests will be submitted to the Division of Waste Management and request for approval to distribute finished compost to the end users. Finished compost will remain on the compost pad until approval is received from the North Carolina Division of Solid Waste. Compost that does not meet testing requirements or quality standards shall be composted again or disposed of properly. The primary use of the finished compost will be soil amendment at the Macon County Landfill. Any remaining finished compost will be offered to the public.

12.5 Traffic Control

The Scale personnel will direct vehicles that contain composting material to the Composting Pad. Landfill personnel will oversee the placement of the compost waste on the Composting Pad. During times of extreme weather conditions, disaster or massive equipment failure, composting material will not be received or will be diverted to the Waste Treatment and Processing Facility or landfill.

12.6 Housekeeping, Litter and Vector Control

Windrows will be covered daily or when new waste is added to reduce the vectors, air borne particulate and odors.

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 is used to generate mulch for an alternative daily cover for the Landfill and for public use. 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, 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 weighted 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. Any remaining mulch will be given to the public.

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).

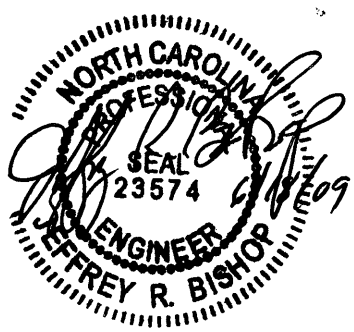
FACILITY PLAN

MACON COUNTY MSW LANDFILL
MACON COUNTY, NORTH CAROLINA

JEFFREY R. BISHOP, P.E.

McGill ASSOCIATES

Engineering • Planning • Finance
Asheville, North Carolina



Revised JUNE 2009

03305

FACILITY PLAN
Macon County MSW Landfill

This Facility Plan has been prepared as required under Rule .1617 and in accordance with Rule .1619, of the North Carolina Solid Waste Management Rules (15A NCAC 13B).

The Macon County Municipal Solid Waste (MSW) Landfill, permit no. 57-03, is located approximately one mile north of Franklin, North Carolina on Lakeside Drive. The landfill facility is generally bordered by Lake Emory/Little Tennessee River to the North and the West, Emory Lake Road and U.S. 23/441 to the East, and the city of Franklin to the South. The landfill entrance is off Lakeside Drive. The landfill has been in operation since May 1992. Westinghouse Environmental performed the original site suitability study dated January 1990. Since the time of the original issuance of the permit, Macon County has purchased 2 additional tracts of land that adjoined the landfill property. The additional tracts allowed for the expansion of Phase 2.

The County recently transferred 10.055 acres to the Town of Franklin on the southwest corner of the landfill property. The Town plans to use the property for a new Public Works Facility and for upgrades to their wastewater treatment plan. The revised area for landfill property totals 186.367 acres. A copy of the updated overall site plan indicating the revised Facility Boundary is attached as Figure 1.

The total facility waste area includes approximately 45.5 acres of waste area consisting of a closed waste area (cell 1) of 6 acres, an existing waste area (Phase 2 Cell 1) and two additional stages of development totaling 26.8 acres. The current waste area (Phase 2 Cell 1) has 12.7 acres of waste area that connects to the existing cell 1. The waste area is divided into four (4) subcells to better control stormwater and leachate generation.

1.0 Waste Stream

Macon County currently classifies their waste stream as industrial, commercial, municipal, or residential. Non-hazardous industrial sludge and sanitary sewage treatment sludge are currently accepted. The Macon County MSW Landfill prohibits regulated hazardous waste, and hazardous liquid wastes.

The service area for the Macon County MSW Landfill will include businesses and municipalities located within Macon County. Waste from other counties will not be accepted at the facility. The waste disposed of at the Macon County MSW Landfill can be classified into two sectors, residential and non-residential. The residential waste compromises approximately 63% of the total waste stream while the non-residential waste compromises approximately 37% of the total waste stream. These percentages were calculated using previous scale records. The Macon County MSW Landfill receives approximately 950 tons of wastewater sludge annually from the Town of Franklin Wastewater Treatment Facility.

The total waste stream for the current landfill is approximately 2,261 tons per month. This waste stream could vary as much as 10 percent based on past occurrences of fluctuations. This disposal rate was calculated by averaging the existing rate with a projected increase rate of 2.5% per year. The Macon County disposal rate for FY 2002-03 and FY 2007-08 is approximately 25,482 tons and 28,830 tons per year, respectively. These rates translate to approximately 2,261 tons per month over the next five years. The operating hours for the landfill are Monday through Friday 7:30 a.m. to 4:30 p.m. The landfill is closed for Christmas, Thanksgiving and any Federal Holiday that is on Tuesday through Thursday (4 days in 2003). These hours of operation translate to 256 days of operation with a daily waste disposal rate of 106 tons per day.

