

--	--

File: Z-8513
Planner: L. Maitland

TO:	CHAIR AND MEMBERS PLANNING & ENVIRONMENT COMMITTEE
FROM:	JOHN M. FLEMING MANAGING DIRECTOR, PLANNING AND CITY PLANNER
SUBJECT:	MUSHROOM FARM ZONING REVIEW APPLICATION BY: CITY OF LONDON PUBLIC PARTICIPATION MEETING ON MARCH 7, 2016

RECOMMENDATION

That, on the recommendation of the Managing Director, Planning and City Planner, the following actions be taken with respect to the application of City of London:

- (a) the proposed by-law attached hereto as Appendix "A" **BE INTRODUCED** at the Municipal Council meeting on March 22, 2016 to amend Zoning By-law No. Z.-1, in conformity with the Official Plan, to:
- i) Add a definition for "Mushroom Farm" to Section 2 – Definitions;
 - ii) Amend the definition for "Agricultural Use, Intensive" to include the "Mushroom Farm" use in Section 2 – Definitions;
 - iii) Add "Mushroom Farm" as a permitted use to the AG2 zone variation in Section 45.2; and,
 - iv) Amend regulations in Section 45.3 which apply to "Mushroom Farms".

PREVIOUS REPORTS PERTINENT TO THIS MATTER
--

None.

PURPOSE AND EFFECT OF RECOMMENDED ACTION

The purpose and effect of the requested Zoning By-law amendment is to provide a definition and regulations regarding mushroom farms. The proposed zoning by-law amendments would add a definition for "Mushroom Farm"; add "Mushroom Farm" to the list of permitted uses in the AG2 zone variation; and, amend the regulations applying to mushroom farms.

RATIONALE

- The Provincial Policy Statement (2014) promotes and supports normal farm practices within prime agricultural areas.
- The Official Plan supports a healthy, diverse and financially viable agricultural sector of the local economy.
- Mushroom farms constitute a distinct agricultural use.
- Regulations proposed through the attached zoning by-law amendment address the unique impacts of mushroom farms.

--	--

File: Z-8513
Planner: L. Maitland

Date Application Accepted: August 4, 2015	Agent: N/A
--	-------------------

PLANNING HISTORY

None.

SIGNIFICANT DEPARTMENT/AGENCY COMMENTS

Agricultural Advisory Committee: *That the Civic Administration **BE ADVISED** that the Agricultural Advisory Committee (AAC) asked that the setback requirement for mushroom farms be 500m from the nearest dwelling, institutional zone or hamlet zone, due to the nature of the business; it being noted that the AAC received a draft report from the Managing Director, Planning and City Planner, with respect to this matter.*

London Hydro: *London Hydro has no objection to this proposal or possible official plan and/or zoning amendment.*

Upper Thames River Conservation Authority: *While we have no concerns re the application, if a mushroom farm is located within an area that is regulated by the UTRCA, the landowner may be required to obtain written approval from the Authority prior to undertaking any site alteration or development within the regulated area including filling, grading, construction, alteration to a watercourse and/or interference with a wetland.*

PUBLIC LIAISON:	Notice of Application was published in the <i>Public Notices and Bidding Opportunities</i> section of <i>The Londoner</i> on August 20, 2015	No responses
<p>Nature of Liaison: City-wide Mushroom Farm Zoning Review – The purpose and effect of this zoning review is to amend regulations relating to mushroom farms. Possible changes to Section 45.3 of Zoning By-law Z.-1 to amend the specific regulations regarding setbacks to adjacent residential uses for mushroom farm uses. Possible changes to Section 45.2 of Zoning By-law Z.-1 to add mushroom farms as a permitted use within the appropriate zone variation. Possible changes to Section 2 of Zoning By-law Z.-1 to add a definition for mushroom farms. File: Z-8513 Planner: L. Maitland.</p>		
Responses: None		

ANALYSIS

The issue of mushroom farm regulations arose from a planning inquiry regarding the possible development of a mushroom farm. Currently, the Zoning By-law has regulations for a mushroom farm use, but the use is not defined, nor do the regulations clearly relate to the use or its impacts. The prime impact associated with a mushroom farm is odour. The current regulations addresses this issue by measuring setbacks from the property line. The mushroom farm use generally occupies only a small portion of the agricultural parcel, so measuring the setbacks from the property limit rather than the location of the use on the farm parcel can render large areas of the agricultural parcel unusable for the mushroom farm use.

--	--

File: Z-8513
Planner: L. Maitland

The issues addressed in this zoning by-law review are how to define mushroom farms and how to best mitigate their impacts.

