BEFORE THE METRO COUNCIL

FOR THE PURPOSE OF GRANTING A YARD DEBRIS PROCESSING FACILITY LICENSE TO MCFARLANE'S BARK, INC. TO OPERATE A YARD DEBRIS PROCESSING FACILITY AND DECLARING AN EMERGENCY	)))))	ORDINANCE NO. 98-741A Introduced by Mike Burton, Executive Officer

WHEREAS, Section 5.01.030 of the Metro Code requires an owner or operator of a yard debris processing facility to be licensed by Metro; and

WHEREAS, Section 5.01.040 of the Metro Code requires yard debris processing facilities to comply with the licensing requirements in Chapter 5.01; and

WHEREAS, Metro Code Section 5.01.060(a) requires applications for a license to be filed on forms provided by the Executive Officer, and specifies that licenses are subject to approval by the Council; and

WHEREAS, McFarlane's Bark, Inc. has submitted a yard debris processing facility license application to operate its existing yard debris composting facility in Milwaukie, Oregon; and

WHEREAS, the Metro Code Chapter 5.01.230 to 5.01.380 sets forth provisions relating to the licensing of yard debris processing facilities; and

WHEREAS, based on information submitted by McFarlane's Bark, Inc., specified in the Staff Report or otherwise submitted, the Executive Officer has found that with the special conditions set forth in the license agreement, the facility is in compliance with applicable provisions and standards in the Metro Code related to the licensing of yard debris processing facilities; and

WHEREAS, the facility is an existing operation providing necessary services to the public; and

WHEREAS, nuisance impacts from yard debris processing facilities such as odor, dust and noise can adversely affect the health, safety, and welfare of the public; and

WHEREAS, the purpose of the licensing agreement is to protect the health, safety, and welfare of Metro area residents; and

WHEREAS, the Council finds that it is necessary for the welfare of the Metro area that this ordinance take effect immediately, pursuant to Sections 37(2) and 39(1) of the Metro Charter; and

WHEREAS, The Executive Officer recommends that the Council grant the attached license to McFarlane's Bark, Inc.; now therefore,

THE METRO COUNCIL ORDAINS AS FOLLOWS:

1. The Council authorizes the Executive Officer to enter into the attached licensing agreement for a yard debris processing facility within ten days of the effective date of this ordinance.
2. An emergency having been declared for the reasons stated above, this ordinance shall take effect immediately, pursuant to Sections 37 (2) and 39 (1) of the 1992 Metro Charter.

ADOPTED by the Metro Council this 9th day of July 1998.

Jon Kvistad, Presiding Officer

ATTEST: Approved as to Form:

Recording Secretary Daniel B. Cooper, General Counsel

BM:gbc
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EXHIBIT A

YARD DEBRIS COMPOSTING FACILITY LICENSE
issued by
METRO
600 N.E. Grand Avenue
Portland, Oregon 97232-2736
(503) 797-1700

LICENSE NUMBER: _____

DATE ISSUED: (see Section 2)

AMENDMENT DATE: N/A

EXPIRATION DATE: _____

ISSUED TO: **MCFARLANE'S BARK, INC.**

NAME OF FACILITY: MCFARLANE'S BARK, INC.

ADDRESS: 13345 SE JOHNSON ROAD

CITY, STATE, ZIP: MILWAUKIE, OR 97222

LEGAL DESCRIPTION: (see attached application)

NAME OF OPERATOR: MCFARLANE'S BARK, INC.

PERSON IN CHARGE: DAN MCFARLANE, PRESIDENT

ADDRESS: 13345 SE JOHNSON ROAD

CITY, STATE, ZIP: MILWAUKIE, OREGON 97222

TELEPHONE NUMBER: (503) 659-4240

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LICENSE AGREEMENT

This License is issued by Metro, a municipal corporation organized under the Constitution of the State of Oregon and the 1992 Metro Charter ("Metro"), to McFarlane's Bark, Inc. ("Licensee").

In recognition of the promises made by Licensee as specified herein, Metro issues this License, subject to the following terms and conditions:

1. DEFINITIONS

The definitions in Metro Code Section 5.01.010 shall apply to this License, as well as the following definitions. Defined terms are capitalized when used.

"Composting" means the controlled biological decomposition of organic materials through microbial activity which occurs in the presence of free oxygen. Composting does not include the stockpiling of organic material.

"Facility" means the site where one or more activities that the Licensee is authorized to conduct occur.

"Hazardous Waste" has the meaning specified in ORS 466.005.

"Prohibited Wastes" has the meaning set forth in Section 5.2 of this License.

2. TERM OF LICENSE

This License is issued for a term of five years from the date signed by Metro and the Licensee, following approval by the Metro Council.

3. LOCATION OF FACILITY

The licensed Facility is located at 13345 SE Johnson Road, Milwaukie, Oregon 97222. Tax lot 00202-00400-00402-00802-00803; Section 05, Township 25 South, Range 2 East.

4. OPERATOR AND OWNER OF FACILITY AND PROPERTY

4.1 The owner of the Facility is McFarlane's Bark, Inc.

4.2 The owner of the property underlying the Facility is Marjorie McFarlane, 3964 SE Boise, Portland, Oregon 97202, and Daniel McFarlane, 1515 Windsor Drive, Gladstone, Oregon 97027. Licensee warrants that owner has consented to Licensee's use of the property as described in this License.

4.3 The operator of the Facility is McFarlane's Bark, Inc. Licensee may contract with another person or entity to operate the Facility only upon ninety (90) days prior written notice to Metro and the written approval of the Executive Officer.

5. AUTHORIZED AND PROHIBITED ACTIVITIES AND WASTES

5.1 Subject to the following conditions, Licensee is authorized to operate and maintain a yard debris composting facility.

5.1.1 Licensee shall accept only yard debris, landscape waste, and clean wood wastes (e.g., untreated lumber, wood pallets). No other wastes shall be accepted at the Facility unless specifically authorized in writing by Metro.

5.2 Prohibited Wastes

5.2.1 Licensee is prohibited from receiving, processing or disposing of any solid waste not authorized in this License.

5.2.2 Licensee shall not accept Hazardous Waste. Any Hazardous Waste inadvertently received shall be handled, stored, and removed pursuant to state and federal regulations.

6. MONITORING AND REPORTING REQUIREMENTS

6.1 Licensee shall monitor facility operation and maintain accurate records of the following:

6.1.1 Amount of feedstock received and quantity of product produced at the facility.

6.1.2 Records of any special occurrences encountered during operation and methods used to resolve problems arising from these events, including details of all incidents that required implementing emergency procedures.

6.1.3 Records of any public nuisance complaints (e.g., noise, dust, vibrations, litter) received by the operator, including:

(a) The nature of the complaint;

(b) The date the complaint was received;

(c) The name, address, and telephone number of the person or persons making the complaint; and

(d) Any actions taken by the operator in response to the complaint.

6.1.4 For every odor complaint received, the licensee shall record the date, time, and nature of any action taken in response to an odor complaint, and record such information within one business day after receiving the complaint. Records of such information shall be made available to Metro and local governments upon request.

6.2 Records required under this section shall be reported to Metro no later than thirty (30) days following the end of each quarter. The report shall be signed and certified as accurate by an authorized representative of Licensee.

6.3 The licensee shall submit to Metro duplicate copies of regulatory information submitted to the DEQ and local jurisdictions pertaining to the facility, within 30 days at the same time of submittal to DEQ and/or a local jurisdiction.

7. DESIGN AND OPERATIONAL REQUIREMENTS

7.1 Activities shall be conducted in accordance with the Metro approved facility design plan, operations plan and odor minimization plan submitted as part of the License Application. In addition:

7.1.1 To control odor and dust the Licensee shall:

(a) Install dust control and odor systems whenever excessive dust and odor occur, or at the direction of Metro. Alternative dust and odor control measures may be established by the Licensee with Metro approval.

(b) Take specific measures to control odors in order to avoid or prevent any violation of this License, which measures include (but are not limited to) adherence to the contents of the odor minimization plan.

7.1.2 The following special conditions shall apply:

(a) Install and maintain effective on-site traffic directional signage and lane marking to manage the flow of traffic within 30 days of the effective date of this License Agreement.

(b) Implement the proposed processing and composting operational modifications and site plan improvements ~~(Attachment 4 to the Staff Report-Proposed Operational Modifications),~~ in a substantial and satisfactory manner to control nuisance ~~and traffic~~ impacts by December 1, 1998.

(c) Implement the proposed traffic management site plan improvements in a substantial and satisfactory manner within 60 days of the effective date of this License Agreement.

(d) ~~Within sixty (60) days of the effective date of this License Agreement, the applicant shall i~~Increase the density and variety of the tree buffer zone at the facility property lines adjacent to businesses by December 1, 1998 (where practical). Replant where trees have died, and plant additional rows of evergreen trees to create a more substantial buffer zone. The trees should be tall and fast growing varieties. Applicant should verify plant material with a landscape architect and/or local nurseries to determine type, availability and performance of plant material.

7.1.3 With respect to vector control, the Licensee shall manage the Facility in a manner that is not conducive to infestation of rodents or insects. If rodent or insect activity becomes apparent, Licensee shall initiate and implement additional vector control measures.

7.2 The Licensee shall provide an operating staff which is qualified to perform the functions required by this License and to otherwise ensure compliance with the conditions of this License.

7.3 The licensee shall utilize functionally aerobic composting methods for processing authorized wastes at the facility.

7.4 All facility activities shall be conducted consistent with applicable provisions in Metro Code Chapter 5.01: Additional Provisions Relating to the Licensing of Yard Debris Processing Facilities (Sections 5.01.230 - 5.01.380). Licensee may modify such procedures. All proposed modifications to facility plans and procedures shall be submitted to the Metro Regional Environmental Management Department for review and approval. The Executive Officer shall have 10 business days from receipt of proposed modifications to object to such modifications. If the Executive Officer does not object, such modifications shall be considered approved following the 10-day period. Licensee may implement proposed modifications to Facility plans and procedures on a conditional basis pending Metro review and notice from Metro that such changes are not acceptable.

7.5 Licensee shall remove compost from the Facility as frequently as possible, but not later than one year after processing is completed.

8. FACILITY CLOSURE

8.1 In the event of closure of the facility, all yard debris, composting material, end-product, and other solid wastes must be removed from the facility within 180 days following the commencement of closure.

8.2 Licensee shall close the facility in a manner which eliminates the release of landscape waste, landscape waste leachate, and composting constituents to the groundwater or surface waters or to the atmosphere to the extent necessary to prevent threats to human health or the environment.

8.3 Within 30 days of completion of closure, Licensee shall file a report with Metro verifying that closure was completed in accordance with this section.

9. ANNUAL LICENSE FEE

Licensee shall pay an annual license fee of $300, as established under Metro Code Section 5.01.320. The fee shall be delivered to Metro within thirty (30) days of the effective date of this License and on the same date for each year thereafter. Metro reserves the right to change its license fees at any time, by action of the Metro Council, to reflect license system oversight and enforcement costs.

10. INSURANCE

10.1 Licensee shall purchase and maintain the following types of insurance, covering Licensee, its employees, and agents:

(a) Broad form comprehensive general liability insurance covering personal injury, property damage, and personal injury with automatic coverage for premises, operations, and product liability. The policy must be endorsed with contractual liability coverage; and

(b) Automobile bodily injury and property damage liability insurance.

10.2 Insurance coverage shall be a minimum of $500,000 per occurrence, $100,000 per person, and $50,000 property damage. If coverage is written with an annual aggregate limit, the aggregate limit shall not be less than $1,000,000.

10.3 Metro, its elected officials, departments, employees, and agents shall be named as ADDITIONAL INSUREDS. Notice of any material change or policy cancellation shall be provided to Metro thirty (30) days prior to the change or cancellation.

10.4 Licensee, its contractors, if any, and all employers working under this License are subject employers under the Oregon Workers' Compensation Law and shall comply with ORS 656.017, which requires them to provide Workers' Compensation coverage for all their subject workers. Licensee shall provide Metro with certification of Workers' Compensation insurance including employer's liability.

11. INDEMNIFICATION

Licensee shall indemnify and hold Metro, its agents, employees, and elected officials harmless from any and all claims, demands, damages, actions, losses and expenses, including attorney's fees, arising out of or in any way connected with licensee's performance under the license, including patent infringement and any claims or disputes involving subcontractors. Licensee shall not assume liability for any negligent or intentionally wrongful act of Metro, its officers, agents or employees.

12. COMPLIANCE WITH LAW

Licensee shall fully comply with all federal, state, regional and local laws, rules, regulations, ordinances, orders and permits pertaining in any manner to this License, including all applicable Metro Code provisions whether or not those provisions have been specifically mentioned or cited herein. All conditions imposed on the operation of the Facility by federal, state or local governments or agencies having jurisdiction over the Facility are part of this License by reference as if specifically set forth herein. Such conditions and permits include those attached as exhibits to this License, as well as any existing at the time of issuance of this License and not attached, and permits or conditions issued or modified during the term of this License.

13. METRO ACCESS TO FACILITY

Authorized representatives of Metro shall be permitted access to the premises of the Facility at all reasonable times for the purpose of making inspections and carrying out other necessary functions related to this License. Access to inspect is authorized during all business hours.

14. DISPOSAL RATES AND FEES

14.1 The rates charged at licensed facilities are exempt from Metro rate setting.

14.2 Licensee is exempted from collecting and remitting Metro fees on waste received at the Facility. Licensee is fully responsible for paying all costs associated with disposal of residual material generated at the facility, including all Metro fees and taxes. A licensee shall obtain a non-system license prior to disposal of residuals at any facility not designated by Metro.

14.3 Licensee shall adhere to the following conditions with regard to disposal rates charged at the facility:

(a) A licensee may modify rates to be charged on a continuing basis as market demands may dictate. Rate schedules should be provided to Metro on a regular basis, and shall be provided to Metro on request.

(b) Public rates charged at the facility shall be posted on a sign near where fees are collected. Rates and disposal classifications established by a licensee shall be reasonable and nondiscriminatory.

15. GENERAL CONDITIONS

15.1 Licensee shall be responsible for ensuring that its contractors and agents operate in compliance with the terms and conditions of the license.

15.2 This License shall not vest any right or privilege in the licensee to receive specific quantities of yard debris during the term of the license.

15.3 The power and right to regulate, in the public interest, the exercise of the privileges granted by a license shall at all times be vested in Metro. Metro reserves the right to establish or amend rules, regulations or standards regarding matters within Metro's authority, and to enforce all such legal requirements against licensee.

15.4 This License may not be transferred or assigned without the prior written approval of Metro, which will not be unreasonably withheld.

15.5 To be effective, a waiver of any term or condition of a license must be in writing, signed by the executive officer. Waiver of a term or condition of a license shall not waive nor prejudice Metro's right otherwise to require performance of the same term or condition or any other term or condition.

15.6 This License shall be construed, applied, and enforced in accordance with the laws of the State of Oregon and all pertinent provisions in the Metro Code.

15.7 If any provision of a license is determined by a court of competent jurisdiction to be invalid, illegal, or unenforceable in any respect, the validity of the remaining provisions contained in the license shall not be affected.

16. REVOCATION

Suspension, modification or revocation of this License shall be as specified herein and in the Metro Code.

17. MODIFICATION

17.1 At any time during the life of this License, either the Executive Officer or the Licensee may propose amendments or modifications to this License. Except as specified in the Metro Code, no amendment or modification shall be effective unless it is in writing, approved by the Metro Council, and executed by the Licensee and the Executive Officer.

17.2 The Executive Officer shall review the License annually, consistent with Section 6 of this License, in order to determine whether the License should be changed and whether a recommendation to that effect needs to be made to the Metro Council. While not exclusive, the following criteria and factors may be used by the Executive Officer in making a determination whether to conduct more than one review in a given year:

a) Licensee's compliance history;
b) Changes in waste volume, waste composition, or operations at the Facility;
c) Changes in local, state, or federal laws or regulations that should be specifically incorporated into this License;
d) A significant release into the environment from the Facility;
e) A significant change or changes to the approved site development plan and/or conceptual design; or
f) Any change in ownership that Metro finds material or significant.
g) Community requests for mitigation of impacts to adjacent property resulting from Facility operations.

18. NOTICES

18.1 All notices required to be given to the Licensee under this License shall be delivered to:

Dan McFarlane
McFarlane's Bark, Inc.
13345 SE Johnson Road
Milwaukie, OR 97222

18.2 All notices required to be given to Metro under this License shall be delivered to:

Bill Metzler, Licensing Program Administrator
Metro Regional Environmental Management
600 N.E. Grand Avenue
Portland, OR 97232-2736

18.3 Notices shall be in writing, effective when delivered, or if mailed, effective on the second day after mailed, postage prepaid, to the address for the party stated in this License, or to such other address as a party may specify by notice to the other.

MCFARLANE'S BARK, INC.	METRO
Facility Owner or Owner's Representative	Mike Burton, Executive Officer Metro
Date	Date

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STAFF REPORT

IN CONSIDERATION OF ORDINANCE NO. 98-741A FOR THE PURPOSE OF GRANTING A YARD DEBRIS PROCESSING FACILITY LICENSE TO MCFARLANE'S BARK, INC. TO OPERATE A YARD DEBRIS PROCESSING FACILITY AND DECLARING AN EMERGENCY

Date: April 13, 1998
Revised June 25, 1998

Presented by: Bruce Warner
Bill Metzler

INTRODUCTION

The purpose of this report is to provide the information necessary for the Metro Council to act on the recommendation that McFarlane's Bark, Inc. be awarded a license, with conditions, to operate a yard debris composting facility located in Milwaukie, Oregon. The license agreement is attached to Ordinance No. 98-741A as Exhibit A.

This report is divided into four main parts: (a) a description of the facility and other relevant applicant information, (b) list of submittals; (c) staff analysis of the application and whether the facility meets the standards as specified in Metro Code in order to be awarded a license; and (d) staff's recommendations and specific conditions to be contained in the license agreement.

