

**APPLICATION OF MAUFACTURED FERTILIZERS**  
**CITY OF KEEGO HARBOR, MICHIGAN**  
**ord. no.      eff. June 15, 2006**

An Ordinance to protect water resources in the City of Keego Harbor by regulating the rates and applications of manufactured fertilizers, and to license commercial and institutional applicators of manufactured fertilizers

THE CITY OF KEEGO HARBOR ORDAINS AS FOR LOWS, FOR INCORPORATION AS PART OF THE CITY OF KEEGO HARBOR ORDINANCE

**Sec. 1. INTENT AND PURPOSE**

1.      Based upon scientific studies and general knowledge, the City Council has determined that certain compounds containing nitrogen and phosphorus which are contain in manufactured fertilizers, when used within the City, enter into the City's water resources, including wetlands and watercourses, resulting in excessive and accelerated growth of algae and aquatic plants (eutrophication) which is detrimental to such water resources. Therefore, the City Council has determined it necessary and appropriate to regulate the rate and application of manufactured fertilizers.
2.      It is the intent of this Ordinance to regulate the application of manufactured fertilizers on turf areas, and not on or in areas such as gardens, farms or landscape amenities.
3.      It is also the intent of this Ordinance to implicitly recognize that mature topsoil has sufficient compounds such as phosphorus which occur naturally to promote adequate turf root growth.
4.      It is the further purpose and intent of this Ordinance to require licensure of commercial and institutional applicators of manufactured fertilizers within the City.

**Sec. 2. DEFINITIONS**

In the Interpretation of this Article, the following definitions shall apply:

1.      **COMMERCIAL APPLICATOR** shall mean any individual or entity who applies manufactured fertilizer in the City in exchange for money, goods, services or other valuable consideration.
2.      **DEPARTMENT** shall mean the City of Keego Harbor Building Department.
3.      Individuals who are not commercial or institutional applicators shall use their best efforts to conform with the following rates and

applications. Commercial applicators and institutional applicators shall apply manufactured fertilizer only at the lowest rate necessary; and without exceeding the maximum weight per application. Applications of manufactured fertilizers shall not exceed the following rates: APPENDIX A OF THIS ORDINANCE IS INTENDED TO ASSIST ALL APPLICATORS IN MAKING THE DETERMINATIONS NECESSARY TO COMPLY WITH THESE MAXIMUM RATES.

- a. *Nitrogen (N)*. Elemental nitrogen shall be applied at the maximum of 3.5 pounds per 1,000 square feet of turf area per year. Single applications of elemental nitrogen shall not exceed 1.0 pounds per 1,000 square feet of turf area.
- b. *Phosphorus (P)*. Elemental phosphorus shall be applied at the maximum rate of 0.7 pounds per 1,000 square feet of turf area per year.
- c. Conditions of storm water management systems and ability of the system for nutrient uptake.
- d. Percentage of the site allocated to impervious surfaces.
- e. Necessity demonstrated by the applicant with regard to the turf management requirements of the site.

**Special regulation for watercourses and wetlands.**

Sec.6. Manufactured fertilizers shall not be permitted within any watercourse or wetland as said terms are defined by the City of Keego Harbor Ordinance or within thirty-five feet (35') of any watercourse or wetland.

**Licensure requirement and procedure.**

Sec. 7.

1. All commercial and institutional applicators shall be licensed in good standing by the City prior to applying manufactured fertilizers on any lands in the City.
2. A license issued under this ordinance shall be valid until expiration, suspension or revocation.
3. License shall immediately be permanently affixed by the licensee to the inside lower left corner of each vehicle windshield.
4. The City Clerk shall maintain a current list of all licensed commercial and institutional applicators.

5. A licensee shall notify the Department in writing of any changes in the information disclosed in the license application. Additional vehicles shall not be used to apply manufactured fertilizer to turf areas in the City of Orchard Lake Village until a sticker or decal for that vehicle has been issued and permanently affixed to the vehicle windshield as provided in Section 7(6)(b).

**Sec. 8. REGULATION OF LICENSED APPLICATOR.**

1. The business name of a commercial applicator shall be prominently displayed on all company vehicles in order to assist in monitoring and enforcement of this Ordinance.
2. The Director, or the Director's designate, shall be authorized to periodically inspect the contents of manufactured fertilizer being used, or to be used, by a licensed applicator.

**Sec. 9. INSPECTION AND LICENSE REVOCATION.**

1. The City, through the Department, shall monitor for conformance with this Ordinance and shall be permitted to conduct periodic spot checks on all commercial and institutional applicators for such purpose including the taking of samples of manufactured fertilizers being applied.
2. Should a commercial or institutional applicator be found to be in violation of this Ordinance, the City Council, following notice and an opportunity of the licensee to be heard, shall have the right to revoke a license for a period of up to one year. If a commercial or institutional applicator is found to be in violation of this Ordinance more than one (1) occasion in any one (1) calendar year, the City Council shall revoke the license of such applicator for a period of not less than one (1) calendar year but not more than five (5) calendar years.

**Sec. 10. APPEAL**

Any applicator aggrieved by a determination made by the Department Director under this Ordinance, shall have a right to appeal such determination to the City Council, provided a written request for such appeal must be submitted to the City Council within fourteen (14) days following the determination from which an appeal is intended. Upon the submission of the written request for appeal, the City Council shall provide the aggrieved person an opportunity to be heard, and shall consider any other relevant evidence, and make an expeditious determination on the appeal.

