The McGill Regional Composting Facility at Merry Oaks
634 Christian Chapel Church Road
New Hill, NC 27562
TEL: 919-362-1161
FAX: 919-362-1141
www.mcgillcompost.com

December 16, 2002

Mr. James C. Coffey, Chief
Solid Waste Section, DENR
1646 Mail Service Center
Raleigh, NC 27699-1646

SUBJECT: Completion of the McGill Type 4 composting facility near New Hill, NC

Dear Mr. Coffey:

McGill Environmental Systems has completed construction of its Type 4 composting facility in Chatham County near the community of Merry Oaks (DENR Construction Permit #16-06) and is awaiting review of its application for a Permit to Operate (dated August 10, 2002) by Ted Lyon, Compost and Land Application Branch Head.

We understand that the state's current budget crisis has placed considerable burden on all regulatory personnel and has adversely impacted the timeline for permit application review.

While McGill does understand the reasons for the delay, we want you to be aware that it is posing a heavy financial burden on McGill due to the large investment in the new facility and hiring and training of personnel already in place at McGill-Merry Oaks.

Therefore, McGill is requesting a temporary variance to allow the Merry Oaks facility to accept and process feedstocks until the formal application review process can be completed and operating permit issued (early 2003).

In addition, we propose the following conditions on the temporary variance:

1. No compost manufactured at the Merry Oaks facility will be distributed until the permit is issued;

2. All feedstocks will be stored and processed indoors (except for wood waste, which DENR has already approved for outdoor storage); and,

3. All acceptance, processing, record-keeping, and compliance procedures and protocols outlined in the application permit will be followed.

We believe this temporary measure will provide all of the protections inherent in the operating permit while allowing McGill Environmental Systems to meet its obligations.

I would welcome an opportunity to discuss this matter in more detail, if you feel it would be appropriate. Should you have questions or require additional information, you may contact any of the following individuals:

Noel Lyons
MOBILE: 910-990-3188 or EMAIL: nylons@mcgillcompost.com

Steve Cockman
MOBILE: 919-542-8903 or EMAIL: scockman@mcgillcompost.com

Lynn Lucas
MOBILE: 910-289-0673 or EMAIL: llucas@mcgillcompost.com

Please know that our facility is available for inspection by you or a member of your staff at any time.

Respectfully submitted,

M. Noel Lyons, President
McGILL ENVIRONMENTAL SYSTEMS

cc: Dexter Matthews, DENR
Ted Lyon, DENR
Steve Cockman, McGill Environmental Systems
Lynn Lucas, McGill Environmental Systems

Page Break

McGIII Environmental Systems – Merry Oaks Composting Facility
Response to Questions Raised in Feb. 12, 2003 Correspondence from Mr. Ted Lyon

1. The biofilter is complete and operational.

2. The biofilter was constructed in one unit, which is reflected in the as-built site plan.

3. The screening plant has a cover, which we believe will be adequate for dust control. We have already purchased an inline fan, which will be installed later, if the manufacturer's cover is insufficient.

4. Erosion and sediment control structures were installed as per approved E&SC plan as revised. Two copies of this plan are included in this final submittal package. The as-built site plan reflects all of the changes.

5. The air collection system for the composting building has changed. The original concept allowed for partial air supply from within the building and from outside the building to the supply fans (fresh and recycled air supplying the same fan). Some fans now get only fresh air; others only recycled (process exhaust) air. This change was made upon evaluation of a similar system at another McGill plant, which had the advantage of simplicity over the original. Aeration zones 2, 8, and 14 and now supplied with recycled air only.

6. Construction of the clay/ash pad at the north end of building has been completed and is shown on as-built site plan.

7. McGill is in possession of a Letter of Approval (dated Nov. 8, 2002) for the outdoor storage area for wood waste, and it is now reflected on the as-built drawings.

8. Further evaluation of biofilters during construction led to the conclusion that the condensate would contribute to maintaining more desirable moisture levels within the biofilter media. We will evaluate this over the first year. If necessary, the system allows easy retrofit of condensate collection traps.