The purpose of the licensing program is to help ensure that yard debris processing facilities are designed and operated in a manner that minimizes nuisance impacts on surrounding communities and businesses.

Key Findings and Recommendations Include:

- Yard debris processing facilities are licensed by the Metro Council if they submit the required plans and show compliance with applicable provisions in Metro Code Chapter 5.01 (Sections 5.01.230 - 5.01.380)
- The applicant has recently implemented a series of site and operational modifications to reduce odor and dust impacts on surrounding businesses. The modifications included lowering the compost piles and the installation of sprinkler systems to control fugitive dust and odors.
- The applicant is proposing to implement additional facility modifications to improve operations and control nuisance and traffic impacts (reference Attachment 4 and Attachment 5). As part of the implementation plan, the applicant is currently testing a composting aeration system with significantly lower pile heights. It is expected that these modifications will be completed by December 1, 1998.
- The applicant has submitted an amended traffic management site plan that, when implemented, will resolve the concerns brought forward by Mr. Brian Brophy (C. R. Brophy Machine Works), an adjacent impacted business. The contested inbound queuing lane was previously located in a common shared easement. It is now located on McFarlane's Bark property (reference Attachment 5).
- Staff recommendations include conditions to the License Agreement related to traffic management measures, improvements to the landscape buffer zone at the perimeter of the facility adjacent to businesses, and the applicants proposed operational modifications in Attachment 4 and Attachment 5.
- The declaration of an emergency is pursuant to the Metro Charter. It is necessary for the welfare of the Metro region that this license agreement takes effect immediately. The facility is an existing operation providing necessary services, and potential nuisance impacts can adversely affect the health and welfare of the public.

I. FACILITY AND APPLICANT INFORMATION

Location

- Facility address: 13345 SE Johnson Road, Milwaukie, Oregon 97222 (see Attachment 1 - Site Location Air Photo).
- The facility lies in Section 05, Township 2 South, Range 2 East, W.M. Clackamas County Oregon. Tax Lot numbers 00202, 00400, 00402, 00802, 00803.

Zoning and Permitting

- The site is zoned I-2, Light Industrial (see Attachment 2 - Zoning Map). The facility was established in 1972, and all such uses were then allowed outright. Clackamas County recognizes the facility as a valid, allowed non-conforming use.
- The applicant is working with the DEQ to obtain a required National Pollutant Discharge Elimination System (NPDES) Storm Water Discharge Permit.

General Facility Description

- The six-acre site is owned by Marjorie McFarlane and Daniel McFarlane.
- The facility accepts loads of yard debris from commercial and residential sources. The facility is open to the public.
- The facility accepts for processing approximately 230,000 cubic yards of yard debris per year (appx. 35,000 tons/year depending on compaction). The applicant uses a conversion rate of 300 pounds per cubic yard.
- The facility currently uses a static anaerobic pile composting method. Static anaerobic pile composting consists of placing the mixture of raw (typically ground and mixed) materials in a large pile that is not turned on a regular basis. With this type of composting method, an odor control technique is to minimize disturbance of the material which contains anaerobic by products in the pile until sufficient time has passed for the process to proceed to the point that the byproducts are stabilized.
- The applicant is proposing to implement an aerobic composting method (aerated static pile) in 1998. Reference Attachment 4 - Proposed Operational Modifications. Implementation of the aerated static pile method is expected to be complete by December 1998. On-site composting trials for the new methods are currently underway at the facility.

Completeness and Sufficiency of Application

Applicants for yard debris processing facility licenses are required to complete the application form and provide additional information as requested. The license application form and other material required to process the license were submitted and has been determined to be complete and adequate (see Section II - List of Submittals).

Applicant Qualifications

McFarlane's Bark is a family owned and operated composting business, which has been at its current location since 1972. On its six-acre site, McFarlane's takes in yard debris and other organic material and processes it into compost and other ground amendment products to serve the landscape industry. As a service to the community, McFarlane's accepts free of charge, Christmas trees and material from clean-up days from church groups, the Boy Scouts, and the Girl Scouts to aid those group's fund raising efforts. McFarlane's employs approximately 30 full-time employees not counting its seasonal staff, which is much larger.

II. LIST OF SUBMITTALS / ATTACHMENTS

Attachment 1: Site location/aerial photograph (RLIS).

Attachment 2: Zoning overlay/aerial photograph (RLIS).

Attachment 3: Revised Application for a Yard Debris Processing Facility License, dated September 22, 1997.

Attachment 4: Proposed Operational Modifications (Maul Foster & Alongi, January 1998), with attached traffic evaluation (Group Mackenzie, January 1998).

Attachment 5: Revision to Attachment 4. Revised site plan and layout of traffic lanes (Maul Foster & Alongi, June 1998).

III. ANALYSIS OF LICENSE APPLICATION

A license will be granted if the Metro Council finds the applicant complies with Metro Code Chapter 5.01 - Additional Provisions Relating to the Licensing of Yard Debris Processing Facilities and Yard Debris Reload Facilities.

Staff have reviewed the license application and other supporting documentation and have found that the facility is eligible for a yard debris processing facility license with conditions of approval (see Section IV, Conclusions - Special Conditions). The conditions specified in this report and in the License Agreement will provide sufficient assurances that the facility meets all applicable Metro Code requirements. The following table summarizes staff's analysis:

Key Metro Code Licensing Provisions	Acceptable with Conditions
5.01.260 Yard Debris Facility Design Requirements & Design Plans	X
5.01.270 General Operating Requirements for Yard Debris Facilities	X
5.01.280 Yard Debris Processing Operations Plan	X
5.01.290 Yard Debris Facility Odor Minimization Plans	X

1. FACILITY DESIGN AND OPERATING PLAN

The facility design and operational requirements are intended to ensure that the facility is designed and operated in safe and suitable manner that minimizes nuisance impacts on surrounding communities and businesses, while protecting public health and safety. These requirements ensure that the operations can support the type of processing and the quantity of material that the applicant is proposing to process.

The applicant has recently made a number of site and operational improvements that are intended to help control dust and odor impacts on surrounding businesses. These modifications, outlined below, resulted from a series of meetings between McFarlane's Bark, Metro, the DEQ, Clackamas County and adjacent impacted businesses. The meetings were held in 1996-1997 and focused on both short-and long-term solutions to the nuisance impacts associated with the McFarlane's Bark facility.

In addition , McFarlane's Bark is in the process of implementing a new facility plan (reference Attachment 4 and Attachment 5). The plan was developed to improve the existing operations and implement necessary site design modifications to control and mitigate nuisance impacts (e.g. noise, traffic congestion, dust and odor).

Existing facility design and operating plan:

As stated above, the facility operations have been modified over the past few years in order to address nuisance concerns from surrounding businesses. The following is a summary of the most significant modifications:

- The height of the compost piles has been lowered (25%) to 30 feet to better manage dust and odor problems.
- Sprinkler systems have been installed to control dust.

Current composting method: Yard debris is tipped on a concrete tipping slab area and then ground and piled up. The facility currently uses a deep-pile anaerobic composting method. At 10-14 day intervals the active compost piles are rolled and turned. This process is repeated 5-6 times. The compost is then screened into a finished size, piled and allowed to stand for an additional 30 days to finish the curing process. The current composting method results in pile sizes of 25-30 feet high with a base of 150' x 300'.

- Noise: Noise levels are managed by maintaining the manufacturers mufflers on machinery and trucks.
- Vector control: Vectors are controlled by rapidly processing the incoming yard debris. Active compost piles and finished product rarely attract or harbor vectors. If vectors become a problem, applicant will contract with a vector control company to remedy the situation.
- Dust control: Dust is controlled by using water sprays and vertical misters. Applicant has also contracted with a professional road sweeping service for cleaning the roadway. Future plans call for additional paving and striping to aid in dust and traffic control. Applicant also sprays the gravel portion of the roadway and regular cleaning and sweeping other portions of the road and tipping area also helps to control dust. Water sprays have been added to processing machinery and along loading areas.
- Litter: The facility grounds are cleaned of litter on a daily basis.
- Fire prevention and control measures Applicant's processing yard has an 8" loop system that has 8 hydrants attached.
- Traffic management. This continues to be an area of concern, and is being addressed by the applicant through the new facility design plan described below.

Transition plan and composting trials

The applicant has outlined a plan for transitioning from the current composting method (deep static pile) to the new aerated static pile method to be implemented in 1998 (see Attachment 4). Part of the transition plan involves demonstration tests of the proposed method that will assist in designing the new composting pads. The transition plan contains a timeline with a schedule of proposed site improvements.

New facility design / site plan elements

The applicant has submitted a new facility design and operations plan that will be implemented in 1998. The operational modifications and site plan are described in Attachment 4 - Proposed Operational Modifications McFarlane's Bark Composting Facility, and and Attachment 5 (revised traffic management site plan). The following is a summary:

Proposed composting method:

- The new method actively aerates the compost piles and will provide for reductions in pile height (15' – 18').
- The active composting and stabilization areas will be combined into a single pad to facilitate continuous processing of compost. In addition the pad area will be aerated from a central blower gallery. Shredded yard debris will be placed at the south end of the pad and will be moved to the north as composting progresses.
- The compost will be screened after stabilization and placed in bins on-site or transported to McFarlane's facility in Vancouver, Washington.
- The composting areas have been sized to accommodate 36,000 to 40,000 tons of raw material per year. The facility is currently accepting approximately 35,000 tons of yard debris per year (230,000 cubic yards).

Traffic management

In evaluating the license application for the McFarlane's facility, traffic management concerns have been raised by Metro, Clackamas County, and neighbors regarding vehicle queues extending through the common shared easement with Brophy Machine Works and onto Johnson Road. Both Clackamas County and the Metro licensing standards do not allow vehicles to queue in the public right-of-way.

Long lines of traffic along Johnson Road and congestion in the common shared easement are caused by vehicles waiting to drop off yard debris and circulation of other vehicles around these queues. In order to address these concerns, the applicant has proposed specific site design and operational modifications that are detailed in the traffic management practices in Attachment 4 and Attachment 5 (revised traffic management site plan). These will be implemented by the applicant to reduce queue lengths and encroachment on the common easement adjacent to the Brophy Machine Works facility. The following is a summary:

- The active unload area will be expanded to handle more vehicles. The queue can be accommodated with the use of one lane along the south side of the site.
- The traffic flow pattern has been modified to allow the required queuing and the maximum possible separation of public access from operational traffic. McFarlane's trucks will proceed along the east and north side of the site.
- A flat rate method of charges will be instituted on peak days, which will avoid the requirement to weigh vehicles in and out of the facility.
- Customers purchasing materials will be directed to the customer loading area or to parking on the east side of the building.
- A separate inbound bypass lane is provided for traffic destined for Brophy Machine Works. Outbound traffic will be accommodated in a single lane ~~with improved turning radius at the site exit~~.
- The applicant's site plan calls for lane striping and/or use of traffic lane cones, as well as signage to direct traffic flow at the site.
- The traffic lane modifications illustrated in the Attachment 5 site plan, are intended to provide improved traffic management while minimizing use of the common shared easement area. The common shared easement will accommodate the inbound by-pass lane for C. R. Brophy Machine Works and the outbound traffic lane from both the C. R. Brophy Machine Works and McFarlane's Bark facilities. The contested inbound queuing lane for McFarlane's customers will now be located on McFarlane's Bark property, not as previously proposed in Attachment 4.

Comments:

- The applicant has taken steps to solve some of the nuisance problems with dust and odors generated by the facility operations. Traffic management and nuisance impacts, however, continue to be a source of concern from surrounding businesses.

- McFarlane's Bark has submitted a revised traffic management site plan that will resolve the concerns brought forward at the June 11, 1998 Council meeting by Mr. Brian Brophy (C. R. Brophy Machine Works). C. R. Brophy Machine Works is a business located adjacent to the McFarlane's Bark yard debris composting facility. Mr. Brophy expressed concern about traffic queuing impacts on a private easement legally shared by both businesses. Mr. Brophy claimed that a private contractual agreement needed to be reached between McFarlane's Bark and C. R. Brophy Machine Works over the use of the shared easement for vehicle queuing.

- In order to resolve Mr. Brophy's concerns as quickly as possible, McFarlane's Bark opted to modify the original traffic management site plan to relocate the contested inbound queuing lane. The modified traffic management site plan will be included in the license application package and labeled as Attachment 5 to the Staff Report.

- The amended plan relocates the inbound queuing lane for McFarlane's Bark directly onto McFarlane's property. Mr. Brophy has expressed his support for the revised traffic management site plan, provided that the plan is implemented and the vehicles queuing at McFarlane's do not block his access to the shared easement and his business. Staff supports the revised traffic management site plan submitted by McFarlane's Bark.

- It is staff's recommendation that until the proposed plan is implemented, the license agreement should contain special conditions to mitigate the unresolved facility impacts. The conditions are detailed in Section IV of this report, and include implementation of traffic management measures and improvements to the landscape buffer zone at the perimeter of the facility adjacent to businesses.

- The applicant's completed license application and submittals will constitute the required Design Plan and the Operations Plan.

2. ODOR MINIMIZATION PLAN

The purpose of the Metro Code odor minimization plan requirement is to ensure that the facility is operated in a manner that minimizes, manages and monitors odor impacts on surrounding communities and businesses.

General Description

The applicant recognizes that it is essential to minimize the impact of odors generated by anaerobic conditions. If an odorous condition is found or expected to be found, that section of the compost pile is turned more gradually, and immediately mixed with clean stable material which dilutes the smell. The source of the smell is then covered with cured compost to reduce the opportunity for odors to escape from the processing pile.

To further reduce odors, the applicant proposes to implement a new aerated static pile composting method starting in 1998, with exclusive use by December 1998. The aeration process will be used to reduce anaerobic conditions, which are the primary odor sources. The lower pile height (15 feet) will also reduce the possibility of interior spaces that are deprived of oxygen for significant periods of time. The modified odor control plan is contained in Attachment 4 – Proposed Operational Modifications.

Odor complaints: Complaints are recorded and the facility is inspected by facility staff for possible problem sources. The plant manager works with the complainant to resolve any problems. Since lowering the piles to

between 25 feet and 30 feet in height in 1997, there has been a reduction in the number of odor and dust complaints from adjacent businesses.

Comments:

- The applicant's completed license application and submittals constitutes the Odor Minimization Plan, and meets all applicable Metro Code requirements for Section 5.01.290 - Yard Debris Facility Odor Minimization Plans.
- As previously described, this facility is in the process of implementing a new design plan that is intended to provide for improved operations and odor control methods through the use of an aerated static pile system. The application and the proposed plan reflect that the facility will be designed and operated in a manner that meets the Metro Code requirements for odor control and minimization.

IV. CONCLUSIONS

In assessing the McFarlane's Bark yard debris processing facility for compliance with the relevant Metro Code provisions, staff has reviewed all required submittals and has determined that that in order for this facility to meet Metro Code requirements and be granted a Metro License, the applicant must implement the changes as proposed in the application and submittals, and comply with the conditions of the License Agreement.

To address nuisance impacts on surrounding businesses and comply with the Metro licensing standards for yard debris processing facilities, the applicant has implemented mitigation measures and submitted a proposed plan to further modify the facility design and operations. Once fully implemented, the facility modifications are intended to reduce traffic impacts and control nuisances while improving the processing capacity at the facility to handle current and projected incoming volumes of yard debris.

Based on staff's experiences with this facility, the license application submittals, site visits, and discussions with businesses impacted by the McFarlane's Bark operations, there remain a number of ~~unresolved~~ concerns about the current facility layout and operations. Since the proposed facility modifications contained in Attachment 4 and Attachment 5 are not ~~yet~~ fully implemented, and the nuisance impacts are not yet resolved, it is staff's recommendation that the License Agreement contain special conditions.

Special Conditions in the License Agreement

The following conditions shall apply and are included in the License Agreement (reference the License Agreement, Section 7.1.2 - Design and Operational Requirements):

1. Install and maintain effective on-site traffic directional signage and lane marking to manage the flow of traffic within 30 days of the effective date of this License Agreement.

2. Implement the proposed processing and composting operational modifications and site plan improvements ~~(Attachment 4 to the Staff Report Proposed Operational Modifications),~~ in a substantial and satisfactory manner to control nuisance ~~and traffic~~ impacts by December 1, 1998.

3. Implement the proposed traffic management site plan improvements in a substantial and satisfactory manner within 60 days of the effective date of this License Agreement.

4. ~~Within sixty (60) days of the effective date of this License Agreement, the applicant shall~~ Increase the density and variety of the tree buffer zone at the facility property lines adjacent to businesses by December 1, 1998 (where practical). Replant where trees have died, and plant additional rows of evergreen trees to create a more substantial buffer zone. The trees should be tall and fast growing varieties. Applicant should verify plant material with a landscape architect and/or local nurseries to determine type, availability and performance of plant material.

The license agreement ensures that the facility will operate in accordance with the purpose of Metro's licensing program to protect public health and safety and maintain consistency with the Regional Solid Waste Management Plan. The Metro licensing program includes problem resolution through intergovernmental cooperation, technical assistance and enforcement measures.

V. BUDGET IMPACTS

There will be a slight increase in revenues from the annual license fee paid by the licensee of $300 per year. Current staffing levels are expected to be adequate to handle any technical assistance or enforcement requirements that might arise from licensing this facility.

VI. STAFF RECOMMENDATION

Based on the preceding analysis it is the opinion of staff that McFarlane's Bark, Inc. should be granted a yard debris processing facility license, with conditions, in accordance with the provisions of the License Agreement attached to Ordinance No. 98-741A as Exhibit A.

VII. EXECUTIVE OFFICER'S RECOMMENDATION

The Executive Officer recommends adoption of Ordinance No. 98-741A.