The Macon County Solid Waste Management Department (MCSWMD) currently operates a baling facility at the Macon County MSW Landfill, which began operating in late 1997. The majority of the solid waste received at the Landfill is processed at the baling facility prior to being disposed of in the landfill. MCSWMD also operates a composting facility at the landfill. The composting facility consists of a 50' by 100' concrete pad in which waste materials are composted using a windrow method. The finished product is used as soil amendment at the Landfill and given to the public. A recycling center is also operated by MCSWMD to process and bale all recyclable materials before shipment to vendors for final processing. MCSWMD operates a yard waste facility to process untreated wood waste from land clearing. The mulch produced from the yard waste facility is used as an Alternative Daily Cover for the MSW and as bulking material in the composting facility. Extra material is made available to the public. The construction and demolition waste is transferred to the Wilson Gap Road C/D Landfill in Highlands.

Macon County uses the following equipment to operate and maintain the Landfill: one compactor, one wheel loader, one track loader, two dozers, one skid steer, two flatbed trucks, and two dump trucks. This equipment should be sufficient for operating the landfill under its current waste stream.

2.0 Landfill Capacity and Soil Resources

The Phase II Cell 1 landfill has an approximate gross fill capacity (top of the stone drainage layer on top of the composite liner system to the top of the cap) of 989,949 cubic yards. This total gross fill capacity is broken up into subcell 1 gross fill capacity of 92,800 CY, subcell 2 gross fill capacity of 222,300 CY, subcell 3 gross fill capacity of 157,233 CY, subcell 4 gross fill capacity of 390,536 CY, and the final filling of Phase 2 gross fill capacity of 127,080 CY. Based on an assumed waste to soil ration of 6:1, this results in the following available waste capacities: subcell 1 - 76,645 CY; subcell 2 - 185,150 CY; subcell 3 - 127,303 CY; subcell 4 - 304,046 CY; and the final filling of Phase 2, Cell 1 - 96,065 CY. The total Phase II estimated life expectancy is 13.7 years. Based on the amount of waste received through June 2003, the remaining net waste airspace is 578,887 CY. Since February 1999 when Phase II, Cell 1 started operation, 176,334 tons of waste has been received. From February 1999 until June 2003, 341,858

CY of airspace has been used. This equates to a waste density of 0.471 tons/CY or 942.31 lbs/CY. The waste density is not the actual in-place density of the fill, but rather a ratio of how much volume of airspace is being taken up by a pound of waste. In order to get the actual in-place density, the actual volume and tonnage of soil cover material that has been placed in the landfill would be needed. Thus, there is an estimated 9.3 years of landfill life remaining.

The geometry of the Phase II Cell 1 dictated that the entire phase be constructed at one time. The base grading plan is shown on sheet 3. The filling operation was divided into four (4) subcells and one (1) final filling operation. The first phase of filling is the filling of subcells 1 through subcells 4. The filling operations are shown on sheets 8 through 12 of the Permit Drawings.

The remaining landfill area will be developed in two additional cells. Cell 3 is approximately 22 acres and provides approximately 15.8 years of life. The filling will begin in the western end of the cell and progress to the eastern end. The progressive filling will utilize three (3) subcells to better control storm water. Each subcell will provide approximately 5.3 years of life.

Cell 4 is a very small cell covering only 4.8 acres. Cell 4 will be filled from the western end and move to the East. The total life of cell 4 is approximately 0.9 years.

The following is a breakdown of the construction, airspace, and closure quantities. Gross air space is defined as area available from the top of the stone drainage layer on top of the composite liner system to the top of the cap. Net air space is the area available from the top of the stone drainage layer on top of the composite liner system to the bottom of the cap. Available waste volume is defined as the net air space minus operational cover. This gives the true volume available for incoming waste. Operational cover is the area used for daily cover (either six inches of dirt or an approved Alternative Daily Cover).