9. Sawdust is being stored in the dry materials bunker instead of a separate storage silo. We now anticipate managing considerably less sawdust than original marketing projections anticipated; therefore, we do not anticipate needing the silo in the near future. However, should this change, we will seek permission for this installation from your office.

As far as location goes, the position of the tank area was "flipped" when the position of the entire preparation area was rotated and shifted.

10. There are two components to the air management system: the biofilter and the roof fans. Roof fans are only on when visibility becomes a problem. The biofilter extracts process exhaust air.

The design of the air extraction system is sufficient to remove three times the volume of air being delivered into the building by the supply fans. The central aisle roof fans are in place to compliment drafting in the direction of the biofilter extraction fans. In addition, it was anticipated that at least the first three fans (beginning from the south end of the building) would have to extract air during periods of poor visibility. Hence, the BAT treatment system designed for those three blowers. It has since been decided to install a BAT system on all seven roof fans to allow for more rapidly clearing during poor visibility. The remaining four odor control systems will be installed on the roof fans on Saturday, March 15, 2003.

11. All three Tru-Vapor units have now been installed.

12. We have now produced sufficient quantities of compost to begin using compost to cap each bay with a 6" layer over the front and back 6 ft. Please see p. 33 of the Permit Application.

AS-BUILT DRAWINGS

1. The as-built site plan shows all erosion control measures approved by the Division of Land Quality.

2. All exterior structures/equipment are depicted on the as-built site plan.

3. The location of equipment, pipes, and valve (there is only one) are indicated on both the as-built site plan and the detailed drawings of the liquids tank piping system.

4. The location of the air collection piping and fans is shown on the as-built site plan.

5. In addition to the as-built site plan, a diagram showing the configuration of the exterior aeration-extraction piping system may be found on Page 14 (Figure 1-2) of the permit application.

6. The liquid storage tank and associated pipes and valves are shown on both the as-built site plan and the detailed drawings of the liquids tank piping system. Specifications are included in this final submittal package.

7. Permeability documentation for storage and biofilter pads is included with this final submittal package.

8. This information is shown on the as-built site plan.

9. Product and feedstock will be stored outdoors in both windrows and piles. Locations of storage areas are indicated on the final drawing. Capacity figures are included in Section 1.3. PHYSICAL PLANT/Outdoor Areas and Features.

APPLICATION REVIEW COMMENTS

1. Two copies of the erosion and run-off plan are included in this final submittal package. Also, please note that the Plant Manager will inspect the drainage and sediment control basins after major storm events and also monthly; accumulated sediment will be removed by trackhoe and stockpiled in the catchment area of the basin to dry, whereupon it will be used in the manufacture of topsoil product. Please note that the plant is designed to capture any liquids that might come into contact with raw waste and direct those contaminated liquids to the compost processing area.

2. The main components of the aeration and extraction system are listed on Page 13 of the review document. A discussion of how the roof fans impact the biofilter may be found in the footnote on Page 14 of the review document.

3. Engineering calculations for the Air Treatment System are included in this final submittal package. The two sides of the air treatment system operate at almost the same flow rate, and all ten of the biofilter blowers deliver exhaust air to the biofilter at similar rates.

4. These units are operated with an on-off switch and the entire system is relatively simple to operate and maintain. The only maintenance is refilling reservoir tanks. Please refer to Page 37 of the final permit application.

5. Please refer to Pile Construction, Page 33 of the final permit application.

6. That material was derived from ground C&D debris, and is no longer being accepted by McGill and will not be used in the process. The current Biofilter media, when replaced, will be screened. The "unders" will be used either in the composting process or as a product ingredient. The "overs" will be landfilled.

where in app

7. We will test any feedstocks containing engineered wood products for initial urea-formaldehyde concentrations and test the resulting compost derived from those materials for urea-formaldehyde concentrations. This data will be made

available to the Division of Waste Management for its use in regulating this particular waste stream.

8. We have revised the feedstock list, Page 26 of the review document.

9. Please refer to the revised feedstock list as referenced above, also the footnote on the same page and Acceptance Notification on Page 52 of the review document.