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BEFORE THE METRO COUNCIL

FOR THE PURPOSE OF GRANTING A YARD DEBRIS PROCESSING FACILITY LICENSE TO MCFARLANE'S BARK, INC. TO OPERATE A YARD DEBRIS PROCESSING FACILITY AND DECLARING AN EMERGENCY	)))))	ORDINANCE NO. 98-741 Introduced by Mike Burton, Executive Officer

WHEREAS, Section 5.01.030 of the Metro Code requires an owner or operator of a yard debris processing facility to be licensed by Metro; and

WHEREAS, Section 5.01.040 of the Metro Code requires yard debris processing facilities to comply with the licensing requirements in Chapter 5.01; and

WHEREAS, Metro Code Section 5.01.060(a) requires applications for a license to be filed on forms provided by the Executive Officer, and specifies that licenses are subject to approval by the Council; and

WHEREAS, McFarlane's Bark, Inc. has submitted a yard debris processing facility license application to operate its existing yard debris composting facility in Milwaukie, Oregon; and

WHEREAS, the Metro Code Chapter 5.01.230 to 5.01.380 sets forth provisions relating to the licensing of yard debris processing facilities; and

WHEREAS, based on information submitted by McFarlane's Bark, Inc., specified in the Staff Report or otherwise submitted, the Executive Officer has found that with the special conditions set forth in the license agreement, the facility is in compliance with applicable provisions and standards in the Metro Code related to the licensing of yard debris processing facilities; and

WHEREAS, the facility is an existing operation providing necessary services to the public; and

WHEREAS, nuisance impacts from yard debris processing facilities such as odor, dust and noise can adversely affect the health, safety, and welfare of the public; and

WHEREAS, the purpose of the licensing agreement is to protect the health, safety, and welfare of Metro area residents; and

WHEREAS, the Council finds that it is necessary for the welfare of the Metro area that this ordinance take effect immediately, pursuant to Sections 37(2) and 39(1) of the Metro Charter; and

WHEREAS, The Executive Officer recommends that the Council grant the attached license to McFarlane's Bark, Inc.; now therefore,

THE METRO COUNCIL ORDAINS AS FOLLOWS:

1. The Council authorizes the Executive Officer to enter into the attached licensing agreement for a yard debris processing facility within ten days of the effective date of this ordinance.
2. An emergency having been declared for the reasons stated above, this ordinance shall take effect immediately, pursuant to Sections 37 (2) and 39 (1) of the 1992 Metro Charter.

ADOPTED by the Metro Council this _____ day of _____ 1998.

_____
Jon Kvistad, Presiding Officer

ATTEST:

_____
Recording Secretary

Approved as to Form:

_____
Daniel B. Cooper, General Counsel

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REGIONAL ENVIRONMENTAL MANAGEMENT COMMITTEE REPORT

CONSIDERATION OF ORDINANCE NO. 98-741, FOR THE PURPOSE OF GRANTING A YARD DEBRIS PROCESSING FACILITY LICENSE TO MCFARLANE'S BARK, INC. TO OPERATE A YARD DEBRIS PROCESSING FACILITY, AND DECLARING AN EMERGENCY

Date: June 2 1998 Presented by: Councilor Morissette

Committee Recommendation: At its June 2 meeting, the Committee considered Ordinance No. 98-741 and voted 2-1 to send the ordinance to the Council with a do pass recommendation. Voting in favor: Councilor McFarland and Chair Morissette, voting no: Councilor Washington.

Background: At the request of the region's local governments, Metro has developed and is in the process of implementing a licensing program for yard debris processing facilities. The development of the program was triggered by a request from MacFarlane's Bark, the subject of this ordinance, to move its existing facility to another site in Clackamas County. The county rejected the proposed land use permit needed to accommodate the move. The county, along with other local governments then approached Metro concerning the need to develop a regional regulatory program. The program provides a uniform set of regulatory standards that must be meet by all processing facilities. These standards include design, operations and odor minimization.

Committee Issues/Discussion: Bill Metzler, REM Yard Debris Processing Facility Licensing Manager, presented the staff report. Metzler noted that the purpose of the ordinance was to grant a yard debris processing facility license to McFarlane's Bark to continue operating at their existing site. The facility has been in operation since 1972 and processes about 35,000 tons of material annually from both commercial and residential sources.

Metzler indicated that, in the past, McFarlane's has been the subject of several complaints from its neighbors concerning site management, dust and odors and traffic management during peak hours. Therefore, staff has worked extensively with the applicant, DEQ, Clackamas County, and the neighborhood to develop an operations plan for the facility. The applicant has agreed to make several operational and site modifications that must be completed by December 1, 1998. These include: 1) reducing the height of the piles of composting material by 25%, 2) improving composting methods to provide for greater aeration of the piles, 3) improving customer processing procedures to potential traffic backups during peak periods of operation, 4) improved directional signage, and 5) traffic control improvement on the roadway leading to the site.

Metzler indicated that continued licensing of the facility is conditioned upon making the improvements identified in the licensing agreement.

Brian Brophy, C.R. Brophy Machine Company, a neighboring business to the McFarlane's site, indicated that he had been negotiating with McFarlane's for an extended period concerning the handling of traffic on the roadway that serves both businesses. He indicated that some progress has been made, but that a final agreement had not been reached. He indicated that the principal

problem is the development of long lines of vehicles using McFarlane's during peak hours. He expressed concern that Metro should not license the facility prior to the finalization of a traffic management agreement between his business and McFarlane's.

Excessive committee discussion followed concerning the status and effect of the traffic management portion of the licensing agreement. Bruce Warner, REM Director, explained that the agreement requires the implementation of a long-term offsite traffic management plan prior to December 1. He noted that this will put pressure on McFarlane's to pursue an agreement with Mr. Brophy. Councilor Washington responded that the requirement would actually put McFarlane's in a very poor negotiating position. He also expressed concern about Metro being put in the middle of the dispute between Mr. Brophy and McFarlane's.

Councilor McFarland asked what Metro could do if a traffic management is not implemented in accordance with the licensing agreement. Metzler responded that Metro could initially take additional measures such as placing limitations on the tonnage processed at the site in an effort to reduce traffic.

The committee explored the possibly of either delaying action on the ordinance or requiring an agreement between Mr. Brophy and McFarlane's within a specific time frame, such as 30 days. In conclusion, committee members strongly urged the two parties to complete work on their agreement.

EXECUTIVE SUMMARY

ORDINANCE 98-741
GRANTING A YARD DEBRIS PROCESSING FACILITY LICENSE TO MCFARLANE'S BARK, INC.

PROPOSED ACTION

- Grants a yard debris processing facility license, with conditions, to McFarlane's Bark, Inc. to operate its existing yard debris composting facility located in Milwaukie, Oregon.

WHY NECESSARY

- Metro Code Section 5.01.030 requires an owner or operator of a yard debris processing facility to be licensed by Metro.
- The terms of the license will be to protect public health, safety, and welfare. The declaration of an emergency is required for the license agreement to take effect immediately.

DESCRIPTION

- The site is zoned Light Industrial. The facility was established in 1972, and all such uses were then allowed outright. Clackamas County recognizes the facility as a valid, allowed non-conforming use.
- The facility accepts loads of yard debris from commercial and residential sources. The facility is open to the public.
- The six-acre facility accepts approximately 230,000 cubic yards of yard debris per year (appx. 35,000 tons/year depending on compaction).
- In 1997, the applicant implemented a series of site and operational modifications to reduce odor and dust impacts on surrounding businesses. The modifications included lowering the compost piles and the installation of sprinkler systems to control fugitive dust and odors.
- The applicant is proposing to implement additional facility modifications to improve operations and control nuisance impacts. As part of the implementation plan, the applicant is currently testing a composting aeration system with significantly lower pile heights. It is expected that these modifications will be completed by December 1, 1998.

ISSUES/CONCERNS

- Based on staff's experiences with this facility and discussions with businesses impacted by the McFarlane's Bark operations, staff is aware of concerns regarding nuisance impacts (odor, dust and traffic) associated with the facility operations.
- Since the proposed facility modifications are not yet implemented, and certain operational impacts are not fully resolved, it is staff's recommendation that the License Agreement contain conditions related to traffic management measures, improvements to the landscape buffer zone at the perimeter of the facility adjacent to businesses, and implementation of the applicants proposed operational modifications.

BUDGET / FINANCIAL IMPACTS

- There will be a slight increase in revenues from the annual license fee of $300 per year paid by the licensee. Current staffing levels are expected to be adequate to handle any technical assistance or enforcement requirements that might arise from licensing this facility.

STAFF REPORT

IN CONSIDERATION OF ORDINANCE NO. 98-741 FOR THE PURPOSE OF GRANTING A YARD DEBRIS PROCESSING FACILITY LICENSE TO MCFARLANE'S BARK, INC. TO OPERATE A YARD DEBRIS PROCESSING FACILITY AND DECLARING AN EMERGENCY

Date: April 13, 1998

Presented by: Bruce Warner
Bill Metzler

INTRODUCTION

The purpose of this report is to provide the information necessary for the Metro Council to act on the recommendation that McFarlane's Bark, Inc. be awarded a license, with conditions, to operate a yard debris composting facility located in Milwaukie, Oregon. The license agreement is attached to Ordinance No. 98-741 as Exhibit A.

This report is divided into four main parts: (a) a description of the facility and other relevant applicant information, (b) list of submittals; (c) staff analysis of the application and whether the facility meets the standards as specified in Metro Code in order to be awarded a license; and (d) staff's recommendations and specific conditions to be contained in the license agreement.

The purpose of the licensing program is to help ensure that yard debris processing facilities are designed and operated in a manner that minimizes nuisance impacts on surrounding communities and businesses.

Key Findings and Recommendations Include:

- Yard debris processing facilities are licensed by the Metro Council if they submit the required plans and show compliance with applicable provisions in Metro Code Chapter 5.01 (Sections 5.01.230 - 5.01.380)
- The applicant has recently implemented a series of site and operational modifications to reduce odor and dust impacts on surrounding businesses. The modifications included lowering the compost piles and the installation of sprinkler systems to control fugitive dust and odors.
- The applicant is proposing to implement additional facility modifications to improve operations and control nuisance impacts (reference Attachment 4). As part of the implementation plan, the applicant is currently testing a composting aeration system with significantly lower pile heights. It is expected that these modifications will be completed by December 1, 1998.
- Staff recommendations include conditions to the License Agreement related to traffic management measures, improvements to the landscape buffer zone at the perimeter of the facility adjacent to businesses, and the applicants proposed operational modifications in Attachment 4.
- The declaration of an emergency is pursuant to the Metro Charter. It is necessary for the welfare of the Metro region that this license agreement takes effect immediately. The facility is an existing operation providing necessary services, and potential nuisance impacts can adversely affect the health and welfare of the public.

I. FACILITY AND APPLICANT INFORMATION

Location

- Facility address: 13345 SE Johnson Road, Milwaukie, Oregon 97222 (see Attachment 1 - Site Location Air Photo).
- The facility lies in Section 05, Township 2 South, Range 2 East, W.M. Clackamas County Oregon. Tax Lot numbers 00202, 00400, 00402, 00802, 00803.

Zoning and Permitting

- The site is zoned I-2, Light Industrial (see Attachment 2 - Zoning Map). The facility was established in 1972, and all such uses were then allowed outright. Clackamas County recognizes the facility as a valid, allowed non-conforming use.
- The applicant is working with the DEQ to obtain a required National Pollutant Discharge Elimination System (NPDES) Storm Water Discharge Permit.

General Facility Description

- The six-acre site is owned by Marjorie McFarlane and Daniel McFarlane.
- The facility accepts loads of yard debris from commercial and residential sources. The facility is open to the public.
- The facility accepts for processing approximately 230,000 cubic yards of yard debris per year (appx. 35,000 tons/year depending on compaction). The applicant uses a conversion rate of 300 pounds per cubic yard.
- The facility currently uses a static anaerobic pile composting method. Static anaerobic pile composting consists of placing the mixture of raw (typically ground and mixed) materials in a large pile that is not turned on a regular basis. With this type of composting method, an odor control technique is to minimize disturbance of the material which contains anaerobic by products in the pile until sufficient time has passed for the process to proceed to the point that the byproducts are stabilized.
- The applicant is proposing to implement an aerobic composting method (aerated static pile) in 1998. Reference Attachment 4 - Proposed Operational Modifications. Implementation of the aerated static pile method is expected to be complete by December 1998. On-site composting trials for the new methods are currently underway at the facility.

Completeness and Sufficiency of Application

Applicants for yard debris processing facility licenses are required to complete the application form and provide additional information as requested. The license application form and other material required to process the license were submitted and has been determined to be complete and adequate (see Section II - List of Submittals).

Applicant Qualifications

McFarlane's Bark is a family owned and operated composting business, which has been at its current location since 1972. On its six-acre site, McFarlane's takes in yard debris and other organic material and processes it into compost and other ground amendment products to serve the landscape industry. As a service to the community, McFarlane's accepts free of charge, Christmas trees and material from clean-up days from church groups, the Boy Scouts, and the Girl Scouts to aid those group's fund raising efforts. McFarlane's employs approximately 30 full-time employees not counting its seasonal staff, which is much larger.

II. LIST OF SUBMITTALS / ATTACHMENTS

Attachment 1: Site location/aerial photograph (RLIS).

Attachment 2: Zoning overlay/aerial photograph (RLIS).

Attachment 3: Revised Application for a Yard Debris Processing Facility License, dated September 22, 1997.

Attachment 4: Proposed Operational Modifications (Maul Foster & Alongi, January 1998), with attached traffic evaluation (Group Mackenzie, January 1998).

III. ANALYSIS OF LICENSE APPLICATION

A license will be granted if the Metro Council finds the applicant complies with Metro Code Chapter 5.01 - Additional Provisions Relating to the Licensing of Yard Debris Processing Facilities and Yard Debris Reload Facilities.

Staff have reviewed the license application and other supporting documentation and have found that the facility is eligible for a yard debris processing facility license with conditions of approval (see Section IV, Conclusions - Special Conditions). The conditions specified in this report and in the License Agreement will provide sufficient assurances that the facility meets all applicable Metro Code requirements. The following table summarizes staff's analysis:

Key Metro Code Licensing Provisions	Acceptable with Conditions
5.01.260 Yard Debris Facility Design Requirements & Design Plans	X
5.01.270 General Operating Requirements for Yard Debris Facilities	X
5.01.280 Yard Debris Processing Operations Plan	X
5.01.290 Yard Debris Facility Odor Minimization Plans	X

1. FACILITY DESIGN AND OPERATING PLAN

The facility design and operational requirements are intended to ensure that the facility is designed and operated in safe and suitable manner that minimizes nuisance impacts on surrounding communities and businesses, while protecting public health and safety. These requirements ensure that the operations can support the type of processing and the quantity of material that the applicant is proposing to process.

The applicant has recently made a number of site and operational improvements that are intended to help control dust and odor impacts on surrounding businesses. These modifications, outlined below, resulted from a series of meetings between McFarlane's Bark, Metro, the DEQ, Clackamas County and adjacent impacted businesses. The meetings were held in 1996-1997 and focused on both short-and long-term solutions to the nuisance impacts associated with the McFarlane's Bark facility.

In addition , McFarlane's Bark is in the process of implementing a new facility plan (reference Attachment 4). The plan was developed to improve the existing operations and implement necessary site design modifications to control and mitigate nuisance impacts (e.g. noise, traffic congestion, dust and odor).

Existing facility design and operating plan:

As stated above, the facility operations have been modified over the past few years in order to address nuisance concerns from surrounding businesses. The following is a summary of the most significant modifications:

- The height of the compost piles has been lowered (25%) to 30 feet to better manage dust and odor problems.
- Sprinkler systems have been installed to control dust.

Current composting method: Yard debris is tipped on a concrete tipping slab area and then ground and piled up. The facility currently uses a deep-pile anaerobic composting method. At 10-14 day intervals the active compost piles are rolled and turned. This process is repeated 5-6 times. The compost is then screened into a finished size, piled and allowed to stand for an additional 30 days to finish the curing process. The current composting method results in pile sizes of 25-30 feet high with a base of 150' x 300'.

- Noise: Noise levels are managed by maintaining the manufacturers mufflers on machinery and trucks.
- Vector control: Vectors are controlled by rapidly processing the incoming yard debris. Active compost piles and finished product rarely attract or harbor vectors. If vectors become a problem, applicant will contract with a vector control company to remedy the situation.
- Dust control: Dust is controlled by using water sprays and vertical misters. Applicant has also contracted with a professional road sweeping service for cleaning the roadway. Future plans call for additional paving and striping to aid in dust and traffic control. Applicant also sprays the gravel portion of the roadway and regular cleaning and sweeping other portions of the road and tipping area also helps to control dust. Water sprays have been added to processing machinery and along loading areas.
- Litter: The facility grounds are cleaned of litter on a daily basis.
- Fire prevention and control measures Applicant's processing yard has an 8" loop system that has 8 hydrants attached.
- Traffic management. This continues to be an area of concern, and is being addressed by the applicant through the new facility design plan described below.

Transition plan and composting trials

The applicant has outlined a plan for transitioning from the current composting method (deep static pile) to the new aerated static pile method to be implemented in 1998 (see Attachment 4). Part of the transition plan involves demonstration tests of the proposed method that will assist in designing the new composting pads. The transition plan contains a timeline with a schedule of proposed site improvements.

New facility design / site plan elements

The applicant has submitted a new facility design and operations plan that will be implemented in 1998. The operational modifications and site plan are described in Attachment 4 - Proposed Operational Modifications McFarlane's Bark Composting Facility. The following is a summary:

Proposed composting method:

- The new method actively aerates the compost piles and will provide for reductions in pile height (15' – 18').

- The active composting and stabilization areas will be combined into a single pad to facilitate continuous processing of compost. In addition the pad area will be aerated from a central blower gallery. Shredded yard debris will be placed at the south end of the pad and will be moved to the north as composting progresses.

- The compost will be screened after stabilization and placed in bins on-site or transported to McFarlane's facility in Vancouver, Washington.

- The composting areas have been sized to accommodate 36,000 to 40,000 tons of raw material per year. The facility is currently accepting approximately 35,000 tons of yard debris per year (230,000 cubic yards).