Phase II Construction: (from existing grade to base grade)

Excavation	370,000 CY
Structural Fill (in-place)	250,000 CY
15% Compaction	37,500 CY
Total Fill Required	287,500 CY
Stockpiled Material	82,500 CY

Phase II Operation:

Assumptions:
6:1 waste to soil ratio
942.31 lbs/CY compaction density
27,128 waste tons/year (2,261 tons/month)

Subcell 1	
Gross Airspace	92,800 CY
Final Cover	3,380 CY
Net Airspace	89,420 CY
Operational Cover	12,775 CY
Available Waste Volume	76,645 CY
Total Waste	36,100 Tons
Subcell 2	
Gross Airspace	222,300 CY
Final Cover	6,292 CY
Net Airspace	216,008 CY
Operational Cover	30,858 CY
Available Waste Volume	185,150 CY
Total Waste	87,206 Tons
Subcell 3	
Gross Airspace	157,233 CY
Final Cover	8,772
Net Airspace	148,521 CY
Operational Cover	21,218 CY
Available Waste Volume	127,303 CY
Total Waste	59,931 Tons
Subcell 4	
Gross Airspace	390,536 CY
Final Cover	35,816 CY
Net Airspace	354,720 CY
Operational Cover	50,674 CY
Available Waste Volume	304,046 CY
Total Waste	143,206 Tons
Final Grading	
Gross Airspace	127,080 CY
Final Cover	15,004 CY
Net Airspace	112,076 CY
Operational Cover	16,011 CY
Available Waste Volume	96,065 CY
Total Waste	45,247 Tons

Closure: (includes closure of Phase I and Phase II)

Total Area (phase 1 and phase 2)	19.8 acres
12" Intermediate Cover	32,900 CY
18" Clay Liner	49,400 CY
18" Vegetative Cover	49,400 CY

Summary of Required Soil Quantities for Phase II:

Excavation	370,000 CY
Structural Fill	287,500 CY
Stockpile Material (landfill const)	82,500 CY
Stockpile Material (baling facility const)	30,000 CY
Borrow Area	95,000 CY
Total Available Stockpile	207,500 CY
Compacted Clay Liner	41,700 CY
Operational Cover	131,536 CY
Intermediate Cover	32,900 CY
Closure Compacted Clay Liner	49,400 CY
Vegetative Cover	49,400 CY
Subtotal	274,936 CY
15% Compaction	41,240 CY
Total Required Soil	316,176 CY
Soil Balance:	
Total Required Soil	316,176 CY
Total Available Soil	207,500 CY
Soil Deficit	138,676 CY

The Phase II Expansion will require approximately 11,250 cubic yards of cover soils each year, based on a six (6) to one (1) waste to soil ratio. The soil quantities required for closure will include, 32,900 cubic yards of intermediate cover soils, 49,400 cubic yards of clay with a possible bentonite admixture, and 49,400 cubic yards of vegetation-supportive soil. The soil borrow and stockpile areas are shown on sheet 2 and 3. The above soil volume analysis shows that the landfill will require an additional 140,000 cubic yards of material to construct, operate, and close the landfill. This additional material will be obtained from the construction of Cell 3.

Future Landfill Development

Cell 3

Capacity	
Waste Area	22.0 Acres
Gross Air space	1,405,600 CY
Final Cover (3' thick)	106,500 CY
Protective Cover (2' thick)	71,000 CY
Net Airspace	1,228,100 CY
Available Waste Volume	1,052,650 CY
Total Waste	631,500 Tons
Life @ 40,000 tons/yr	15.8 Years

Construction	
Excavation	650,000 CY
Embankment	150,000 CY
Clay liner (in-place)	71,000 CY
Protective Cover (in-place)	71,000 CY
Stockpiled Material	500,000 CY

Operation	
Operational cover	175,400 CY

Closure	
18-inch vegetative cover	53,250 CY
18-inch clay cover	53,250 CY

Summary	
Stockpiled Material	500,000 CY
Deficit from Cell 2	138,676 CY
Available Material	361,324 CY
Clay Layer	71,000 CY
Operational Cover	175,400 CY
Closure	106,500 CY
Surplus Deficit	+8,424 CY

Cell 4

Capacity	
Waste Area	4.8 acres
Gross Airspace	127,900 CY
Final Cover (3.0 thick)	23,200 CY
Protective Cover (2' thick)	19,400 CY
Net Airspace	85,300 CY

Available Waste Volume	73,100 CY
Total Waste	43,860 Tons
Life @ 49,250 tons/yr	0.9 years
Construction	
Excavation	125,000 CY
Embankment	125,000 CY
Clay liner (in-place)	15,500 CY
Protective Cover (in-place)	15,500 CY
Stockpiled Material	0 CY
Operation	
Operational cover	12,200 CY
Closure	
18-inch vegetative cover	11,600 CY
18-inch clay cover	11,600 CY
Summary	
Surplus from Cell 3	8,424 CY
Clay Layer	15,500 CY
Operational Cover	12,200 CY
Closure	23,200 CY
Surplus/Deficit	-42,476 CY