10. Leachate management for the biofilter is described on Page 19 of the review document.

11. When blending liquids from the liquids storage tank with dry carbonaceous materials, the operator will deliberately mix the materials drier than is used with semi-solids (such as biosolids). This will ensure that adequate carbon is used to achieve an acceptable mix C:N ratio. In addition, detailed characterization of the liquids will be used to formulate approximate mix recipes prior to blending.

12. Please refer to blending equipment section in the chart, Page 41.

13. Please refer to Paragraph 4 of the Prep and Blending section, Page 30.

14. Please refer to the Biofilter section on Page 9 and Page 36, and the odors section on the Troubleshooting chart on Page 41. In addition, we will occasionally measure the air delivery from the biofilter blowers. If this falls below the volume air of entering the building from the supply fans, it is time to change the media. The extent of the inherent biological activity in the bulking agent of a biofilter is not critical to the success of the biofilter. Hence, the frequent use of inert materials such as rock, shredded tires, and plastic materials as a bulking agent. What is more critical is the amount of surface area and its ability to maintain. a porous mix. In a typical biofilter, media is colonized with the appropriate microbes in about two weeks. A mix of up to 30% compost is quite adequate to insure good colonization throughout all of the surfaces.

15. Please refer to Page 39 and 40 under Manual monitoring. At least once per month, operators will manually take temperatures in nine (9) separate locations in a composting bay, and compare that data to the computer-recorded probe readings to ensure that the probes are recording representative data. Additionally, each probe will be tested annually for accuracy.

16. Please refer to Section 2.9, Sampling and Analysis. As a "Preparer" of biosolids (40CFR503.9(r)), no annual reporting is required as the McGill facility is not a "Publicly-Owned Treatment Works" (Personal communication, Mr. Mike Hom, EPA Region IV Office of Wastewater, March 12, 2003). Testing will be done monthly as part of McGill's responsibility in the USCC Seal of Testing

Assurance program for pathogens and metals. A copy of a representative USCC Seal of Testing Assurance report is included in this final submittal package.

17. Appropriate language will be included on our Bill of Lading document (since we do not market a bagged product) and a copy will be included in the final submittal package. In addition, all McGill customers receive a copy of our latest USCC Seal of Testing Assurance Compost Technical Data Sheet (copy enclosed).

18. Please refer to Sampling Protocols beginning on Page 50.

19. Please refer to Page 33, Pile construction.

20. Bay identification markings have been completed. Since this facility only has one building, bays are identified by number only – odd numbers on the left, even numbers on the right.

21. Please refer to Receiving-Page 29, Prep and Blending - Page 30, and Leachate Management - Page 34.

22. This Final Permit Application package, including all drawings and documents, has been reviewed and sealed by a North Carolina Professional Engineer.

North Carolina
Department of Environment and Natural Resources

Division of Waste Management

Michael F. Easley, Governor
William G. Ross Jr., Secretary
Dexter R. Matthews, Director

NCDENR

December 18, 2002

Mr. M. Noel Lyons, President
McGill Environmental Systems
634 Christian Chapel Church Road
New Hill, NC 27562

Re: Interim Approval to Operate McGill Type 4 Composting Facility, Permit Number 19-06, Chatham County

Dear Mr. Noel:

This letter is in response to your letter dated December 16, 2002, requesting approval to temporarily operate the referenced facility prior to issuance of the Permit to Operate.

The Solid Waste Section has given due consideration to your request and financial circumstances and has decided to grant interim approval. This decision is a result of the Section's inability to process your permit application in a timely manner due to staff shortages and the "performance based" nature of this type of permit. Since there has been no comprehensive review of the submitted permit application, it should not be inferred that this approval constitutes tacit approval or concurrence by this agency that the facility meets the requirements necessary for issuance of the Permit to Operate. It should be noted that by acceptance of this interim approval, the operator is acknowledging any possible financial risks associated with interim operation of this facility in the event that the Permit to Operate is denied following the review. In addition, a pre-operational inspection will not be made until issuance of the Permit to Operate.