Traffic management

In evaluating the license application for the McFarlane's facility, traffic management concerns have been raised by Metro, Clackamas County, and neighbors regarding vehicle queues extending through the common shared easement with Brophy Machine Works and onto Johnson Road. Both Clackamas County and the Metro licensing standards do not allow vehicles to queue in the public right–of-way.

Long lines of traffic along Johnson Road and congestion in the common shared easement are caused by vehicles waiting to drop off yard debris and circulation of other vehicles around these queues. In order to address these concerns, the applicant has proposed specific site design and operational modifications that are detailed in the traffic management practices in Attachment 4. These will be implemented by the applicant to reduce queue lengths and encroachment on the common easement adjacent to the Brophy Machine Works facility. The following is a summary:

- The active unload area will be expanded to handle more vehicles. The queue can be accommodated with the use of one lane along the south side of the site.
- The traffic flow pattern has been modified to allow the required queuing and the maximum possible separation of public access from operational traffic. McFarlane's trucks will proceed along the east and north side of the site.
- A flat rate method of charges will be instituted on peak days, which will avoid the requirement to weigh vehicles in and out of the facility.
- Customers purchasing materials will be directed to the customer loading area or to parking on the east side of the building.
- A separate inbound bypass lane is provided for traffic destined for Brophy Machine Works. Outbound traffic will be accommodated in a single lane with improved turning radius at the site exit.
- The applicant's site plan calls for lane striping as well as signage to direct traffic flow at the site.

Comments:

- The applicant has taken steps to solve some of the nuisance problems with dust and odors generated by the facility operations. Traffic management and nuisance impacts, however, continue to be a source of concern from surrounding businesses.

- It is staff's recommendation that until the proposed plan is implemented, the license agreement should contain special conditions to mitigate the unresolved facility impacts. The conditions are detailed in Section IV of this report, and include implementation of traffic management measures and improvements to the landscape buffer zone at the perimeter of the facility adjacent to businesses.

- The applicant's completed license application and submittals will constitute the required Design Plan and the Operations Plan.

2. ODOR MINIMIZATION PLAN

The purpose of the Metro Code odor minimization plan requirement is to ensure that the facility is operated in a manner that minimizes, manages and monitors odor impacts on surrounding communities and businesses.

General Description

The applicant recognizes that it is essential to minimize the impact of odors generated by anaerobic conditions. If an odorous condition is found or expected to be found, that section of the compost pile is turned more gradually, and immediately mixed with clean stable material which dilutes the smell. The source of the smell is then covered with cured compost to reduce the opportunity for odors to escape from the processing pile.

To further reduce odors, the applicant proposes to implement a new aerated static pile composting method starting in 1998, with exclusive use by December 1998. The aeration process will be used to reduce anaerobic conditions, which are the primary odor sources. The lower pile height (15 feet) will also reduce the possibility of interior spaces that are deprived of oxygen for significant periods of time. The modified odor control plan is contained in Attachment 4 – Proposed Operational Modifications.

Odor complaints: Complaints are recorded and the facility is inspected by facility staff for possible problem sources. The plant manager works with the complainant to resolve any problems. Since lowering the piles to between 25 feet and 30 feet in height in 1997, there has been a reduction in the number of odor and dust complaints from adjacent businesses.

Comments:

- The applicant's completed license application and submittals constitutes the Odor Minimization Plan, and meets all applicable Metro Code requirements for Section 5.01.290 - Yard Debris Facility Odor Minimization Plans.

- As previously described, this facility is in the process of implementing a new design plan that is intended to provide for improved operations and odor control methods through the use of an aerated static pile system. The application and the proposed plan reflect that the facility will be designed and operated in a manner that meets the Metro Code requirements for odor control and minimization.

IV. CONCLUSIONS

In assessing the McFarlane's Bark yard debris processing facility for compliance with the relevant Metro Code provisions, staff has reviewed all required submittals and has determined that that in order for this facility to meet Metro Code requirements and be granted a Metro License, the applicant must implement the changes as proposed in the application and submittals, and comply with the conditions of the License Agreement.

To address nuisance impacts on surrounding businesses and comply with the Metro licensing standards for yard debris processing facilities, the applicant has implemented mitigation measures and submitted a proposed plan to further modify the facility design and operations. Once fully implemented, the facility modifications are

intended to reduce traffic impacts and control nuisances while improving the processing capacity at the facility to handle current and projected incoming volumes of yard debris.

Based on staff's experiences with this facility, the license application submittals, site visits, and discussions with businesses impacted by the McFarlane's Bark operations, there remain a number of unresolved concerns about the current facility layout and operations. Since the proposed facility modifications contained in Attachment 4 are not yet implemented, and the nuisance impacts are not yet resolved, it is staff's recommendation that the License Agreement contain special conditions.

Special Conditions in the License Agreement

The following conditions shall apply and are included in the License Agreement (reference the License Agreement, Section 7.1.2 - Design and Operational Requirements):

1. Install and maintain effective on-site traffic directional signage and lane marking to manage the flow of traffic, within 30 days of the effective date of the License Agreement.
2. The proposed operational modifications and site plan improvements described in Attachment 4, shall be implemented in a substantial and satisfactory manner that controls nuisance and traffic impacts by December 1, 1998.
3. Within sixty (60) days of the effective date of the License Agreement, the applicant shall increase the density and variety of the tree buffer zone at the facility property lines adjacent to businesses. Replant where trees have died, and plant additional rows of evergreen trees to create a more substantial buffer zone. The trees should be tall and fast growing varieties. Applicant should verify plant material with a landscape architect and/or local nurseries to determine type, availability and performance of plant material.

The license agreement ensures that the facility will operate in accordance with the purpose of Metro's licensing program to protect public health and safety and maintain consistency with the Regional Solid Waste Management Plan. The Metro licensing program includes problem resolution through intergovernmental cooperation, technical assistance and enforcement measures.

V. BUDGET IMPACTS

There will be a slight increase in revenues from the annual license fee paid by the licensee of $300 per year. Current staffing levels are expected to be adequate to handle any technical assistance or enforcement requirements that might arise from licensing this facility.

VI. STAFF RECOMMENDATION

Based on the preceding analysis it is the opinion of staff that McFarlane's Bark, Inc. should be granted a yard debris processing facility license, with conditions, in accordance with the provisions of the License Agreement attached to Ordinance No. 98-741 as Exhibit A.

VII. EXECUTIVE OFFICER'S RECOMMENDATION

The Executive Officer recommends adoption of Ordinance No. 98-741.

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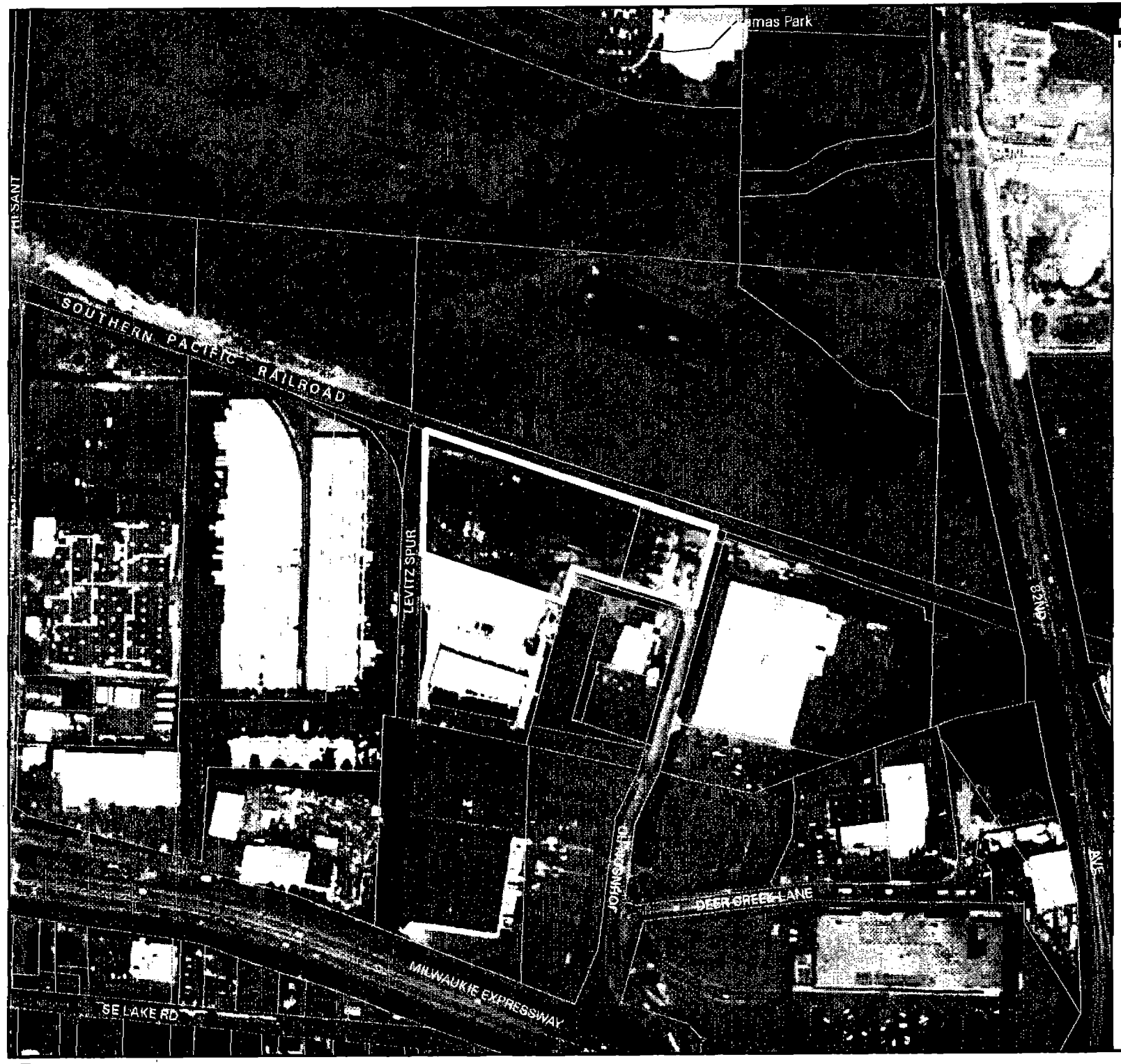


R L I S

REGIONAL LAND INFORMATION SYSTEM

McFarlane's Bark

1997 Aerial Photos

- Metro Boundary
- Urban Growth Boundary
- Parks and Open Space
- Taxlots
- County Line
- Subject Property (white boundaries)

Attachment 1

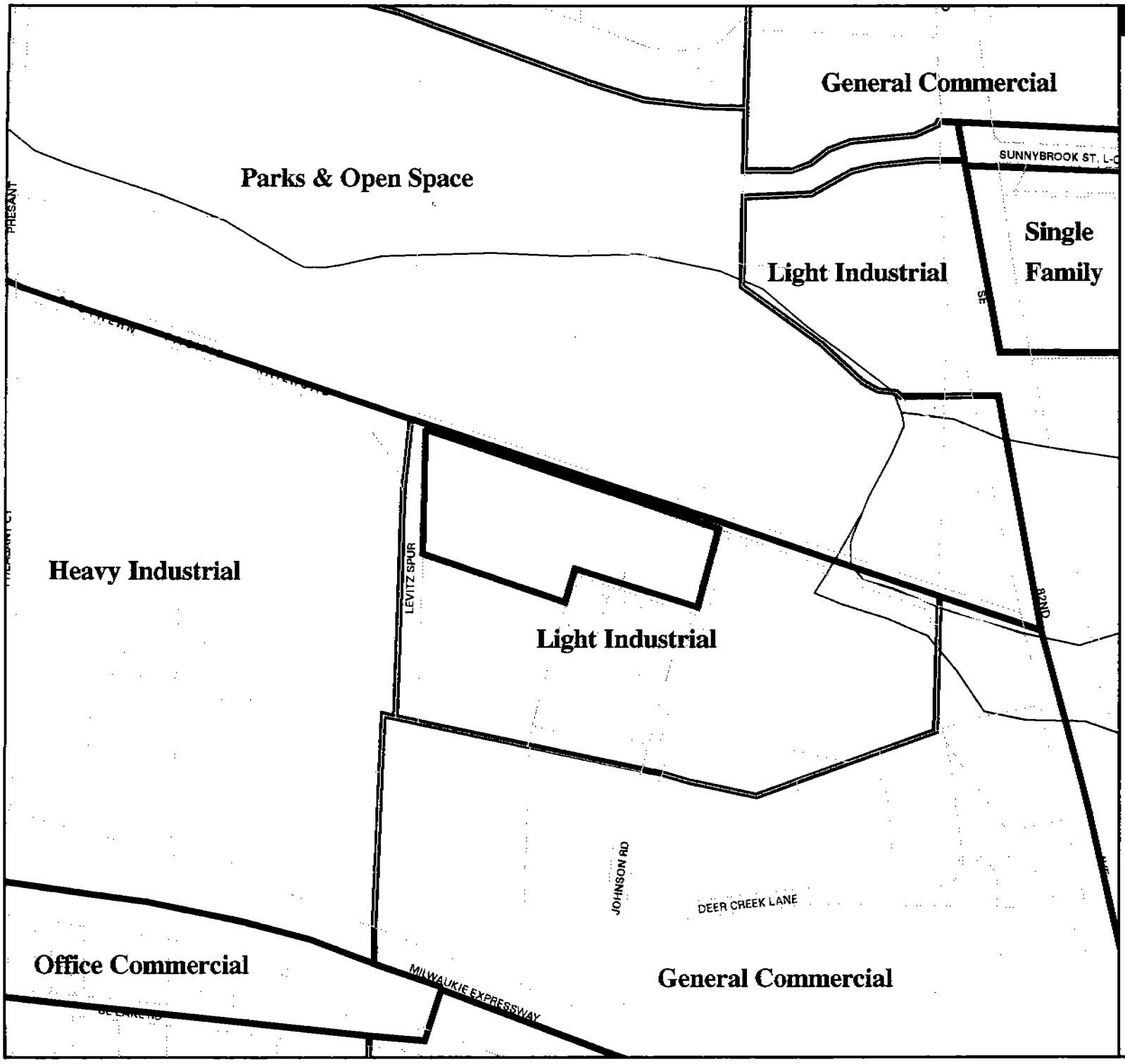
Scale: 1" = 400'

0 200 400

METRO

600 NE Grand Ave.
Portland, OR 97232-2736
Voice 503 797-1742
FAX 503 797-1909
Email drc@metro.dst.or.us

98017/mcf_photo.aml, plot date: April 08, 1998



R L I S

REGIONAL LAND INFORMATION SYSTEM

McFarlane's Bark

Zoning

Attachment 2

METRO

600 NE Grand Ave.
Portland, OR 97232-2736
Voice 503 797-1742
FAX 503 797-1909
Email drc@metro.dst.or.us

98017/mcf_zonebw.aml, plot date: April 22, 1998

MAIL THIS APPLICATION TO:

DATE RECEIVED BY METRO:

Metro
Attn: Bill Metzler
Regional Environmental Management
600 NE Grand Avenue
Portland, OR 97232-2736

AMENDED LICENSE APPLICATION FORM
YARD DEBRIS PROCESSING FACILITY

Applicant submitted its original application for a yard debris processing facility to Metro on August 14, 1997. In a letter dated August 28, 1997, Bill Metzler, Associate Solid Waste Planner for Metro, notified applicant that the original application was "insufficient"and requested additional information. This amended application responds to the questions in the Metzler letter by providing the requested information.

Check all that apply;

Yard Debris Composting X

Other (specify) Transactions are based on the volumes at our yard debris recycling area only.

Barkdust sales are separate transactions for purposes of this application.

Date of Application: August 4, 1997.
Revised 9/10/97

PART 1

1. **NAME OF FACILITY** McFarlane's Bark, Inc.
   Facility Address: 13345 SE Johnson Rd.
   Milwaukie, OR 97222

2. **PROSPECTIVE LICENSEE**

Public Agency:_____ Private x

Name of Licensee: McFarlanes, Bark, Inc.

Mailing Address: 13345 SE Johnson Rd. Milwaukie, OR 97222

Phone Number: 503/659-4240

3. OWNERS OF PROPERTY

Name:	Marjorie McFarlane	Daniel McFarlane
	3964 SE Boise	1515 Windsor Drive
	Portland, OR 97202	Gladstone, OR 97027
Phone:	771-3776	656-4708

4. SUBCONTRACTORS

Name, address and function of any prospective licensee's facility operation subcontractors:
None

5. SITE LEGAL DESCRIPTION

(Include tax lot(s), descriptions, section, Township and Range);

Tax Lot numbers: 00202-00400-00402-00802-00803

Section 05 Township 25 Range 2E

6. ZONING

Present Land Use Zone: I-2 Light Industrial

Restrictions:

7. Is a conditional use permit necessary for your facility?

Yes_____ No_X_____

If required, has the permit been obtained?

Yes_____ No_____

8. PUBLIC HEARING(S)

Date(s) and nature of Public Hearing(s) held if any:

None

9. PERMITS ISSUED OR APPLIED FOR

List name and number of all permits (i.e. DEQ Solid Waste Disposal Permit, Conditional Use Permit, National Pollution discharge Elimination System permit, etc.) plus name, address and contact person at the agency responsible for issuing the permit(s).

Permit(s) Applied for:

No Land Use permits are required for the Milwaukie site. Bark storage and yard debris collection, storage and composting began when McFarlane's Bark purchased the property in February 1972. All such uses were then allowed by all applicable land use regulations and have been continued, at their current intensities, without interruption since that date. Clackamas County has recognized the facility as a valid, allowed nonconforming use. Under state and local land use laws and regulations such a nonconforming use must be allowed to be continued on the property.

Circumstances that would trigger the need for a land use permit are as follows:

A. Restoration of the use if damaged or destroyed by causality or natural disaster.
B. Physical expansion of the use or a material increase in its intensity.
C. Change of use to another nonconforming use.