3.0 Environmental Control System

The major components of the Environmental Control System are a composite clay liner constructed of a 24-inch, low-permeability clay layer with a permeability not greater than 1×10^{-7} cm/sec, and overlain by a 60 mil HDPE liner. Once a protective 16-ounce geotextile was placed on the HDPE liner, a two (2)-foot drainage layer including leachate collection pipes was placed on top of the composite liner system. The composite liner provides a redundant system for assuring that leachate is contained within the cell and does not affect local hydrogeology. The high permeability of the drainage layer assures quick and efficient removal of leachate from the cell floor to the sump areas at the northern side of the cell floor, therefore further reducing leak potential. Once leachate reaches the sump areas, it is pumped to the leachate surface impoundment through a dual-contained leachate force main. Leachate pumps located in the sump areas are activated by head heights less than twelve (12) inches to assure leachate maximum head requirements are not exceeded. Disposal of leachate from the leachate storage pond is discussed in the Operations Plan.

4.0 Leachate Management

4.1 Design Concepts

The Phase II leachate collection system was designed to remove leachate from the lined waste area at a rate so as not to allow more than one (1) foot depth of leachate on the composite liner. This is achieved by using a high permeability drainage layer, appropriately spaced perforated leachate collection pipes, double lined leachate sump, and appropriately sized leachate pump stations.

4.2 Leachate Generation

The amount of leachate estimated to be generated by the Phase II Expansion was analyzed using the HELP model. Phase II was analyzed under seven (7) different stages of development using the HELP model. The stages varied from the first stage analyzing the landfill with only a small portion active and the seventh (7th) stage analyzing the landfill after closure was complete. Stage six (6) analyzed the landfill near capacity and just prior to closure. At this stage, most of the landfill would be filled with waste and be covered with one (1) foot of intermediate cover. Stage (6) produced the highest monthly average of leachate with an average flow of 23,758 gallons per month.

4.3 Leachate Management System

The leachate collection system is shown on sheet 4 and is detailed on sheet 22 of the permit drawings. The collection system consists of a high permeability drainage layer, 6-inch perforated HDPE laterals, 8-inch HDPE collectors, and leachate pump stations.

The leachate collection pipes were designed to handle the projected peak leachate flow demonstrated in H.E.L.P. analysis. The highest leachate design flow was in case 1. The largest area draining into a single pipe was 2.5 acres. Applying the case 1 rate to the 2.5 acres produces a design flow of 0.13 gallons per minute (GPM). The leachate pipes are placed at a minimum slope of 3.0%. A six-inch pipe at this slope can carry a minimum of 5.1 GPM.

The leachate pump stations were designed with the peak leachate flow with a peaking factor of 4.0. The average monthly flow of 362,077 gallons with a 4.0 peak factor equals a design flow rate of 33.3 gallons per minute. Both sumps and leachate pumps were designed to accommodate the design flow of 33.3 gpm. The system curve for the two (2) pumps in parallel and the pump curve were analyzed. Individually the pumps can provide 42.3 gpm at 72.5 feet of head and together they can provide 64.8 gpm at 83.5 feet of head. The pumps feed into a 3" dual-contained force main located along the edge of the access road on the western side of the cell. The force main accommodates the 42.3 gpm flow with a velocity of 3.81 feet per second and the 64.8 gpm at a velocity of 5.8 feet per second. The force main empties into the existing leachate surface impoundment located below Phase 1 Cell 1.

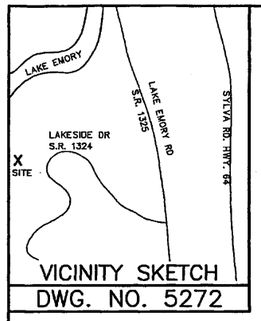
The existing leachate surface impoundment has a capacity of 770,000 gallons with the minimum two (2) feet of freeboard. The existing waste areas are averaging between 12,000 and 13,000 gallons per day of leachate. The pond will provide storage for the maximum average monthly flow from Phase 1 and 2. Macon County has an agreement with the Town of Franklin for treatment of the leachate produced at the landfill at the Town of Franklin Wastewater Treatment Plant.

4.4 Contingency Plan

The Phase II Expansion has a maximum working area of approximately 3.8 acres at any one time during operation of the landfill. This area is covered by lifts of waste with a maximum of only 1 acre without intermediate cover in place. 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 sump is estimated to be 8.3 gpm. A peaking factor of 4.0 was applied to the average flow for a 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 33.3 gpm. The pumps will pump approximately 42.3 gpm at 72.5 feet of head each. This would mean that each pump could pump over 5 times the estimated average flow of leachate. The leachate surface impoundment will accommodate the maximum average monthly flow, but the frequency of pumping by the Town of Franklin WWTP could be easily increased since the pond is located beside the WWTP.