**APPENDIX A**

In order to determine permitted rates under this Ordinance, the following

calculations reference the proper application levels per 1,000 square feet of lawn area.

A. Methodology for determining the greatest amount (in pounds per 1,000 square feet) of manufactured fertilizer allowable, in accordance with this Ordinance.

1. The three number ratio given on the manufactured fertilizer bag represents the percent ration for nitrogen, phosphorus and potassium for any given manufactured fertilizer weight.

Example: 29-3-4 means 29% nitrogen, 3% phosphorus, and 4% potassium NOTE: The third number may be disregarded, as potassium is not regulated by this Ordinance.

2. To determine the maximum amount (in pounds per 1,000 square feet) of applied manufactured fertilizer allowed annually, divide 3.5 (the maximum amount of nitrogen allowed) by the first number in the ratio (percent nitrogen) and then multiply by 100.

Example:  $3.5 \text{ divided by } 29 = .121$   
 $.121 \text{ multiplied by } 100 = 12.1 \text{ pounds}$

Next divide .7 (the maximum amount of phosphorus allowed) by the second number in the ratio (percent phosphorus) and multiply by 100.

Example:  $.7 \text{ divided by } 3 = .23$   
 $.23 \text{ multiplied by } 100 = 23 \text{ pounds}$

3. Compare the number of pounds as determined from the percent nitrogen with the number of pounds as determined by the percent phosphorus. The smaller weight represents the maximum amount of manufactured fertilizer that shall be used.

Example: The sample problem above gave 12.1 pounds and 23 pounds as the maximum quantities of manufactured fertilizer. Using 12.1 pounds of manufactured fertilizer ensures that neither phosphorus nor nitrogen will exceed the allowable annual application rates as described in this Ordinance. If 23 pounds were used the amount of nitrogen would exceed its limit of 3.5 pounds per 1,000 square feet of turf area.

4. To convert the maximum allowable pounds per 1,000 square feet per year into the maximum allowable pounds per 1,000 square feet per application, divide the pounds per year by the number of

applications per year.

Example: 12.1 pounds per year divided by 5 applications = 2.4 pounds per 1,000 square feet per application.

**Example of Manufactured Fertilizers Selection**

**Annual Application  
(pounds per 1,000  
square feet)**

<b>N (Nit)</b>	<b>P (Phos)</b>	<b>Possible Fertilizer Analysis</b>	<b>Maximum Amount of Fert. Allowed* Per 1,000 Sq. Ft.</b>
3.5	.7	35-7-X	10 LB.
3.5	.3	35-3-X	10 LB.
3.4	.3	34-3-X	10 LB.
3.3	.4	30-4-X	11 LB.
3.5	.4	29-3-X	12 LB.
3.4	.5	28-4-X	12 LB.
3.4	.4	28-3-X	12 LB.

\*Numbers are rounded to the highest whole numbers permissible by this Ordinance X does not apply to this Ordinance.

B. Methodology for determining how many square feet of turf can be covered by a given bag of manufactured fertilizer.

1. To determine the total pounds of nitrogen in a given bag of manufactured fertilizer, multiply the percent ratio of nitrogen (the first number) by the total bag weight. Then divide by 100.

Example: If you have a 12 pound bag of manufactured fertilizer with a 23-4-X ratio, the equation would be as follows:

23 multiplied by 12 = 336  
 336 divided by 100 = 3.36 or rounded 3.4 total  
 pounds of nitrogen

2. To determine the total number of square feet that can be treated by the nitrogen in the given bag of manufactured fertilizer, divide the total pounds of nitrogen by 3.5 (the maximum amount of nitrogen allowed). Then multiply by 1,000.

Example: 3.4 divided by 3.5 = .97  
 .97 multiplied by 1,000 = 970 square feet can

be treated by nitrogen.

3. To determine the total pounds of phosphorus in a given bag of manufactured fertilizer, multiply the percent ratio of phosphorus (the second number) by the total bag weight. Then divide by 100.

Example: 4 multiplied by 12 = 48  
48 divided by 100 = .48 or rounded to .5 total  
pounds of phosphorus.

4. To determine the total number of square feet which can be treated by the phosphorus in the given bag of manufactured fertilizer, divide the total pounds of phosphorus by .7 (the maximum amount of nitrogen allowed). Then multiply by 1,000.

Example: .5 divided by .7 = .71  
.71 multiplied by 1,000 = 710 square feet can  
be treated by phosphorus.

5. Compare the total square feet that can be treated by the nitrogen and the total square feet that can be treated by the phosphorus. The larger number of square feet represents the amount of square feet to be covered by the bag of manufactured fertilizer. This insures that neither the phosphorus nor the nitrogen will exceed the limits outlined in this Ordinance.

Example: If you apply the manufactured fertilizer to 970 square feet both the nitrogen and phosphorus fall within their minimum limits of application. However, if you apply manufactured fertilizer to only 710 square feet, then the nitrogen is not being applied to a large enough area (970 square feet). Therefore, the nitrogen exceeds the limits specified in this Ordinance.