Permit(s) Received: NA

10. ESTIMATED QUANTITY OF YARD DEBRIS TO BE ACCEPTED

Annually: 230,000 cubic yards Daily: 640 cubic yards
Annually: 35,000 tons (optional) Daily: 100 Tons (optional)

11. PUBLIC/COMMERCIAL OPERATIONS

Will the facility be open to the public? Yes X No ____

Will the facility be open to commercial solid waste collectors? Yes X No ____

12. OPERATING HOURS AND TRAFFIC VOLUME

Open: 7 days a week.
Operating hours are the same for public and commercial use.

Peak Season: 7a.m to 7p.m.
Off Season : 8a.m to 5p.m.

Est. Avg. vehicles per day	Public	Commercial	Total
Peak Season	500	100	600
Off Season	5	95	100

13. Does the owner/operators of this facility own, operate, maintain, have a proprietary interest in, or is the owner financially associated with or subcontracting the operation of the facility to any individual, partnership or corporation involved in the business of Collecting residential, commercial, industrial or demolition refuse within the boundary of Metro?

Yes_____ No_X_

14. Will the facility be open to solid waste collection companies who collect outside the boundary of Metro?

Yes_X_ No____

PART 2

GENERAL FACILITY DESIGN PLAN

1. Describe how stormwater is managed at the facility.

Applicant's current water retention ditch around its dirt pile now also serves as the water detention pond. From this pond, applicant recycles detained water to the piles for fire prevention, compost facilitation and dust control. The ditch has a storage capability of approximately 16,000 cubic feet.

As shown in the attached site plan, the planned storm water system is split. Parking

areas, building roof and non production areas run to catch basins and are part of the conventional storm water system. Production area drainage will be detained and recycled.

Drainage gutters will provide positive drainage to the settling pond from the production areas of the site. The settling pond allows the particulate to settle out. Clean water flows through the perforated weir into the detention pond.

The detention pond allows for the disposal of water through surface evaporation. Further evaporation occurs when the water is used in the vertical misting system to control dust at all stages of the composting, loading and unloading processes.

The new pond will have a storage capacity of 20,000 cubic feet.

The new plan will begin as quickly as possible, but no later than January 1, 1998, with estimated full implementation by December 1 of that year.

This plan is consistent with the DEQ action plan referenced in Mr. Metzler's letter. That plan calls for implementation of an impervious surface and runoff management system. The plan calls for both of these improvements

Is precipitation run-on diverted around the processing area?

Yes__X__ No _____

Is Run-off from the facility controlled?

Yes__X__ No _____

2. Describe any barriers that the facility has (or will have) to prevent unauthorized entry and dumping (fencing, gates, looks).

Applicant has ditches circling the entire property. Applicant is negotiating with a neighbor to install a security gate at the common entrance.

3. Are there all weather access roads to the site?

Yes ____X____ No _____

4. Does (or will) the facility have scales?

Yes X No ____

5. Does the facility have signs (at entrance, directing traffic flow, public information)?

Yes X No ____

Please describe the location(s) and type of sign(s):

Signs explaining what is accepted are located at the scale house. Applicant's site plan calls for lane striping as well as signs to control traffic flow at the site. This aspect of the plan is discussed below.

6. What is the estimated capacity (cubic yards) of the facility storage area(s) for incoming yard debris waiting to be processed?

Approximately 5000 cubic yards, (110 x 100 x 30').

7. What is the estimated capacity (cubic yards) for finished product storage?

Estimated capacity on-site is 5000 cubic yards. At other sites, such as applicant's Vancouver, Washington, yard, an additional 20,000 cubic yards, (200 x 60 x 30).

8. Please describe how you handle, store and remove hazardous or other non-permitted or non-compostable wastes delivered to the facility.

Applicant assigns staff to check each load for contamination and/or unacceptable waste. Applicant requires customers remove any material that is unacceptable. Waste wood from construction demolition is ground for hog fuel and delivered to paper mills. Plastics, glass & metals are recycled through appropriate recycling centers. Hazardous waste is not accepted. Applicant instructs customers to take such waste to a Metro transfer station.

PART 3

GENERAL OPERATING PLAN

1. Describe your methods of measuring and keeping records of incoming yard debris.

Applicant's rates are calculated using weight by ton with conversion. Applicant then charges a flat rate by the yard. The conversion used is 300 lbs per yard.

2. How often are the facility grounds cleaned of litter?

Applicant cleans the yard and road daily and as-needed. Garbage is hauled off 1-2 times per week, or as needed.

3. Describe how you encourage delivery of yard debris in covered loads.

Signs remind customers that there are rules pertaining to the legality of uncovered loads on the highway.

4. Describe how you control the types of materials you receive, and methods for removing, recovering and disposing of non-compostables.

Staff checks each load as it comes in. Checks are done before unloading and at least one or two times during the unloading process. Customers must remove any unacceptable material from the load. If a load contains hazardous or municipal solid waste, staff requires customers to immediately remove it from the site. Such customers are told to take such waste to the nearest MetroTransfer Station for disposal.

5. Where do you dispose of non-compostable wastes?

Along with our typical non-compostable business waste, any materials that we accumulate are disposed of through specific recycling centers (glass, cans, etc.) or taken to the Metro Transfer Station for disposal.

6. Please give a general description of the steps you take to process yard debris (from delivery to end-product).

All loads are dumped on a concrete slab area, then they are put through a grinder and piled up. At 10-14 day intervals the active compost piles are rolled and turned. At this stage the internal temperatures range from 135-145, with just below surface temperatures of approximately 100 degrees. This process is repeated 5-6 times, then the compost is screened into finished sizes. The compost is then piled and allowed to stand for an additional 30 days to finish curing. *See*

also responses to sections 3.9, 4 & Site Plan, below, which describe plans for changing the composting process, the schedule for such a change, and impacts of the change on composting periods.

7. What is the maximum length of time required to process each day's receipt of:

Yard Debris 3 days

Grass Clippings are mixed in with stable product the same day

8. How long does it typically take to process yard debris at your facility (from receipt to finished product)?

10 to 14 weeks (includes curing) (These time frames are consistent with E & A Environmental Consultants and "On Farm Composting" By The Northeast Regional Agricultural Engineering Services, NRAES-54)

How long do you cure the finished product?

30 days

9. If applicable, what are the dimensions of the windrows or piles that are typically constructed at your facility (length, width, height)?

In Mr. Metzler's letter he said that the DEQ action plan called for piles to be reduced to 20 feet and noted that the application called for higher piles. As an initial comment, the DEQ action plan did not call for a reduction of the piles to 20 feet. Instead, it called for a reduction of 25 percent. DEQ has subsequently acknowledged that a 25 percent reduction might still allow piles in excess of 20 feet. Nevertheless, it is applicant's goal, as explained below, to reduce the pile heights to approximately 20 feet.

Currently, applicant's method of composting results in pile sizes of 25-30 feet high, with a base of 150' x 300'. Under the current method we rotate the pile as internal temperatures reach 135-145 degrees.

According to the schedule provided below, applicant intends to adopt a new method of composting that will allow it to reduce the height of the pile and make the diameter wider to accommodate the same amount of material. This new model will consist of an aerated static pile with height of 15-20 feet. Under this method, the composting process should take approximately 49 days. Product will then be

screened with coarse cover materials mixed back into green incoming yard debris. Screened sizes will be moved into finish piles.

A further description of the current and planned methods appears below at section 4 & Site Plan.

10. How do you manage the windrows or piles? What kind of equipment do you use?

Applicant uses bulldozers and backhoes to turn and stack the piles. Applicant uses loaders for feeding grinders and screens.

11. Describe how you control the following:

A. Noise

Applicant maintains the manufacturers mufflers on machinery and trucks. Applicant uses screen planting as a noise barrier where needed.

B. Vectors (insects, birds, rodents):

Vectors are not currently a problem at this site. Should such a problem arise, applicant would contract with a vector control firm to take care of the situation.

C. Dust

The only dust complaints to date were brought to applicant's attention at a meeting with Metro, Clackamas County, DEQ, and applicant's neighbors Precision Castparts and representatives of Tramel Crow on January 11, 1996. Since that time, applicant has implemented water sprays and vertical misters, and it has contracted with a professional road sweeping service for cleaning the roadway. Future plans for paving and striping to aid in dust and traffic control have had a positive response with Clackamas County. Paving the roadway depends, however, on the consent of Brophy Machine Works, which controls part of the road by easement. So far, Brophy has refused to agree to paving the road, but we are still in active negotiations on this issue. According to a recent letter of Brophy's counsel, resolution of the matter seems to turn primarily on finding an acceptable mechanism by which to allow Brophy a remedy if the road is congested. Applicant will explain in detail its traffic management plan below, which it hopes can be used to satisfy Brophy. Nevertheless, applicant plans to implement the traffic plan, with only partial paving, if necessary, no later than September 1998, regardless of the status of negotiations with Brophy. *See* below.

Recirculating wastewater to the piles has had good results in dust control. Spraying the gravel portion of the road as well as regular cleaning and sweeping of other portions of the road and dumping area also contributes to dust control. Upon completion of roadway paving, the entire roadway will be swept and/or moistened regularly. Water sprays have been added to processing machinery and along loading areas for keeping the dust under control. Vertical misters are always used in dry weather during loading operations to minimize dust. This approach has successfully mitigated dust impacts to surrounding properties.

D. Litter

Yard personnel pick up litter by hand each day.

12. Describe the fire prevention, protection and control measures used at the facility.

Applicant's processing yard has an 8" loop system that has 8 hydrants attached. Periodic recirculating of water on the brush piles is also helpful in fire protection. Inside the processing plants, machinery is washed as needed to prevent any dust fires and machinery that is being repaired is wet down as needed.

13. Does (or will) the facility have legible sign(s) at public entrances including:

Name of facility?	Yes_x_ No____
Name of the operator ?	Yes_x_ No____
Hours of operation?	Yes_x_ No____
List of materials that will and will not be accepted?	Yes_x_ No____
Schedule of charges?	Yes_x_ No____
Phone numbers in case of emergency?	Yes___ No_x_

14. Describe your methods for monitoring and adjusting the following (during processing):

Temperature:

Thermometers are used to monitor desired temperatures before rolling.

Oxygen levels:

None currently, but applicant will probably implement monitoring and adjustment of oxygen levels as it implements aerated static piles, as described elsewhere in this application.

Moisture levels:

Compost is kept moist, not soaked. Water added by soaker hoses and sprinklers as required.

15. **In general, what are your plans (existing or proposed) for marketing the finished product?**

Applicant's current markets are sales to the general public, landscapers, nurseries and other wholesalers. Products are used for mulch, potting and soil mixes.

PART 4

ODOR MINIMIZATION PLAN

1. **Generally describe how you handle loads of bad smelling yard debris and grass clippings?**

Odorous loads are mixed and diluted with other more stable materials as loads come in. More stable materials absorb odors and reduce impacts. Problem loads are not accepted and are diverted from site.

2. **Describe your procedures for receiving, recording and remedying odor complaints or odor problems at the facility.**

All complaints are forwarded to the Office Manager, who investigates to get all pertinent information. The Plant Foreman and Plant Managers are notified, and required to report back with a plan for action to be taken. Actions in accordance with this plan will be taken immediately to rectify any Odor impacts. If requested or required, the Office Manager will call the complainant back with a report of steps taken to fix the problem.

To minimize the impact of odors from loads, applicant's staff constantly inspects all loads delivered to the facility. Loads having very strong odors are rejected immediately and removed from the site. Where loads with odors are accepted, they are, as recommended in Metro's yard reprocessing regulations, immediately mixed with clean stable material, which dilutes the smell. They are then covered with cured compost to reduce the opportunity for odors to escape from the processing pile. In applicant's experience, this approach has been successful in reducing odors from loads delivered to the facility.

Applicant recognizes that it is essential to minimize the impact of odors generated by anaerobic conditions. If an odorous condition is found or expected to be found, applicant's policy is to turn that section of pile more gradually, and immediately

mix it with clean stable material, which dilutes the smell. The source of the smell is then covered with cured compost to reduce the opportunity for odors to escape from the processing pile.

To further reduce odors, applicant expects to implement a new composting method by January 1, 1998, with exclusive use by December of that year. That method will consist of an aerated static pile with height of 15-20 feet. Because this method uses aeration the chances of encountering an anaerobic condition are significantly reduced. This is consistent with Metro's regulations that call for minimization of such conditions and is an integral part of applicant's odor control plan. In addition, the broader pile base and lower height of such piles will themselves reduce the possibility of interior spaces that are deprived of oxygen for significant periods of time.

Few odor complaints have come to our attention directly. In spring 1996, office management received a call concerning a chemical odor but determined that it was not generated by this facility. The complainant was assured that our operation does not use chemicals and, thus, cannot produce such odors. Another odor complaint received fall of 1996 was handled by explaining what our operation does and that our proposed improvements, once implemented, will reduce the odors.

The only dust complaints to date were brought to applicant's attention at a meeting with Metro, Clackamas County, DEQ, and our neighbors Precision Castparts and representatives of Tramel Crow on January 11, 1996. Since that time, applicant has implemented the water sprays and contracted with a professional road sweeping service for cleaning the roadway. Future plans for paving and striping to aid in dust control have had a positive response with Clackamas County. Paving the roadway depends, however, on the consent of Brophy Machine Works, which controls part of the road by easement. So far, Brophy has refused to agree to paving the road, but we are still in active negotiations on this issue. According to a recent letter of Brophy's counsel, resolution of the matter seems to turn primarily on finding an acceptable mechanism by which to allow Brophy a remedy if the road is congested. Applicant will explain in detail its traffic management plan below.

Recirculating wastewater to the piles has had good results in dust control. Spraying the dirt portion of the road as well as regular cleaning and sweeping of other portions of the road and dumping area also contributes to dust control. Upon completion of roadway paving, the entire roadway will be swept and/or moistened regularly. Water sprays have been added to processing machinery and along loading areas for keeping the dust under control. This approach has successfully mitigated dust impacts to surrounding properties.

Currently nuisance complaints have not been forwarded to us from Government agencies, but Mr. Metzler's letter says that they continue receive them. Applicant would welcome the opportunity to respond to such complaints, if Metro would provide it with details.

3. Describe your methods for minimizing and controlling odors at the facility.

Odors from applicant's facility can result in either of two ways. First, applicant could receive a load of material that has a high odor content. Second, applicant can encounter odors when turning the piles. In the latter case, the odor results when portions of the pile become anaerobic. This produce an ammonia-like smell.

Odors from loads are far less likely to impact surrounding properties than those arising from turning the pile. For the most part, applicant's neighbors are light industrial, commercial and office uses. Considering the distances involved, odors from either source are unlikely to impact residences to any material degree. As to surrounding uses, the facility can occasional cause odors detectible off of the property. Applicant's policy is, however, to minimize such odors to the maximum extent possible.

To minimize the impact of odors from loads, applicant's staff constantly inspects all loads delivered to the facility. Loads have very strong odors are rejected immediately and removed from the site. Where loads with strong odors are accepted, they are, as recommended in Metro's yard reprocessing regulations, immediately mixed with clean stable material, which dilutes the smell. They are then covered with cured compost to reduce the opportunity for odors to escape from the processing pile. In applicant's experience, this approach has been successful in reducing odors from loads delivered to the facility.

Applicant recognizes that it is essential to minimize the impact of odors generated by anaerobic conditions. The current static pile composting system is primarily operating in the anaerobic or anoxic biological environment. The outer layers of the pile will have penetration of oxygen to form a narrow aerobic zone and a thicker anoxic zone. With this type of system, an odor control technique is to minimize disturbance of the material which contains the anaerobic byproducts in the pile until sufficient time has passed that the anaerobic composting process proceeds to the point that the byproducts are stabilized. There will still be some release of odorous byproducts, but the release will be minimized Surface movement of the aerobic and anoxic zones may be useful to assist with the stabilization process by introducing oxygen deeper in the pile while not disturbing the fully anaerobic material. Hence, if an odorous condition is found or expected to be found, applicant's policy is to turn that section of pile more gradually, and immediately mix it with clean stable material, which dilutes the smell. The source of the smell is then covered with cured compost to reduce the opportunity for odors to escape from the processing pile.

To further reduce odors, applicant expects to implement a new composting method by January 1, 1998, with exclusive use by December of that year. That method will consist of an aerated static pile. This process controls odor by maintaining aerobic conditions in the composting pile. Aerobic conditions tend to result in the degradation of organic matter to carbon dioxide, water and residual complex organics (humus). Some intermediate degradation products are released in aerobic composting, but they are generally less odorous than the by-products of anaerobic composting. Odorous by-products of anaerobic composting include sulfides, mercaptans and organic acids. Provided that the aerated material is maintained in a

moist, controlled temperature atmosphere, odorous compounds such as these will be minimized. *See* more detailed description below.

Because the aerated static method uses aeration, the chances of encountering an anaerobic condition are significantly reduced. This is consistent with Metro's regulations that call for minimization of such conditions and is an integral part of applicant's odor control plan. In addition, the broader pile base and lower height of such piles will themselves reduce the possibility of interior spaces that are deprived of oxygen for significant periods of time.

Applicant also notes that since this facility only receives yard debris, the only practical method of adjusting the compost mix is to recycle previously composted material, either in screen overs or unders or unscreened form. This assists in odor control by correcting the carbon to nitrogen ratio during high grass content conditions and by absorbing odors.

To summarize, procedures that will be common to either method of composting include the following:

1. Odorous loads will either be rejected or mixed as quickly as possible, and always on the same day they are received, with stable product. Mixing allows the absorption of odors and prepares the material for incorporation into the composting pile in a form that will be less likely to generate odors.

2. All materials will be placed in the composting pile within three days of the day they are received.

3. To the maximum extent possible, atmospheric conditions and potential impacts off of the site will be considered when undertaking any operation that might release odors.