In the event that there was a temporary failure with any of the leachate removal and storage equipment, the geometry of the landfill would 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.



VICINITY SKETCH

DWG. NO. 5272

CARD 6253

NOTES:

1. THIS SURVEY WAS PREPARED FOR THE SOLE BENEFIT OF OUR CLIENT AS NAMED IN THE TITLE OF THIS PLAT, AND IS NOT TO BE USED FOR THE BENEFIT OF A THIRD PARTY TO PURCHASE, TO SECURE FINANCING, OR OBTAIN TITLE INSURANCE ON THIS PROPERTY, WITHOUT THE EXPRESS WRITTEN CONSENT OF THE SIGNING SURVEYOR.
2. ANY UNDERGROUND UTILITY LOCATIONS SHOWN ON THIS PLAT ARE APPROXIMATE. THE PROPERTY MAY ALSO BE SERVED BY OTHER UNDERGROUND UTILITIES WHICH WERE NOT LOCATED.
3. ALL DISTANCES SHOWN ON THIS SURVEY PLAT ARE HORIZONTAL GROUND DISTANCES UNLESS OTHERWISE NOTED. ALL AREAS ARE COMPUTED BY COORDINATE COMPUTATIONS.
4. THIS PROPERTY MAY BE SUBJECT TO ADDITIONAL RIGHTS-OF-WAY, EASEMENTS, RESTRICTIONS, OR OTHER SIMILAR ENCUMBRANCES OF RECORD WHICH ARE NOT GRAPHICALLY DEPICTED HEREON.

2008015540
MACON CO, NC FEE $21.00
PRESENTED & RECORDED
06-01-2009 09:59:57 AM
TODD RABY
REGISTER OF DEEDS
BY: TODD RABY
REGISTER

BK: CARD 4
PG: 6253-6253

STATE OF NORTH CAROLINA
COUNTY OF MACON

I, ARTHUR R. PROVENCHER, REVIEW OFFICER OF MACON CO., CERTIFY THAT THE MAP OR PLAT TO WHICH THIS CERTIFICATION IS AFFIXED MEETS ALL STATUTORY REQUIREMENTS FOR RECORDING.

REVIEW OFFICER
DATE 6/11/09

REFERENCES:

OWNER: MACON COUNTY
DEED BK. C-7, PG. 419
PORTION OF PARCEL NO. 01-34069
DWG. NO. 3508A BY G.L. SPRINKLE, PLS

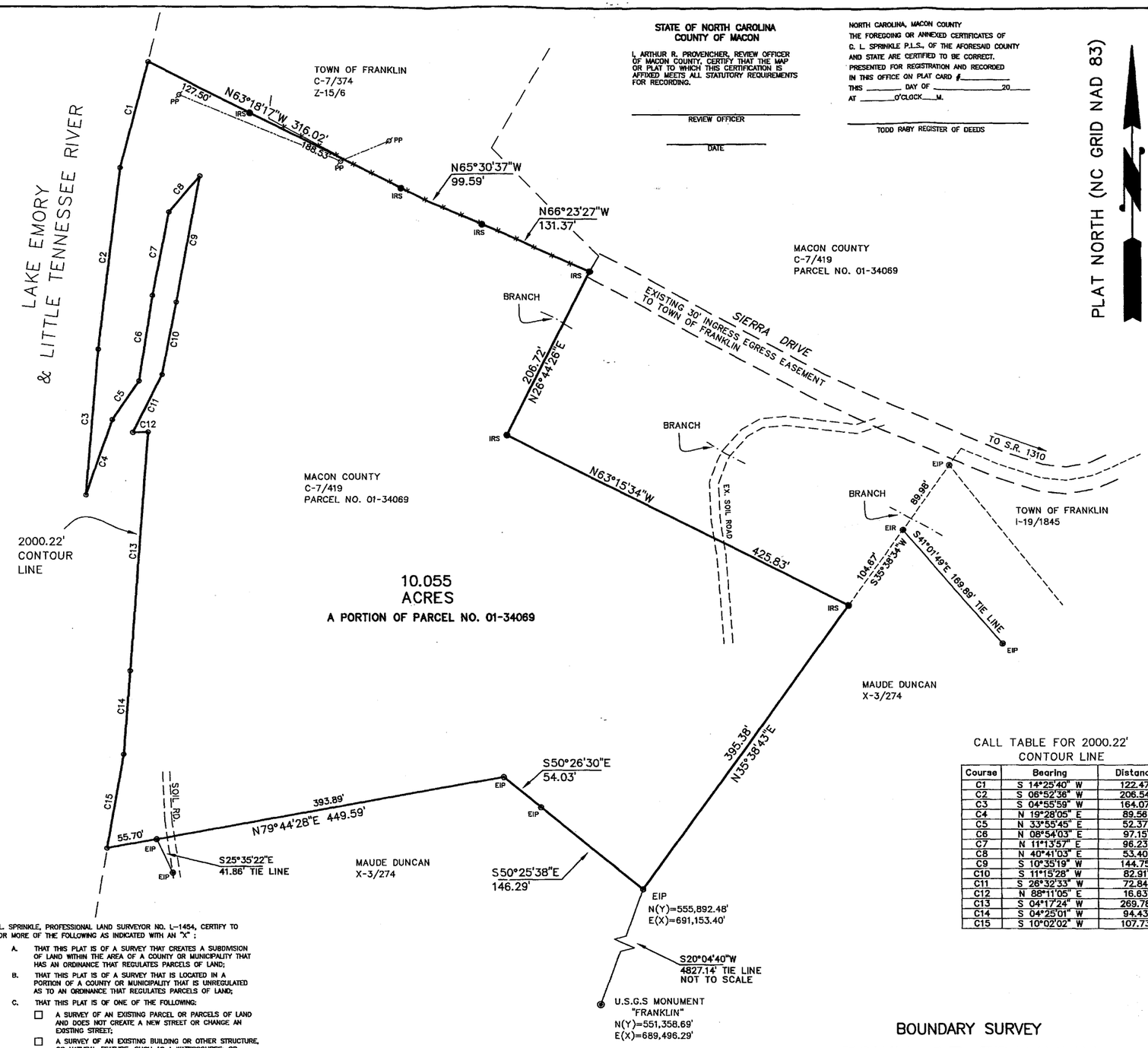
LEGEND:

- EXISTING IRON ROD (EIR) / IRON PIPE (EIP)
- IRON ROD SET (IRS) / IRON PIPE SET (IPS)
- #5 REBAR OR 3/4" OPEN TOP PIPE
- NAIL / SPIKE (AS NOTED)
- CONCRETE MONUMENT (AS NOTED)
- EXISTING CORNER, TYPE NOTED
- CHAIN LINK FENCE
- OVERHEAD UTILITY LINE(S)
- POINT
- CONTROL CORNER
- FIRE HYDRANT
- LIGHT POLE
- UTILITY POLE

DWG. NO. 5272

REVISION:	DATE:
REVISE BOUNDARY, ACREAGE & DEED REFS.	MARCH 2, 2009

SPRINKLE SURVEYING, P.A.
PROFESSIONAL LAND SURVEYORS ©
484 WEST PALMER STREET
FRANKLIN, NORTH CAROLINA 28734
TEL. 828-524-5867 & 828-349-0917
& 828-389-3048 FAX: 828-524-7994
SURVEY BY WCK PLAT BY BSB/BPL



STATE OF NORTH CAROLINA
COUNTY OF MACON

I, ARTHUR R. PROVENCHER, REVIEW OFFICER OF MACON COUNTY, CERTIFY THAT THE MAP OR PLAT TO WHICH THIS CERTIFICATION IS AFFIXED MEETS ALL STATUTORY REQUIREMENTS FOR RECORDING.

REVIEW OFFICER

DATE

NORTH CAROLINA, MACON COUNTY
THE FOREGOING OR ANNEXED CERTIFICATES OF G. L. SPRINKLE P.L.S., OF THE AFORESAID COUNTY AND STATE ARE CERTIFIED TO BE CORRECT. PRESENTED FOR REGISTRATION AND RECORDED IN THIS OFFICE ON PLAT CARD #_____
THIS _____ DAY OF _____ 20__
AT _____ O'CLOCK ___ M.