Provincial Policy Statement 2014

The Provincial Policy Statement (PPS) 2014 provides guidance on the permitted uses in prime agricultural areas. The definition for “agricultural uses” provided through the PPS 2014 includes “the growing of crops, including nursery, biomass and horticultural crops ... for food, fur or fibre ... and associated on-farm buildings.” This definition accounts for mushroom farm as an agricultural use as a crop producing operation. Policy 2.3.3.2 of the PPS 2014 specifically directs that “in prime agricultural areas, all types, sizes and intensities of agricultural uses and normal farm practices shall be promoted and protected in accordance with provincial standards.” Provincial policy provides clear direction supporting the continued permission of mushroom farms within London’s agricultural area.

The Official Plan

Chapter 9 of the Official Plan speaks to the intention for the City’s Agriculture designation. Permission for mushroom farms meet the objectives set out in 9.11 of the Official Plan. Permission for mushroom farms can be seen to “support a pattern of agricultural land holdings that increases the viability of farm operations and avoids the fragmentation of land ownership,” by allowing farmers to grow another crop thereby increasing the potential financial viability of a farm operation, consistent with objective iv, Section 9.11.

Section 9.2.1 speaks to permitted uses within the Agriculture designation. Permitted uses include the “full range of farming types ... including, but not limited to, general farming, livestock farming, cash crop farming, market gardening, specialty crops, nurseries, forestry, aquaculture and agricultural research.” Mushroom Farms can be considered as a specialty crop consistent with the policies of the Official Plan.

Zoning By-law

The two issues that arose from the inquiry to be addressed in this report are:

- The lack of a specific definition for Mushroom Farm; and,
- How the impacts of Mushroom Farms should be addressed through the use of an appropriate setback regulation.

Defining Mushroom Farm

The Zoning By-law currently contains no definition for a mushroom farm. Mushrooms as a crop are mentioned within the definition for Agricultural Use. The definition reads:

"AGRICULTURAL USE" shall mean the use of land, buildings or structures for; the tillage of soil, growing and harvesting of vegetables, fruits, field crops, **mushrooms**, berries, trees, flowers or landscaping materials; the grazing, breeding, raising, boarding or training of all kinds of livestock and poultry including but not limited to cattle, swine, sheep, deer, goats, rabbits, poultry, horses, ponies, donkeys, mules and fur bearing animals; aquaculture; apiaries; the erection and use of greenhouses, vine crops, woodlots and forest tree uses; and the packing, treating, storing and sale of produce produced on the premises and other similar uses customarily carried on in the field of general agriculture. (Z.-1051390)

This definition is consistent with both the PPS 2014 and the Official Plan is that mushroom farms and mushroom production constitute an agricultural use.

Mushrooms are also mentioned in the definition for Non-Intensive Agricultural Use. The

--	--

definition reads:

"AGRICULTURAL USE, NON-INTENSIVE" means an area of land with or without accessory buildings or structures which is used primarily for the tillage of soil, growing and harvesting of vegetables, fruits, field crops, **mushrooms**, berries, trees, flowers or landscaping materials; the erection and use of greenhouses, woodlots and forest tree uses; the packing, treating, storing, and sale of produce produced on the premises and other similar uses customarily carried on in the field of general agriculture excluding "Agricultural Uses, Intensive" as specified herein.

The definition above does not specify the growing method under which mushrooms are produced. The practice of growing mushrooms in logs or using a woodlot based approach can be seen as a non-intensive agricultural practice. In these instances the mushroom production impacts are negligible, however, these methods do not account for the majority of mushroom production. A significant portion of mushroom production is done in climatically controlled buildings utilizing a compost- or manure-based growing medium. In these cases impacts, primarily odour, are significantly greater than that of the previously mentioned methods, such that the impacts are similar to those of an intensive livestock operation.

The indoor growth of mushrooms using a manure-based growing medium generates impacts in keeping with other manure-storing uses. Zoning for mushroom farms which utilize livestock-operation-like volumes of manure cannot be considered as a non-intensive agricultural use. To account for the intensive nature of mushroom farms as an agricultural use the following new sentence (bolded below) is proposed for the definition of Intensive Agricultural Use.

*"AGRICULTURAL USE, INTENSIVE" means an agricultural use where animals or birds are kept for grazing, breeding, raising, boarding, or training of livestock of all kinds including, but not so as to limit the generality of the foregoing, cattle, swine, sheep, goats, rabbits, poultry, fish, horses, ponies, donkeys, mules, and fur bearing animals. **Agricultural uses for which manure and/or compost are an essential part of the operation, including but not limited to, Compost Facilities, Manure Storage Facilities and Mushroom Farms shall be considered an intensive agricultural use.***

The manure-based odorous mushroom operation is a distinct use and as such requires a distinct definition. The term "Mushroom Farm" to apply to these operations is used in other municipalities and in current regulations within the Zoning By-law. The following is the proposed definition for mushroom farms:

"MUSHROOM FARM" means a building or structure used for the growing of mushrooms in a climatically controlled environment including any associated stockpiles and shall include all parts of the operation designed for waste, manure, fertilizers or compost, either as part of a growing medium, or pre- or post- use in the mushroom growing process.