4. Describe your procedures to avoiding delay in processing yard debris during all weather conditions.

The weather has minimal effect on operations. We continue to do grinding and screening on regularly scheduled days. We schedule normal maintenance of equipment so there is little or no interruption to scheduled work.

5. Prior to turning or moving composted material, describe how the following factors are considered:

There is a greater potential for odor when an anaerobic condition in the existing pile is found. When a portion of the pile has gone anaerobic, that portion of the pile is turned mid afternoon to try to lessen any impact of re-aerating the pile. This is done slowly mixing other aerobic product in to stabilize and minimize any odor impact that may be generated.

Time of Day

Piles are generally rotated between 8:00 and 6:00 pm. The impact of turning and final pile breakdown of odorous material may, however, be reduced by limiting operations involving such materials to times of the day and weather conditions that are least contributory to movement of odors to neighboring property without significant dilution by atmospheric conditions. Hence, where an odor-causing condition is suspected, it is applicant's policy to rotate the pile in the mid-afternoon, when the possibility of impacts on surrounding uses are less. (Applicant would, however, be willing to adopt a different schedule, if that would reduce such impacts.) Applicant's policy is also not to rotate such portion of the pile in unfavorable weather conditions. Under applicant's new method of composting, that will be implemented by January 1, 1998, with exclusive use by December of that year, the piles will be rotated during shorter periods of time, reducing the periods when odors might be inadvertently generated.

Wind direction

When wind is at a higher velocity, there are fewer odor impacts because of almost immediate dispersion of smells. However, because of site location, with neighbors on most sides of the operation, a policy of not turning piles when the wind is blowing in particular directions would not be an effective mitigation method. Instead, applicant has taken and will take other mitigation methods as described in this application.

Percent moisture

The piles are kept damp at 40% moisture and above by the recirculating water. As explained above, this reduces the possibility of odor.

Estimated odor potential

See above.

SITE PLAN

As requested by Metro staff, a current and planned revised site plan is attached. Applicant intends to begin implementing the new site plan on November 1, 1997, in the area of the future active pile. Benchmarks for the new construction required for this plan appears in the table below. Applicant's deadline for operation of the aerated system and complete transformation to the new site plan is December 1, 1998, although applicant will attempt to reach that point sooner.

IMPLEMENTATION DATES--PERMITS REQUESTED IN FEBRUARY 1998		
Benchmark	*Start*	*Finish*
Pond excavation	June 1998	August 1998
Slab Excavation	July 1998	August 1998
Slab Pours	September 1998	October 1998

IMPLEMENTATION DATES--PERMITS REQUESTED IN FEBRUARY 1998		
Benchmark	*Start*	*Finish*
Electrical	July 1998	October 1998
Road Improvements (Johnson Road)	February 1998	April 1998
Road Improvements (Easement)	September 1998	November 1998
Financing and/or easement restrictions may change the above-targeted dates. Applicant will proceed more quickly than this schedule if possible.		

The site plan shows a new settling pond on the northwest end of the property for water circulation. This pond will have a capacity 20,000 cubic feet, calculated using the KC Surface Water Design Manual (November 1995 rev.) Based on a 25 year 24 hours rainfall event.

The aerated slabs with 20336 square feet are shown for the active stage with a 21 day period. A stabilization cure slab 16,616 square feet with a period of 28 days is also shown. Materials will then be screened and moved to the finish pile. The screened product will then be allowed to cure for seven more days before it is offered for sale.

This system is called an aerobic static pile method in which the aerated product is moved only once in the first 21 days, then again after 28 days. These calculations and recommendations concerning this method were made by Larry Sasser of E&A Environmental. The plan is based on 40,000 tons per year of yard debris with pile heights from 15 to 20 feet.

In regard to traffic, both the county planning and traffic departments favor the site plan's set up of traffic flow. The plan consists of three travel lanes. The right lane will be a designated queuing lane for yard debris dumping, with breaks as designated on the plan for office and yard exists. This lane terminates at the scale house. The center lane will be marked, signed and maintained free for through traffic. The purpose of this lane is for ingress of vehicles going to our neighbor, Brophy, or to allow vehicles to proceed to areas of applicant's site other than the brush dumping area. The exit lane will be kept clear by, if necessary, immediate intervention of applicant's staff for outgoing traffic. Signs will prominently display instructions to customers as to the use of the lanes.

Applicant will pave the roadway, contingent on resolving its dispute with Brophy's concerning the common easement, which is discussed below. Paving will take some additional time, however, because of scheduling surveys and obtaining permits. Applicant hopes to resolve the dispute with Brophy's and obtain permits so that the paving can be completed within the next 12 months.

Applicant recognizes that Brophy's has complained about congestion in the active easement area, and applicant considers it a high priority to resolve this issue. Hence, it has designed a site plan that will ensure free flow of traffic and has committed itself to policies that will ensure that the plan works. Designated employees will be charged with keeping the traffic flowing under this plan. When needed such employees will immediately attend to customers who may not be following instructions and ensure that problems are promptly resolved. With regard to Brophy's, applicant is continuing to negotiate a solution. Based on recent correspondence with counsel for Brophy's, applicant understands that resolution of this dispute revolves around finding an enforcement mechanism that will give Brophy's some confidence that congestion problems can be quickly resolved. In concept, applicant is open to this approach, and based on the exchange of the letters between counsel, expects that a mediation should be possible to find a solution. Although it is of course impossible to predict a resolution of this matter with certainty, applicant is optimistic. Furthermore, most aspects of the traffic circulation plan, other than paving, can be implemented without Brophy's consent. Applicant intends to go forward and complete the plan and resolve traffic congestion problems whatever the situation with Brophy's. To that end, all employees of applicant have been and will be instructed to assist in the immediate resolution of all traffic problems.

In his letter, Mr. Metzler noted that the site plan originally submitted had traffic going into a bunker area. The revised plan rectifies this error.

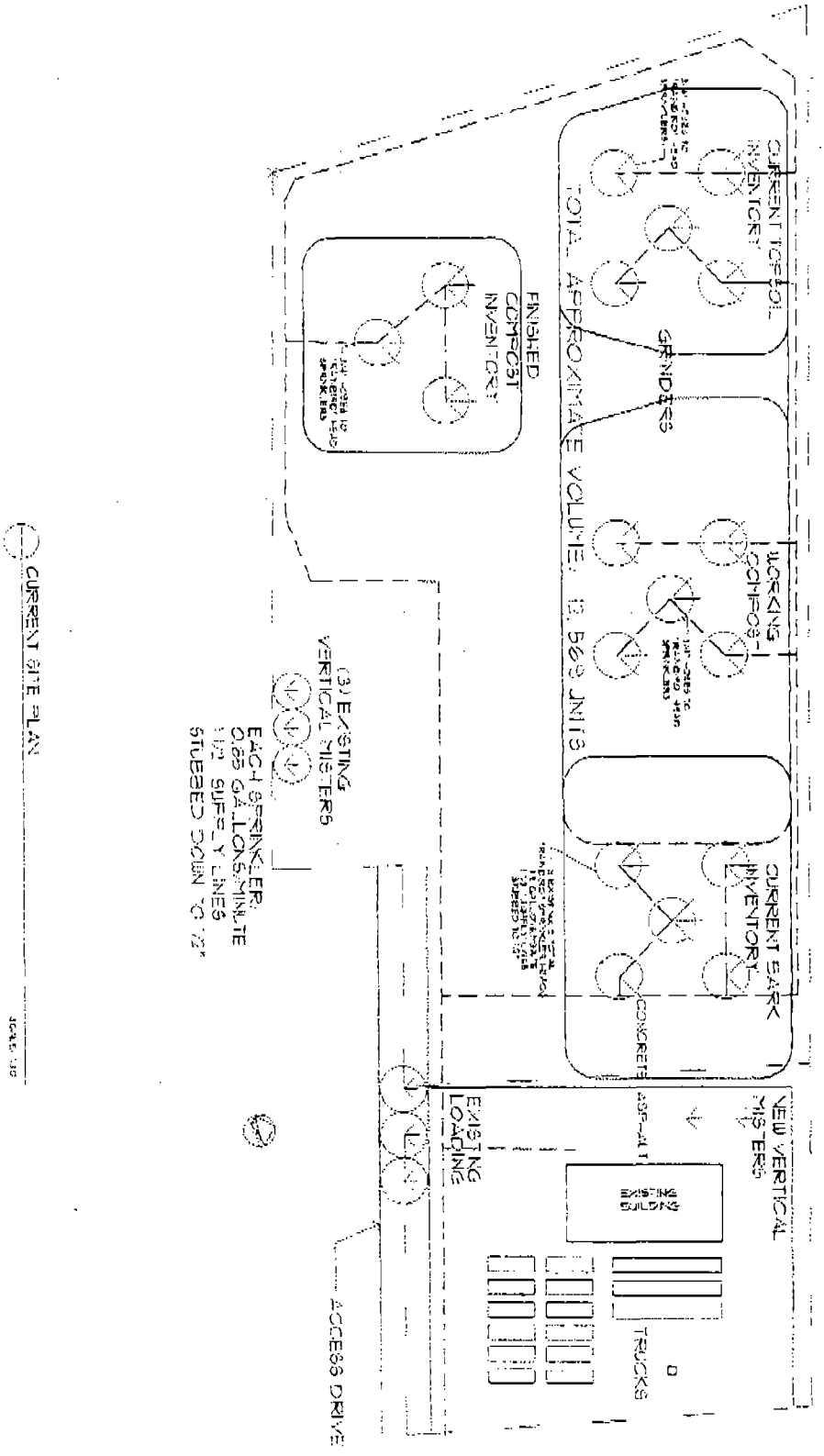
LICENSE APPLICANT

I hereby certify that the information contained in this application is true and correct to the best of my knowledge. I agree to notify Metro within 10 days of any change in the information submitted as a part of this application.

Signature and title of person completing this application:

SIGNATURE Dan McFarlane TITLE President

DATE 9-22-97 PHONE NUMBER (503) 659-4240


CURRENT SITE PLAN
CURRENT TOPSOIL INVENTORY
GRINDERS
FINISHED COMPOST INVENTORY
WORKING COMPOST
TOTAL APPROXIMATE VOLUME: 13,569 UNITS
CURRENT BARK INVENTORY
CONCRETE
(3) EXISTING VERTICAL MISTERS
EACH SPRINKLER: 0.65 GALLONS/MINUTE
1/2" SUPPLY LINES
STUBBED DOWN TO 12"
NEW VERTICAL MISTERS
EXISTING LOADING
EXISTING BUILDING
TRUCKS
ACCESS DRIVE
McFARLANE'S BARK - MILWAUKIE
Hawthorne Crest

PROPOSED OPERATIONAL MODIFICATIONS

MCFARLANE'S BARK COMPOSTING FACILITY

MILWAUKIE, OREGON

PREPARED BY

MAUL FOSTER & ALONGI, INC.

JANUARY 26, 1998

McFARLANE'S BARK
SITE PLAN NARRATIVE

The attached site plan shows the proposed layout for the composting and bark operations at the Johnson Road site. After meeting with Metro and Clackamas County, and more recently with the neighboring industry (Brophy Machine Works), a site plan and operations approach has been finalized that solves access and queuing issues at the site.

The active composting and stabilization areas have been combined into a single pad in order facilitate the continuous processing of compost. Aeration of the two different pad areas can be controlled separately due to the lateral feed of air from the blower gallery. Shredded yard debris will be placed at the south end of the pad and will be moved to the north as composting progresses.

The compost will be screened after stabilization and placed in fine, medium, and coarse compost bins on-site or transported to McFarlane's Vancouver, Washington facility for storage. "Overs" or oversized material will be reserved and used during peak grass season as a means of improving air flow through the piles. The composting areas have been sized to accommodate 36,000 to 40,000 tons of raw material per year (see E & A Environmental section on composting operations).

The mode of operation on peak days will be modified to a flat rate method of charges which will avoid the requirement to weigh vehicles in and out of the facility. In addition, the active unload area will be expanded to handle more vehicles. These two changes result in a significant reduction in queue lengths with queue for the delivery of yard debris to the site becoming less than 300 feet (see Group MacKenzie traffic evaluation). This queue can be accommodated with the use of one lane along the south side of the site.

The traffic flow pattern has been modified to allow the required queuing and the maximum possible separation of public access from operational traffic. McFarlane trucks will proceed along the east and north side of the site. Customers purchasing materials will be directed to the customer loading area or to parking on the east side of the building. A separate inbound bypass lane is provided for traffic destined for Brophy Machine Works. Outbound traffic will be accommodated in a single lane with an improved turning radius at the site exit.

McFARLANE'S BARK
TRANSITION PLAN

BACKGROUND

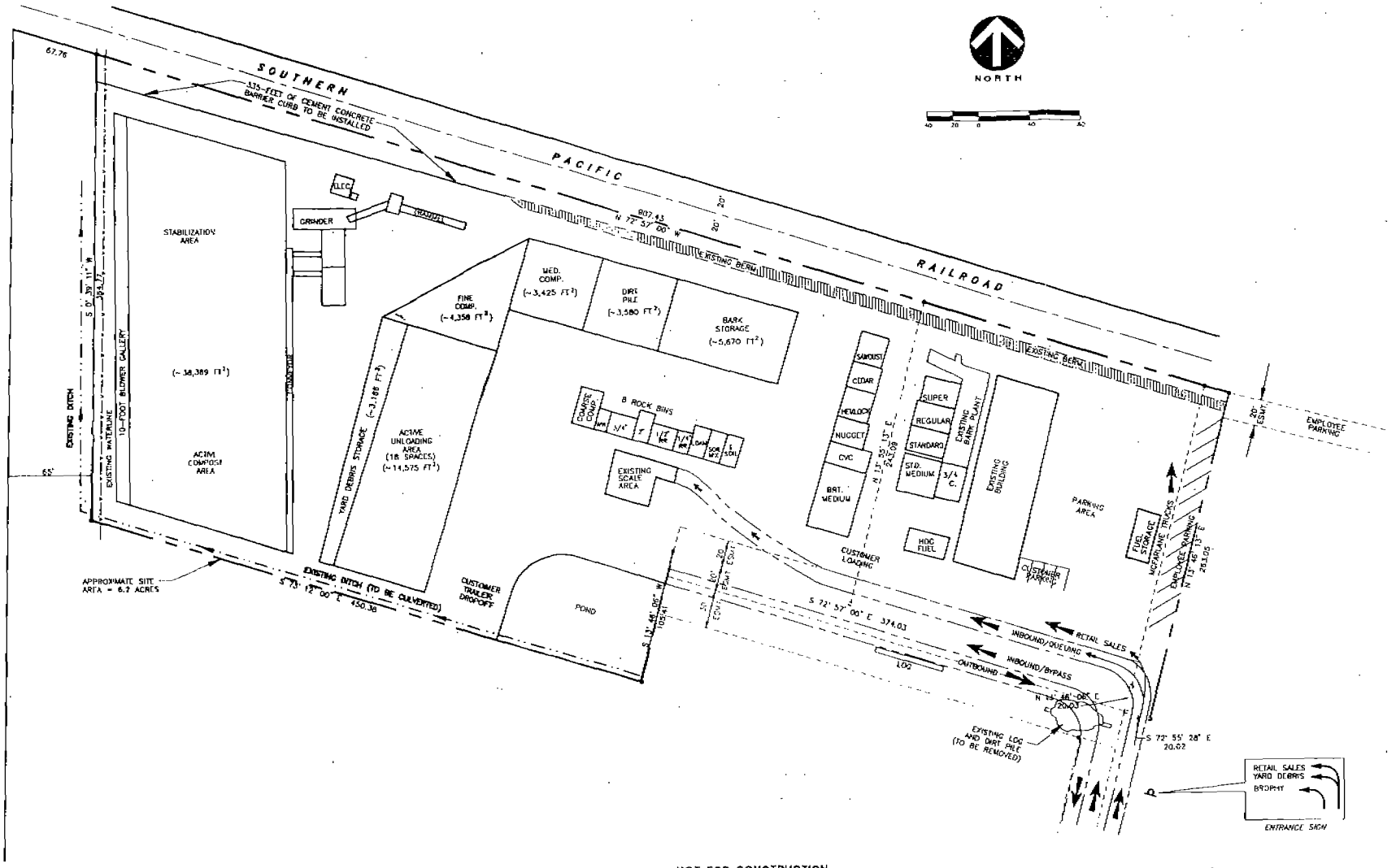
The current composting method (deep static pile) will be phased out and the new method (aerated static pile) will be implemented during 1998. The proposed compost method requires permanent installation of pads, blowers, and piping in order to start up operation. Part of the transition plan involves demonstration tests of the proposed method that will assist in designing the new composting pads. These tests will use large scale temporary on-site pads that will accommodate a portion of the material to be composted. The composting plan developed by E & A Environmental describes the approach and need for conducting the demonstration tests.

TRANSITION SCHEDULE

A schedule for implementing the anticipated improvements is attached. The schedule describes the ongoing demonstration testing which began approximately mid-November using fall material including leaves and shredded woody yard debris. This will be followed in the late spring of 1998 with a demonstration test using a mix of grass clippings, as well as other yard debris material. Since this is also the peak season for quantity of material and the most difficult to control odors, the results of this demonstration test will be very important to the design of the permanent facility.

Implementing the revisions to the traffic pattern will be somewhat dependent on completing the transition to the proposed composting method. To the extent practicable, traffic revisions will be made in early 1998 in order to better accommodate traffic management. The remaining traffic improvements will be made after the transition to the proposed composting method is completed.

The transition will require the relocation and substantial reduction of the existing dirt pile to make room for construction of the compost/stabilization pad. The current deep static compost pile will begin being phased out by first diverting new material to the new compost pad. Some material in the deep static pile could be relocated to the new compost pad if space is available. Once the deep static compost pile has been removed or relocated, then the rest of the site improvements can proceed.



NOT FOR CONSTRUCTION

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DATE OF ISSUE 12/97		ORIG BY JLN DES BY L. KLINE			CHK BY D. ALONGI APP BY D. ALONGI	

Maul Foster & Alongi, Inc.