This approval is an interim approval for a period not to exceed 90 days or until issuance or denial of the Permit to Operate and with the following conditions:

All operations, including acceptance, processing, record-keeping, and compliance procedures, shall be conducted in accordance with the submitted Operations Plan and the permit application.

No compost manufactured at this facility shall be distributed until issuance of the Permit to Operate.

1646 Mail Service Center, Raleigh, North Carolina 27699-1646
Phone: 919-733-0692 \ FAX: 919-733-4810 \ Internet: www.enr.state.nc.us/

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All feedstocks shall be stored and processed indoors(except for wood waste).

If there are any questions, please contact me @ (919) 733-0692, extension 256.

Sincerely,

James C. Coffey

James C. Coffey, Chief
Solid Waste Section

cc: Ted Lyon
Robert Hearn

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December 16, 2002

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Lynn Lucas
MOBILE: 910-289-0673 or EMAIL: llucas@mcgillcompost.com

Please know that our facility is available for inspection by you or a member of your staff at any time.

Respectfully submitted,

M. Noel Lyons, President
McGILL ENVIRONMENTAL SYSTEMS

cc: Dexter Matthews, DENR
Ted Lyon, DENR
Steve Cockman, McGill Environmental Systems
Lynn Lucas, McGill Environmental Systems

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TERRATECH
ENGINEERS • INC

Geotechnical Engineering
Environmental Consulting
Construction Materials Testing

July 15, 2002

McGill Environmental Systems, Inc.
P.O. Box 374
Pittsboro, NC 27312

Attention: Mr. Steve Cockman

Report of Permeability Testing
McGill Environmental
Pittsboro, North Carolina
Our Project Number 121-01-24090

Gentlemen,

As requested, Terra Tech has recently performed permeability testing on a sample of soil from the mulch pad area at the referenced property. We understand that the soil has previously been treated with lime and cement to reduce its permeability. Due to sampling difficulties, we performed our permeability test on a remolded sample of the material. Our test was performed in accordance with ASTM D-5084 guidelines. The results of our test indicated a permeability for the in place material of 1.8E-07 cm/sec. We understand that the project requirements are for a material in this area having a maximum permeability of 1E-07 cm/sec. The results of our test indicate that the re-compacted sample is in general conformance with the project permeability requirement.

If you have any questions concerning these test results, please do not hesitate to call us.

Sincerely,

TerraTech Engineers, Inc.

NORTH CAROLINA PROFESSIONAL SEAL 16690 ENGINEER ERWIN T. WILLIAMS III

Erwin T. Williams III, P.E.
Principal Geotechnical Engineer

ETW/jb

TerraTech Engineers, Inc.
3900 Tarheel Drive, Suite 106
Raleigh, North Carolina 27609
(919) 876-9799

TERRATECH
ENGINEERS · INC

Geotechnical Engineering
Environmental Consulting
Construction Materials Testing

March 11, 2003

McGill Environmental Systems, Inc.
P.O. Box 374
Pittsboro, NC 27312

Attention: Mr. Steve Cockman

Report of Additional Permeability Testing
McGill Environmental
Pittsboro, North Carolina
Our Project Number 121-01-24090

Gentlemen,

As requested, Terra Tech has recently performed permeability testing on a sample of soil from the site that was delivered to our office. We understand that the soil has previously been treated with lime and cement to reduce its permeability. Due to sampling difficultics, we performed our permeability test on a remolded sample of the material. Since the two samples delivered to us appeared similar, our test sample was a combination of material from the bio-filter pad and the wood storage pad. Our test was performed in accordance with ASTM D-5084 guidelines. The results of our test indicated a permeability for the in place material of 1.62E-07 cm/sec. We understand that the project requirements are for a material in this area having a maximum permeability of 1E-07 cm/sec. The results of our test indicate that the re-compacted sample is in general conformance with the project permeability requirement.

If you have any questions concerning these test results, please do not hesitate to call us.

Sincerely,

TerraTech Engineers, Inc.

Erwin T. Williams III, P.E.
Principal Geotechnical Engineer

ETW/jb

TerraTech Engineers, Inc.
3900 Tarheel Drive, Suite 106
Raleigh, North Carolina 27609
(919) 876-9799