TODD RABY REGISTER OF DEEDS

PLAT NORTH (NC GRID NAD 83)

DWG. NO. 3508A BY G.L. SPRINKLE, PLS

CALL TABLE FOR 2000.22' CONTOUR LINE

Course	Bearing	Distance
C1	S 14°25'40" W	122.47'
C2	S 06°52'36" W	206.54'
C3	S 04°55'59" W	164.07'
C4	N 19°28'05" E	89.58'
C5	N 33°55'45" E	52.37'
C6	N 08°54'03" E	97.15'
C7	N 11°13'57" E	96.23'
C8	N 40°41'03" E	53.40'
C9	S 10°35'19" W	144.75'
C10	S 11°15'28" W	82.91'
C11	S 26°32'33" W	72.84'
C12	N 88°11'05" E	16.83'
C13	S 04°17'24" W	269.78'
C14	S 04°25'01" W	94.43'
C15	S 10°02'02" W	107.73'

I, G. L. SPRINKLE, PROFESSIONAL LAND SURVEYOR NO. L-1454, CERTIFY TO ONE OR MORE OF THE FOLLOWING AS INDICATED WITH AN "X" :

- ☒ A. THAT THIS PLAT IS OF A SURVEY THAT CREATES A SUBDIVISION OF LAND WITHIN THE AREA OF A COUNTY OR MUNICIPALITY THAT HAS AN ORDINANCE THAT REGULATES PARCELS OF LAND;
- ☐ B. THAT THIS PLAT IS OF A SURVEY THAT IS LOCATED IN A PORTION OF A COUNTY OR MUNICIPALITY THAT IS UNREGULATED AS TO AN ORDINANCE THAT REGULATES PARCELS OF LAND;
- ☐ C. THAT THIS PLAT IS OF ONE OF THE FOLLOWING:
  - ☐ A SURVEY OF AN EXISTING PARCEL OR PARCELS OF LAND AND DOES NOT CREATE A NEW STREET OR CHANGE AN EXISTING STREET;
  - ☐ A SURVEY OF AN EXISTING BUILDING OR OTHER STRUCTURE, OR NATURAL FEATURE, SUCH AS A WATERCOURSE; OR
  - ☐ A CONTROL SURVEY.
- ☐ D. THAT THIS PLAT IS OF A SURVEY OF ANOTHER CATEGORY, SUCH AS THE RECOMBINATION OF EXISTING PARCELS, A COURT-ORDERED SURVEY, OR OTHER EXCEPTION TO THE DEFINITION OF SUBDIVISION;
- ☐ E. THAT THE INFORMATION AVAILABLE TO THIS SURVEYOR IS SUCH THAT I AM UNABLE TO MAKE A DETERMINATION TO THE BEST OF MY PROFESSIONAL ABILITY AS TO THE PROVISIONS CONTAINED IN (A) THROUGH (D) ABOVE;
- ☐ F. THAT THIS PROPERTY IS/IS NOT WITHIN ANY FLOOD ZONE AS DELINEATED ON THE FLOOD HAZARD BOUNDARY MAP PREPARED BY THE U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT.

G. L. SPRINKLE, PROFESSIONAL LAND SURVEYOR NO. L-1454

I, G. L. SPRINKLE, CERTIFY THAT THIS MAP WAS DRAWN UNDER MY SUPERVISION FROM AN ACTUAL SURVEY MADE UNDER MY SUPERVISION; THAT THE RATIO OF PRECISION AS CALCULATED BY LATITUDES AND DEPARTURES IS 1/ 10,000+ ; THAT THE BOUNDARIES NOT SURVEYED ARE CLEARLY INDICATED AS DRAWN FROM INFORMATION FOUND IN DEED BK. _____, PAGE _____; THAT THIS PLAT WAS PREPARED IN ACCORDANCE WITH G. S. 47-30 AS AMENDED ✓, OR N. C. STANDARDS OF PRACTICE FOR LAND SURVEYING
WITNESS MY ORIGINAL SIGNATURE, REGISTRATION NUMBER AND SEAL THIS 15th DAY OF JANUARY, A.D., 2008.

PROFESSIONAL LAND SURVEYOR, L-1454

NORTH CAROLINA PROFESSIONAL SEAL L-1454 LAND SURVEYOR G. L. SPRINKLE

RECEIVED
JUL 15 2009
SOLID WASTE SECTION
ASHEVILLE REGIONAL OFFICE

BOUNDARY SURVEY

TOWN OF FRANKLIN

FRANKLIN TOWNSHIP MACON COUNTY, N.C.

JANUARY 15, 2008 SCALE: 1 IN. = 80 FT.