McFARLANE BARK

SITE PLAN LAYOUT

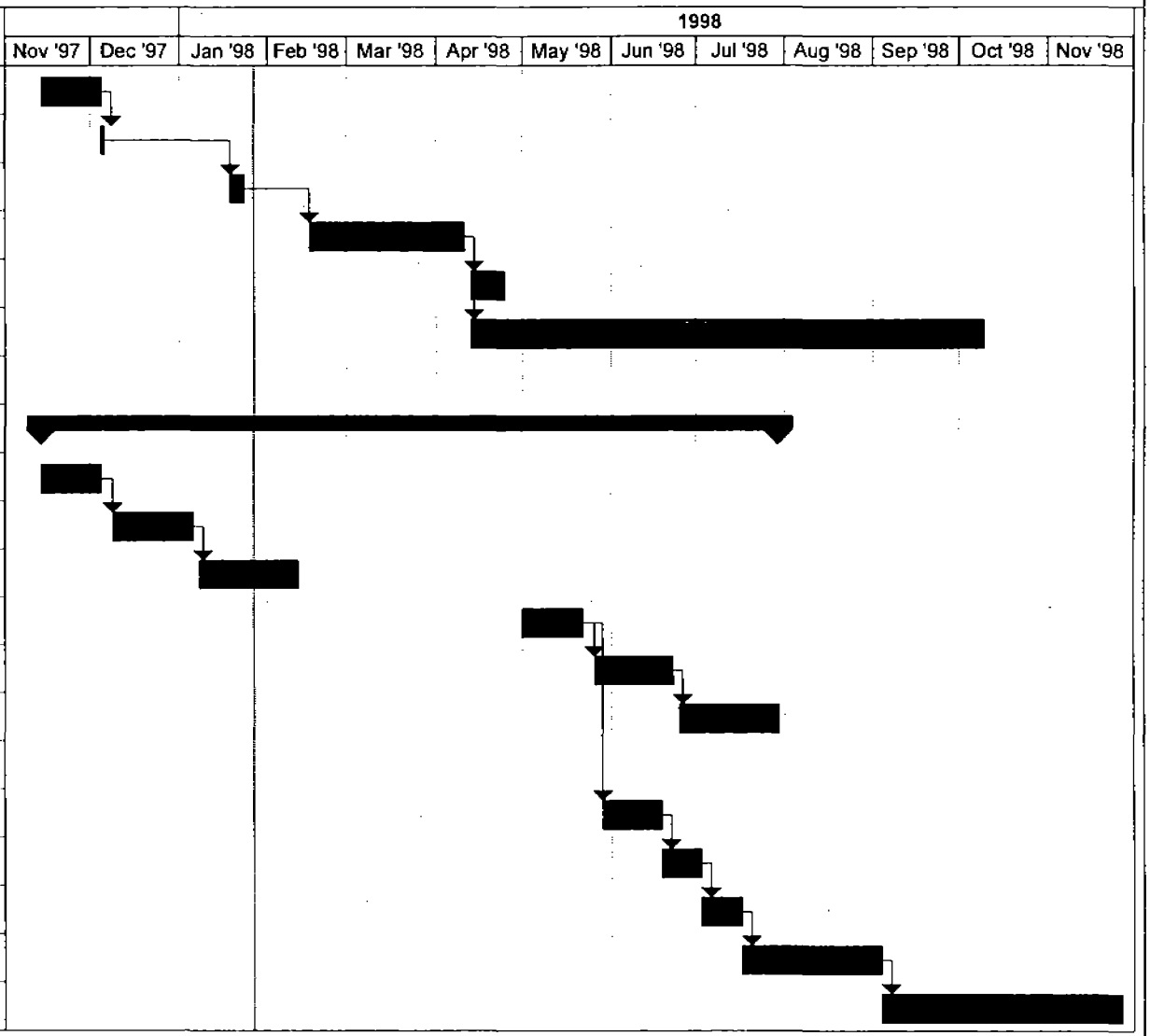
DRAWING NO.

PROJECT NO 8062-001.001

C:\MFA\8062\8001\SP-1 PLOT SCALE 1" = 10' PLOT DATE 12/5/97

McFarlane's Bark Composting Operation
Schedule of Improvements

ID	Task Name
1	Prepare site plan for compost operation and traffic control
2	Review site plan with Metro
3	Submit final site plan with additonal information
4	Begin relocation of piles for traffic revisions
5	Install signing and relocate traffic pattern
6	Road resurfacing as funding allows
7	
8	**Demonstration testing using different materials**
9	Demo test - Fall material - Composting
10	Demo test - Fall material - Stabilization
11	Demo test - Fall material - Maturation
12	Demo test - Spring grass season - Composting
13	Demo test - Spring grass season - Stabilization
14	Demo test - Spring grass season -Maturation
15	
16	Preliminary Design of compost pads - based on demo tests
17	Final Design of pads
18	Install stormwater pond
19	Construction of compost/stabilization and maturation pads
20	Transition from exist. compost method to new method



Project: SCHEDULE2
Date: Tue 1/27/98

Task
Progress
Milestone
Summary
Rolled Up Task
Rolled Up Milestone
Rolled Up Progress

COMPOSTING OPERATIONS AND ODOR CONTROL PLAN

E & A ENVIRONMENTAL CONSULTANTS, INC.

McFarlane Bark, Inc.
Composting Operations and Odor Control Plan

PROCESS PLAN

Composting Process Selection

The objective of the composting process selection is to provide a composting facility that maintains the capacity of the current process while significantly reducing the potential for odor impact on neighboring properties. The approach used to select the composting process involved consideration of available space and available technologies for minimizing odor generation. All alternative technologies considered involve processes that provide aerobic environments while minimizing space requirements. The windrow process was eliminated from consideration based on space requirement. The aerated static pile process operated in the negative mode and with the process air treated by biofiltration was also eliminated based on the space required for a biofilter. Use of either of these technologies at this site could only be accomplished with a significantly reduced processing capacity.

The two technologies that were considered include:

1. Aerated and Turned Mass Bed - This technology has been successfully utilized at the Pierce County Composting Facility operated by Land Recovery Inc. (LRI) at Purdy, Washington. An aerated pad is provided and the material is turned and moved across the pad using a SCAT turning machine. This facility has had considerable success composting yard debris with minimal odor impact on neighboring residents. However, the LRI facility is more isolated from residences than is the McFarlane site.

2. Aerated Static Pile, Deep Pile and Positive Aeration Variation - This process shares some similarities to that used by Cedar Grove Composting Company in Maple Valley, Washington. A significant difference is that Cedar Grove uses negative aeration and biofiltration for odor control. The variation of the aerated static pile process being considered relies on aeration to provide aerobic conditions within the pile which encourage rapid degradation while minimizing generation of odorous by-products.

The aerated static pile process was selected for implementation primarily because it can be utilized without an aeration floor. The process also has the potential for use of deeper piles that the turned process. The Scat turning machine has a maximum pile depth of about 10 feet. The static pile process has the potential for successful composting to depths of 15 feet and possibly greater. The functional depth limitation for the aerated static pile process will depend on several factors including the initial moisture content of the feed mix, the energy release pattern of the feedstock and the resulting temperature and moisture gradient through the depth profile of the

pile as composting proceeds. A series of demonstration tests is recommended to document the suitability of the selected design criteria and the ability of the process to operate successfully through the full range of operating conditions and feedstock variation.

Current Process Description

The current process utilized by McFarlane involves the deep static pile process that has been utilized at several composting facilities in the Pacific Northwest. Facilities currently using a similar technology include GroCo, Inc. in Kent, WA (with sawdust and biosolids) and Pacific Topsoils, Inc. near Everett, WA (with Yard debris. The technology was previously used by Cedar Grove Composting but was discarded in favor of an aerated process.

Proposed Composting Process

The proposed composting process consists of three identifiable processing zones:

1. The active zone using the aerated static pile composting process using deep, extended (mass bed) piles and positive aeration. Material is composted in this zone for 21 days at the design loading when recycled screen overs are used. During the grass season, the screen overs will be added to improve porosity. During this period active composting will be for an estimated 15 days.

2. The stabilization/curing zone also using the deep extended aerated static pile process with a processing period of 28 days.

3. The maturation zone using an unaerated deep extended pile for a period of five weeks or greater.

The layout of the extended piles and the associated aeration systems (blower gallery) are shown on the site plan layout. This configuration was selected because of the space constraint associated with the site in order to provide the desired capacity. Space is not available for biofilters, requiring a system designed to operate in the positive aeration mode. In this configuration, air is forced through the composting material from distribution pipes located at the base of the pile and exiting from the surface of the pile. The air provides oxygen to assure aerobic degradation. Air also provides pile cooling to maintain temperatures within a range for efficient degradation with minimum release of odorous by-products. Heating energy is removed from the pile by evaporation of water. Therefore, the availability of sufficient water in the composting mix is critical for both the support of biological activity and evaporative cooling.

The operational objective of the proposed system is to provide near optimum conditions for rapid biological degradation of the yard debris to a product that is sufficiently stable for commercial sales. This rapid conversion is intended to allow composting in a shorter period than could be accomplished with the process historically used at this site, while using shallower pile heights. The process is also operated in an aerated mode rather than the anaerobic condition that likely

predominated in the deep static pile process. The aerated static pile process is, however, an active process compared to the relatively passive process previously used. Air passing through the interior of the pile is continuously released to the atmosphere.

The facility as laid out is designed to process 3,100 cubic yard per week of shredded yard debris. Table 1 shows the annual material quantities that would be received and processed and the resulting product if the facility operates continuously at this rate. The equivalent weekly quantities are provided on Table 2. These quantities and the changes that occur during the composting process are preliminary and will be developed based on actual operating data during the demonstration testing of the process.

Table 1: Annual Material Weights and Volumes

	Weight (tons)	Density (lbs/cubic yard)	Volume (cubic yards)
Incoming Yard Debris	40,000	250	320,000
Shredded Yard Debris	40,000	500	160,000
Screened Fines (mulch product)	27,300	600	91,000
Screen Overs (mulch product)	9,200	400	46,000
Compost Product	25,000	900	56,000

Table 2 provides the peak weekly design capacities for the proposed system.

Table 2: Design Peak Weekly Material Weights and Volumes

	Weight (tons)	Density (lbs/cubic yard)	Volume (cubic yards)
Incoming Yard Debris	770	250	6,150
Shredded Yard Debris	770	500	3,080
Screened Fines (mulch product)	525	600	1,750
Screen Overs (mulch product)	180	400	885
Compost Product	480	900	1,080

The design criteria for the proposed facility are listed in Table 3.

Table 3: Design Criteria

	Units	Capacity
ACTIVE COMPOSTING		
Pile Depth	Feet	15
Aeration Rate	Cfm per SF	3.85
Pile Volume	Cubic yards	9,300
STABILIZATION/CURING		
Pile Depth	Feet	15
Aeration Rate	Cfm per SF	0.75

Pile Volume	Cubic yards	7,400
MATURATION		
Pile Depth	Feet	18
Aeration Rate		None
Pile Volume	Cubic yards	8,300

Demonstration Testing

The purpose of the demonstration testing is to 1) determine the suitability of the composting process for composting at this site, 2) provide operational experience to determine compatibility with site operations and 3) document the characteristics of the composting material as it passes through the process.

Several innovative modifications of the aerated static pile process are proposed as a means of maximizing the composting capacity of the available operating space. The effectiveness of the process using these modifications needs to be verified before full-scale operations are begun. Considering this need, the specific objectives of the demonstration testing include:

1. Odor minimization capability
2. Evaluate pile depth impacts on pile temperatures and moisture content distribution
3. Documentation of pile detention times relative to product quality
4. Evaluate aeration without a plenum in the yard debris material
5. Evaluate optimal aeration rates

First Phase - Fall Material

The first phase of the demonstration testing will utilize yard debris generated during the fall and winter. This material generally includes more leaves and woody material than material generated in the spring and summer. This material is lower in energy and results in a composting situation that is generally easier to control. This is an excellent feedstock for initial evaluation and operations.

Second Phase - Peak Loading - Spring

The second phase of process demonstration will be during the peak grass season in the spring. This is the most difficult yard debris material to manage. Grass is very reactive, high in energy and degrades rapidly. The fine texture also tends toward matting and low porosity for air movement. This can lead to anaerobic conditions and production of highly offensive odors. The

proposed process will manage this condition by using reserved screen overs to bulk up the grassy material to assure porosity for aeration.

Composting of this material will be the final demonstration of the process prior to full-scale implementation. It is expected that adjustments will be made to the proposed process after each phase of the demonstration testing.

ODOR CONTROL PLAN

Odor management planning involves a thorough evaluation of the composting operation and evaluation of available control technologies needed to control odors to acceptable levels. This evaluation utilizes the following evaluation process:

- Identify sources of odor
- Determine the character and intensity of odors from each source
- Determine the impact of each odor source on odors at the property boundary or other critical locations
- Evaluate odor control methods for each activity that results in odor release
- Select of the most appropriate control techniques for the situation
- Implement the selected odor control procedures
- Evaluate the effectiveness of the implemented control methods
- Adjust the odor control plan, if necessary

Although experience at other composting facilities is of use in evaluating the McFarlane operation, each composting facility receives somewhat different feedstocks which are managed differently and result in unique odor conditions considering local development and atmospheric conditions. Each facility evaluation needs to consider each step in the composting process from receipt to sales. Materials handling steps that have been identified as potential odor sources at other composting facilities include:

- Receiving area
- Feedstock stockpiles
- Grinding
- Compost pile formation
- Compost pile turning
- Compost pile aeration
- Compost pile breakdown
- Screening
- Curing, particularly if unaerated
- Product storage

A variety of techniques can be used to control odors at a composting facility. In summary, the techniques are categorized as composting process adjustments, weather based operational controls, enclosure of odorous processes and collection and treatment of odorous air streams. Considering these available odor control methods, the site constraints and potential impacts on

neighboring properties, a cost effective program for improving odor conditions at the McFarlane Bark facility has been developed. Aspects of each type of odor management approach, which is within economic feasibility for this operation, have been used. The basic concepts that are proposed to control odors at this facility include:

- Process and place received material in the composting pile within 18 hours of receipt.
- Maintain highly aerated composting piles with temperatures maintained consistently below 65oC (149oF) with normal operating temperatures of 55oC (131oF) or lower.
- Maintain moisture content between 45 and 60 percent throughout the composting process.
- Utilize screen overs and other coarse woody material as a bulking material when necessary to maintain a porous mix for aeration.
- Provide high rate aeration and pile cooling prior to pile breakdown.
- Control of runoff to prevent stagnant, anaerobic conditions.
- Restrict potentially odor producing activities during weather conditions (such as stagnant inversions) that increase off site odor impacts.

The effectiveness of these activities will be determined through direct monitoring of the process, property line impact evaluation and routine contact with neighbors to assess performance.

Contingency plans for additional odor control approaches are a prudent backup for any odor management plan. Additional odor control methods that will be considered for this facility if the planned improvements do not provide the desired level of odor control include the following:

- Provide an aerated pad for the delivered yard debris to reduce odors from material that is odorous as it is received.
- Modify the aerated static pile process. Changes to the pile configuration, detention times and turning events and adjusting mix with recycled screen overs may further reduce odors. These steps would likely reduce the composting capacity of this site. This would significantly reduce the composting capacity of the site.
- Operate the aerated static pile process in the negative aeration mode and provide biofiltration.
- Evaluate the use of odor management sprays and additives.
- Evaluate the use of a scat turning machine in conjunction with aeration to improve moisture control and porosity in the composting material.

Another significant aspect of odor management is the development of a program for working with and responding to neighbors that may be impacted by odors. Key elements of the program include:

- Routine self evaluation - Routine tours of the property boundary initially and the composting area secondarily by an employ who is not normally located at the site provides excellent information on the performance of the odor control methods. Reports should document atmospheric conditions and operational activities that create undesirable off site odors.

- Responding to odor complaints - Immediate response to any odor complaint provides information needed to determine the significance of each complaint and the opportunity to evaluate and adjust activities. A quick response also helps maintain a working relationship with neighbors that provides assurance that odor control is taken seriously and any problems will b addressed.

- Verifying conditions - All odor observations whether routine or in response to a complaint provide valuable data for evaluating the performance of the odor control plan. Specific information about location, odor strength and character and atmospheric conditions should be collected for each situation.

- Determining the source of odors - Determination of the source of off site odors in the key to correcting problems. This allows focusing of odor control efforts on the primary sources and assists with cost effective odor control.

- Evaluating the potential for improved control - Based on routine review of odor conditions and complaints which provide an alert of off site conditions the odor plan should be periodically reviewed for effectiveness and alternatives considered for any site activities that are creating off site odor problems.

- Communication of plans - Communicating plans for odor control adjustments to site neighbors provides an avenue for communication and assurance for the neighbors that continuous vigilance is being applied to odor control.

TRAFFIC EVALUATION

GROUP MACKENZIE

GROUP MACKENZIE

January 28, 1998

McFarlane's Bark, Inc.
Attention: Daniel McFarlane
13345 S.E. Johnson Road
Milwaukie, OR 97222

Re: McFarlane's Bark Vehicle Queuing Survey
Group Mackenzie Project #197407

Dear Mr. McFarlane:

Group Mackenzie has reviewed the operation of your facility on Johnson Road in Milwaukie for queuing and circulation requirements in conjunction with the revised composting and bark operations.

Concerns have been raised by Metro, Clackamas County and neighbors regarding vehicle queues extending through the easement with Brophy Machine Works and onto Johnson Road. Peak vehicle queues have extended back as far as the old Costco driveway on Johnson Road. The long queues are caused by vehicles waiting to drop off brush and circulation of other vehicles around these queues. Clackamas County has indicated that vehicles will not be allowed to queue in the public right-of-way on Johnson Road and the neighbors have expressed concern over vehicles queuing within the common easement.

This report addresses the existing brush dumping operation, peak season demands and impacts, as well as proposed mitigation measures. The current operation, with vehicles being weighed prior to and after dumping brush, is limited to approximately 45 vehicles per hour. This compares to a demand of 60 vehicles per hour during the peak season. The proposed mitigation will significantly increase the brush dumping capacity, and thus reduce vehicle queues.

The proposed mitigation plan would use a flat rate payment during peak use periods, instead of weighing each vehicle on an inbound and outbound scale. This would reduce inbound peak queues from 1400 to 280 ft., and eliminate the need for an outbound scale transaction. The brush dumping area will be improved, with clearly delineated spaces and reduced conflicts with equipment. The inbound queues will be accommodated in a signed and striped lane extending from the existing scale house back towards the Johnson Road entrance.

FACILITY PROCESSES

BRUSH DUMPING

The brush dumping facility primarily serves private vehicles and some commercial vehicles with yard debris. The area consists of two scales on either side of a scale house with an adjacent area for dumping brush. Operation is comprised of three distinct steps. First, the vehicles are weighed on the north (entering) scale, the customers pay a deposit and are issued a ticket. Second, the vehicles go to the brush

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Group Mackenzie, Incorporated
Architecture
Interior Design
Land Use Planning

Group Mackenzie Engineering, Incorporated
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Transportation Planning

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dumping area to unload. Finally, the vehicle is weighed on the south (outbound) scale and any additional payment or refund of the deposit is made. McFarlane's indicated that customers are also allowed to pay for products such as bark dust, gravel, and compost material at this scale.

RETAIL/OFFICE

McFarlane's Bark offices and small retail area are located in a building at the east end of the site near the termination of Johnson Road. Employees park to the east of the building, while customers generally park in front of (south side) or beside (east side) the building's retail area. The retail area is for product sales of bark dust, gravel, and compost material. Access to the building and parking area are often blocked by brush dumping queues during the peak season.

PRODUCT BINS

The products for sale at McFarlane's Bark are stored in bins to the west of the building. Gravel is stored in bins south of the scales and barkdust is in bins located between the scales and the building. Circulation of loaders and customer vehicles accessing the product bins currently conflicts with the brush dumping operation and queues at the inbound scale.

OBSERVATIONS/SURVEY

SUMMARY

Group Mackenzie staff visited the site on Saturday November 1, 1997 to observe existing operations and review the site layout. Data was collected on queue lengths, time on the scales and time dumping brush. A traffic study prepared by Lancaster Engineering in 1993 for the facility proposed on SE 130th Avenue was also reviewed. Applying this information in conjunction with peak season transaction estimates produced an estimate of vehicle queuing requirements for the site.

During the visit, the brush dumping operation was observed for a one hour period between 2:35 and 3:35 pm. McFarlane's indicated that Saturdays are the busiest days, with peak operation between 11:00 am and 3:00 pm. The weather was clear and sunny which provided a steady stream of vehicles. A total of 41 vehicles were observed in the brush dumping facilities during the hour with 29 vehicles entering and 34 exiting. Twelve vehicles were in the system at the beginning of the survey and seven remained at the end.

At the beginning of the survey, one person was operating the scales, conducting transactions and directing traffic in the brush dumping area. As a result, longer waiting times were experienced at the scales and in the queues. Between 2:45 and 3:00 pm, the peak fifteen minutes of the survey, a second person directed traffic in the brush dumping area which helped reduce the scale times. According to McFarlane's, a person is stationed in the brush dumping area during the peak season to direct traffic. We also noticed that McFarlane's staff gives priority to the outbound scale and brush dumping areas when congested.

INBOUND SCALE

Average service times on the entering scales were 98 seconds for the hour and 64 seconds during the peak 15 minutes. The attached spreadsheets present this data. For purposes of this analysis, the shorter 64 second scale time will be used to assess queuing during the peak times when two employees will run the operation. Time spent in the queue waiting for the entering scales was 140 seconds on average for the hour, and 82 seconds in the peak 15 minutes

BRUSH DUMPING AREA

Although times for brush dumping were not specifically surveyed, they can be estimated from the time a vehicle leaves the inbound scale until it leaves the outbound scale (17:54), minus the average outbound scale time (1:20) and an estimate of the outbound scale queue time (2:20). The resultant total existing brush dumping time is 14:14. This includes the time spent waiting in queues, positioning the vehicles and dumping brush.

The current brush dumping area is not well defined and has frequent conflicts between vehicles dumping brush and McFarlane's equipment. Based upon Group Mackenzie's observation, the brush dumping time can be reduced by clearly marking the brush dumping stalls and eliminating conflicts with equipment. With these improvements, it is estimated that the time needed to travel from the scales to the stalls, dump the brush and enter the outbound scale queue would be an average of 10 minutes per vehicle.

The service rate of the brush dumping area depends on the number of vehicles which can be accommodated simultaneously. At 10 minutes per vehicle, a total of six vehicles can be served by each stall. McFarlane's has estimated that the new site layout would accommodate a minimum of 15 vehicles. This would result in a service rate of one vehicle every 40 seconds or 90 vehicles per hour.

OUTBOUND SCALE

The outbound scale also develops queues which can impede operation of the brush dumping area. These queues are a factor of the service rate on the outbound scales. On average, the service time for this scale was 80 seconds for both the hour and peak 15 minutes. Total time dumping brush and waiting in the outbound queue averaged 989 seconds, or 16:29, with a minimum of 6:48 and maximum of 24:37. Specific dumping time or queue time for the outbound scale was not surveyed.

OBSERVATIONS

On several occasions, the brush dumping area was congested. The congestion was primarily caused by customers unsure about where to go, queues backing up from the outbound scale, inadequate space for brush dumping and interaction with trucks and loaders. During the worst congestion, queues from this area were observed back onto the inbound scale. This in turn reduces the number of vehicles the inbound scale can serve, and increases the inbound queue lengths.

Based upon the survey, the scales currently accommodate 56 vehicles per hour inbound and 45 vehicles per hour outbound. The brush dumping area would be able to accommodate 90 vehicles per hour with 15 dumping locations.

Without changes to the operation or vehicle demand, average queues of 630 ft. and peak queues of 1400 ft. could be expected at the Johnson Road brush dumping facility. This is based upon existing service times for the two scales and brush dumping area assuming 15 brush dumping locations. Queues lengths are estimated to be a distance of 35 ft. per vehicle. The outbound scale appears to be the critical link in the system; however, the brush dumping area is close behind in its capacity limitations.

PROPOSED MITIGATION MEASURES

Several measures were considered which ranged from accommodating queues of up to 1400 ft., to reducing vehicle demand during the peak season, to increasing capacity of the brush dumping process. The selected mitigation scenario involves using a flat rate charge system which significantly reduces delays involved in scaling incoming and outgoing loads.

The service rates used in the mitigation scenario are based upon Group Mackenzie's survey and observations and are as follows:

Inbound Scale	64 seconds/vehicle	56 vehicles/hour
Brush Dumping Area	600 seconds/vehicle	6 vehicles/hour/space
Outbound Scale	80 seconds/vehicle	45 vehicles/hour

McFarlane's has indicated a willingness to allow vehicles to choose to pay a flat rate, instead of paying by weight which necessitates using both scales and results in two transactions. With a flat rate, the customer would simply pay a fee based upon the load size or vehicle capacity prior to dumping brush. It is estimated that this transaction would take 30 seconds, compared with the 64 seconds needed to weigh a vehicle, pay a deposit and issue a ticket.

Under the proposed mitigation plan, all customers would pay a flat rate during peak use periods. This transaction would occur at the existing scale house. Again, the transaction time upon entering the site would be 30 seconds. Vehicle queues would be a maximum of 280 ft., with the brush dumping area being the limiting factor for capacity. The brush dumping area would be reconfigured to allow 18 stalls for the vehicles. The need for an outbound scale transaction is eliminated with a flat rate.

QUEUING REQUIREMENTS

All queuing calculations were conducted based upon the anticipated peak hour demand during the busy seasons as provided by McFarlane's Bark. They have indicated an expected 600 vehicles per day utilizing the brush dumping facilities during the peak season. Of these, 500 would be private vehicles. The other 100 are commercial flat rate users, which do not use the scales or pay for each transaction, but do share the brush dumping area. It is expected that 12 percent of the daily traffic will arrive during the peak hour. This is based upon information in a study prepared by Lancaster Engineering in 1993. Thus, the transaction demand would be 60 vehicles per hour and the brush dumping demand would be 72 vehicles per hour.

A poison distribution was assumed, with peak queues representing a 95% probability of occurrence and average queues at 50% probability. In cases where demand is greater than capacity during the peak hour, queuing was estimated based upon a random arrival scenario. Based upon information provided in the Lancaster study, the peak demand may last for up to three hours, with the peak hour only slightly higher than the other two. For this reason, queuing for three hours was considered. The three peak hours were broken down into 36 five minute intervals. Random number generation was used to simulate arrivals during each interval. The number of vehicles served in each interval was subtracted from the queue, while the unserved vehicles were added to the next interval's arrival volume. Queue lengths are based upon an average of 35 ft. per vehicle. This accounts for larger vehicles and trailers, as compared to 25 ft. for typical passenger vehicle queues. It should be noted that the queuing calculations assume the transaction and brush dumping area operate independently, which is not necessarily the case.

Queues at the brush dumping area may actually be less than reported due to the uniform arrival of vehicles from inbound transaction area to pay the flat rate fee.

Copies of the queuing calculations are enclosed with this letter. The following information summarizes the pertinent information for the selected queuing mitigation measure as well as the estimated queues.

Daily Vehicles	Public	500
	Private	100
Peak Hour Demand (veh/hr)	Public	60
	Private	12
	Flat Rate	60
	Brush Dumping	72
Brush Dumping Spaces		18
Service Rates (veh/hr)	Flat Rate	120
	Brush Dumping	102
Average Queues (ft)	Flat Rate	35
	Brush Dumping	35
Peak Queues (ft)	Flat Rate	140
	Brush Dumping	280

INBOUND SCALE/TRANSACTION AREA

With continued use of the inbound scale for all vehicles, seasonal peak queues of up to 1400 ft. would be expected. These queue can be significantly reduced by the proposal to use a flat rate fee during peak periods. The scales may continue to be used at other times. Peak queues of 140 ft. would be expected at the transaction area, but may be impacted by limitations of the brush dumping area, resulting in slightly longer queues. The queuing lane for inbound vehicles will extend from the existing scale house, back to

the entrance on Johnson Road. It will be clearly delineated with striping and signing. Peak queues will extend to the existing building's retail area.

BRUSH DUMPING AREA

Plans for the brush dumping area include 18 stalls, reduced conflicts with McFarlane's equipment and well defined stall areas. Peak queues of 280 ft. were estimated with 18 stalls. Average queues are expected to be only one vehicle, or 35 ft.. The peak queue may back up to the scale house and transaction area, causing additional queuing for inbound vehicles. This queuing is not expected to be more than the 280 ft.

OUTBOUND SCALE

Operation of an outbound scale with the anticipated peak demands would cause backups into the brush dumping area and inbound scale. Using a flat rate fee payment reduces inbound queues, and eliminates the need for an outbound scale transaction. The outbound scale may still be used during non peak times.

CONCLUSIONS AND RECOMMENDATIONS

With the proposed changes to your composting process, several mitigation options were considered to reduce the brush dumping operation vehicle queues. They included accommodating the anticipated 1400 ft. of queuing with the current operation, limiting the peak demands and providing a flat rate option, which eliminates the need for scales. In addition to improving the queuing, we desired to reduce the potential of cross traffic circulation and provide clear delineation of the queuing area and brush dumping spaces.

The proposed mitigation plan would use a flat rate payment during peak use periods, instead of weighing each vehicle on an inbound and outbound scale. This flat rate transaction would occur at the existing scale house. It is estimated that the transaction service rate would be improved from 56 vehicles per hour to 120 vehicles per hour. Under independent operation, peak queues of 140 ft. would be expected.

With the flat rate payment, vehicle queues would be a maximum of 280 ft., with the brush dumping area being the limiting factor for capacity. A total of 18 vehicle stalls will be providing in the brush dumping area. During the peak times, queues may develop at the brush dumping area. These can be accommodated by holding vehicles at the scale house transaction area. This would result in peak inbound queues of 280 ft., instead of the 140 ft.

The need for an outbound scale transaction is eliminated with a flat rate. At this time, McFarlane's intends to keep the inbound and outbound scales for use during non-peak times.

The queuing lane for inbound vehicles will extend from the existing scale house, back to the entrance on Johnson Road. It will be clearly delineated with striping and signing. Peak queues will extend to the existing building's retail area. Inbound lanes will be provided on both sides of the transaction line, with an egress lane to the south. This provides clear access circulation for Brophy Machine Works. Entering vehicles for retail customers will use the inbound lane north of the transaction line.

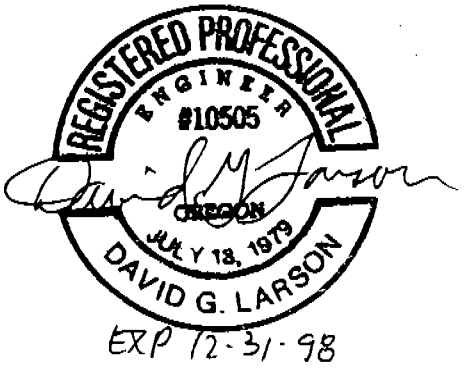
Upon leaving the retail area and product bins, these vehicles will exit to the west between the scale house and brush dumping area. This is the main area of potential vehicle conflicts.

The proposed site layout significantly reduces the cross circulation and conflict potential between customer vehicles and McFarlane's equipment.

Sincerely,

Brent Ahrend
Traffic Analyst

/BTA/kc



c: Frank Hammond - O'Donnell, Ramis, Crew, Corrigan & Bachrach
Neil Alongi - Maul Foster & Alongi, Inc.

QUEUEING ANALYSIS
Inbound Scale — Peak Hour
Scenario 4 — Peak Season

ARRIVAL RATE	na	(veh/hr)	0.0	(veh/min)
CAPACITY	na	(veh/hr)	0.0	(veh/min)
UTILIZATION FACTOR (p)			ERR	

P(n)=p^n*P(0) where P(0)=1-p ERR

P(n)	P(x=n)=p^n*P(0)	P(x<n)	
0	ERR	ERR	ERR
1	ERR	ERR	ERR
2	ERR	ERR	ERR
3	ERR	ERR	ERR
4	ERR	ERR	ERR
5	ERR	ERR	ERR
6	ERR	ERR	ERR
7	ERR	ERR	ERR
8	ERR	ERR	ERR
9	ERR	ERR	ERR
10	ERR	ERR	ERR
11	ERR	ERR	ERR
12	ERR	ERR	ERR
13	ERR	ERR	ERR
14	ERR	ERR	ERR
15	ERR	ERR	ERR

STORAGE REQ= na VEH @ 35 FEET/VEH = 0 FEET

QUEUEING ANALYSIS
Flat Rate — Peak Hour
Scenario 4 — Peak Season

ARRIVAL RATE	60	(veh/hr)	1.0	(veh/min)
CAPACITY	120	(veh/hr)	2.0	(veh/min)
UTILIZATION FACTOR (p)			0.500	

P(n)=p^n*P(0) where P(0)=1-p 0.500

P(n)	P(x=n)=p^n*P(0)	P(x<n)	
0	0.500	0.500	-
1	0.250	0.750	-
2	0.125	0.875	-
3	0.063	0.938	-
4	0.031	0.969	*
5	0.016	0.984	*
6	0.008	0.992	*
7	0.004	0.996	*
8	0.002	0.998	*
9	0.001	0.999	*
10	0.000	1.000	*
11	0.000	1.000	*
12	0.000	1.000	*
13	0.000	1.000	*
14	0.000	1.000	*
15	0.000	1.000	*

STORAGE REQ= 4 VEH @ 35 FEET/VEH = 140 FEET

QUEUEING ANALYSIS
Brush Dumping Area — Peak Hour
Scenario 4 — Peak Season

ARRIVAL RATE	72	(veh/hr)	1.2	(veh/min)
CAPACITY	102	(veh/hr)	1.7	(veh/min)
UTILIZATION FACTOR (p)			0.706	

P(n)=p^n*P(0) where P(0)=1-p 0.294

P(n)	P(x=n)=p^n*P(0)	P(x<n)	
0	0.294	0.294	-
1	0.208	0.502	-
2	0.147	0.648	-
3	0.103	0.752	-
4	0.073	0.825	-
5	0.052	0.876	-
6	0.036	0.913	-
7	0.026	0.938	-
8	0.018	0.956	*
9	0.013	0.969	*
10	0.009	0.978	*
11	0.006	0.985	*
12	0.005	0.989	*
13	0.003	0.992	*
14	0.002	0.995	*
15	0.002	0.996	*

STORAGE REQ= 8 VEH @ 35 FEET/VEH = 280 FEET

QUEUEING ANALYSIS
Outbound Scale — Peak Hour
Scenario 4 — Peak Season

ARRIVAL RATE	na	(veh/hr)	0.0	(veh/min)
CAPACITY	na	(veh/hr)	0.0	(veh/min)
UTILIZATION FACTOR (p)			ERR	

P(n)=p^n*P(0) where P(0)=1-p ERR

P(n)	P(x=n)=p^n*P(0)	P(x<n)	
0	ERR	ERR	ERR
1	ERR	ERR	ERR
2	ERR	ERR	ERR
3	ERR	ERR	ERR
4	ERR	ERR	ERR
5	ERR	ERR	ERR
6	ERR	ERR	ERR
7	ERR	ERR	ERR
8	ERR	ERR	ERR
9	ERR	ERR	ERR
10	ERR	ERR	ERR
11	ERR	ERR	ERR
12	ERR	ERR	ERR
13	ERR	ERR	ERR
14	ERR	ERR	ERR
15	ERR	ERR	ERR

STORAGE REQ= na VEH @ 35 FEET/VEH = 0 FEET