80 0 80 160 240
GRAPHIC SCALE – FEET

NO N.C.G.S. HORIZONTAL CONTROL MONUMENTS FOUND WITHIN 2000 FEET OF SITE

NO.	DATE	BY	REVISION DESCRIPTION
1	12/18/03	DP	REVISED FOR MSWLF RE-PERMITTING, PER INFORMATION PROVIDED BY THE MACON COUNTY SOLID WASTE MANAGEMENT DEPARTMENT
2	4/12/07	KS	REVISED FOR OPERATIONS PLAN UPDATE
3	06/16/09	JPH	REVISED FOR OPERATIONS PLAN UPDATE

BORROW/STOCKPILE AREA
WOOD PALLET STOCKPILE AREA
CULL/PAINTED LUMBER ROLL-OFF DUMPSTER
EXISTING WETLANDS
LAKE EMORY
LAKE EMORY (LITTLE TENNESSEE RIVER)
POND
MARSH
WASTE TREATMENT AND PROCESSING FACILITY
PHASE 2, CELL 1 WASTE AREA
BORROW/STOCKPILE AREA
PHASE 2 WASTE LIMITS
PHASE 2 LINER EDGE
LEACHATE SURFACE IMPOUNDMENT
TOWN OF FRANKLIN WASTEWATER TREATMENT PLANT
PHASE I, CELL 1 WASTE AREA
PHASE 1 LINER EDGE
CONCRETE CONTACT PAD
WHITE GOODS PAD & LOADING AREA
RECYCLING PROCESSING CENTER
PROPOSED CELL No. 3
BATTERIES USED OIL & ANTI-FREEZE
TIRE STORAGE TRAILERS
UNITARIAN UNIVERSALIST CHURCH
SCALE IMPROVEMENTS
COMPACTOR
RECYCLING DROP-OFF
PROPOSED CELL No. 4
LANDFILL OFFICE
C&D DROP-OFF AND ROLL-OFF DUMPSTERS
MACON COUNTY ANIMAL SHELTER FACILITY
MACON COUNTY MAINTENANCE FACILITY
MACON COUNTY JAIL SITE
SEE SURVEY BY G.L. SPRINGLE R.L.S. L-1454 DATED JULY 23, 1996 DWG. NO. 1162J
TEL.PED.
SIERRA DRIVE
LAKESIDE DRIVE
R/W

MILLER D.B. Q8 PG.21
MASSUNG D.B. 08 PG.03
PASSMORE D.B. A15 PG.211
PASSMORE D.B. S17 PG.19
PASSMORE-OVERLAP
PANNELL D.B. W9 PG.82
D.B. I18 PG.492
D.B. R11 PG.183
TALLEY D.B. N8 PG.80
PANNELL D.B. P13 PG.67 D.B. I18 PG.492
ELLIOTT D.B. R5 PG.527
McCLOUD D.B. M5 PG.362
STEGALL D.B. N15 PG.140
BATEMAN D.B. K15 PG.154
McDANIEL D.B. R11 PG.196
MASON D.B. G11 PG.256
LEOPARD D.B. J7 PG.13
McCALL D.B. Q6 PG.247 D.B. T16 PG.308 D.B. W7 PG.400
DUNCAN D.B. B4 PG.377 D.B. X34 PG.274
TOWN OF FRANKLIN DEED B33/1475 PLAT CARD 4/6253

S 63° 18' 17" E 316.02'
S 65° 30' 27" E 99.59'
S 66° 23' 27" E 131.37'
N 26° 44' 26.00"E 206.72'
N63° 15' 34.00"W 425.83'
S 79° 44' 34" W 393.88'
S 35° 38' 34" W 359.40'
S 79° 44' 34" W 55.70'
N 50° 24' 36" W 54.01'
N 50° 25' 51" W 146.33'
S35° 38' 34.00"W 89.98'
S35° 38' 34.00"W 104.67'
REVISED FACILITY BOUNDARY
PREVIOUS FACILITY BOUNDARY

BOUNDRY SURVEY INFO. BY:
CRANSTON, ROBERTSON & WHITEHURST, P.C.
AUGUSTA, GEORGIA CASHIERS, NORTH CAROLINA

USGC MONUMENT
FRANKLIN COORDINATES
N 551358.69

SITE PLAN
1" = 200'

McGill ASSOCIATES
ENGINEERING·PLANNING·FINANCE
55 BROAD STREET ASHEVILLE, NC 28801 PH. (828) 252-0575

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 23574 JEFFREY R. DOKKEN

FACILITY PLAN

MACON COUNTY LANDFILL

MACON COUNTY, NORTH CAROLINA

JOB NO.: 07568
DATE: JUNE, 2009
DESIGNED BY: JPH
CADD BY: JPH
DESIGN REVIEW: XXX
CONST. REVIEW: XXX
FILE NAME: 07568 macon county landfillfacilityplan.dwg

OVERALL SITE PLAN

FIGURE 1

Q:\2007\07568\Landfill Facility Plan June 09\07568 macon county landfillfacilityplan.dwg 7/14/2009 11:38 AM DAVE