The proposed definition provides for Mushroom Farm as a distinct use, thereby providing a basis for specific regulations to address the odour impacts of mushroom farms. Also, by defining a Mushroom Farm as a building or structure with associated stockpiles, in the same manner as the Livestock Facility use, setback regulations can be set relative to the Mushroom Farm use itself.

Permitted Locations

Currently the specific "Mushroom Farm" use is not explicitly permitted in any zone variation (given its lack of definition). Mushrooms Farms as a use generate odour impacts not unlike the "Compost Facility" use and "Manure Storage" use, as Mushroom Farms generally rely heavily on a compost- or manure-based growing medium in which the mushrooms develop.

The AG2 zone variation is intended to support intensive agricultural operations. Given the

--	--

File: Z-8513
Planner: L. Maitland

potential impacts associated with Mushroom Farm use, the AG2 zone variation is the appropriate zone for Mushroom Farms. It is proposed that the newly defined “Mushroom Farm” use be added to the list of permitted uses within the AG2 zone variation.

Current Regulations

The Zoning By-law Z.-1 currently contains specific regulations within the Agriculture Zone for Mushroom Farms, despite the use being undefined. The current regulations read:

7) MUSHROOM FARMS

Notwithstanding Table 45.3, the following additional regulations apply to mushroom farms:

- a) The front yard depth shall be 60m (200 ft.);*
- b) No dwelling shall be permitted within a distance of 150m (492 ft.) of any lot line of a mushroom farm, provided that such distance may be reduced to 90m (295 ft.) if and only so long as the mushroom farm is operated exclusively on the basis of a non-odorous dry compost system.*
- c) No stockpiles of waste, manure, fertilizers or compost shall be permitted within a distance of 30m (98 ft.) of any lot line of a mushroom farm.*

The regulations currently establish a greater distance (150m from lot lines) for the growing operation than is required for stockpiles of waste, manure, fertilizers or compost (30m from lot lines). As the primary impact that requires mitigation with mushroom farms is odour, the impacts arise from the stockpiles of waste, manure, fertilizer and/or compost as well as other locations associate with the operation where the growing medium is used or produced (the building or structure). The setback therefore should be set for those elements of the use where odorous compounds are stored or used. Also, in keeping with the MDS approach, the measurement should be taken from the source point of the odour, in this case the Mushroom Farm building or structure and any associated stockpiles of waste, manure, fertilizer and/or compost. Using a lot line rather than a use setback (which can be achieved through the new definition which defines Mushroom Farm as a building or structure) better aligns with the MDS approach, where the setback measurements are applied from the source point of the odour (the building or structure containing manure) while still maintaining the necessary mitigation measures accomplished through a setback regulation.

The existing regulations also contain a provision for a reduced setback where a “mushroom farm is operated exclusively on the basis of a non-odorous dry compost system”. In the proposed regulations below, this has been removed. As mushroom farm operations may change over time ensuring that a “non-odorous” growing medium is maintained would be difficult to monitor or enforce. Ensuring that the development does not create adverse impacts can be better accomplished by assuming an odorous growing medium and utilizing regulations developed upon that assumption.

Other Municipal Setback Approaches

The setback methods other municipalities have used to address mushroom farms differ significantly. The other municipalities reviewed have approaches that use either extended (relative to other agricultural uses) yard setbacks and/or implement setbacks to sensitive use zones. In both the County of Brant and Township of Malahide, the base setbacks are designed to apply to livestock and mushroom farming operations (although a setback may be greater in the livestock case should Minimum Distance Separation calculations require it). It is important to note that, where clearly defined, the Mushroom Farm use is specific to the operation itself, and the

--	--

File: Z-8513
Planner: L. Maitland

current London practice of applying setbacks to property lines is not used. The table below summarizing the setback regulations for mushroom farms in five Ontario municipalities:

Municipality	Regulations specific to mushroom farms
City of Hamilton	30m yard setbacks
County of Brant	60m front yard setback 40m exterior side yard setback 30m rear and interior side yard setback
Municipality of Thames Centre	50m yard setbacks 300m from nearest dwelling, institutional zone or hamlet zone 500m from nearest settlement area 150m from nearest watercourse
Township of Malahide	60m yard setback 200m from nearest dwelling
Town of Kingsville	500m from any <i>existing</i> dwelling
Town of Lakeshore	60m front yard setback, 30m all other yards 150m from any dwelling located on another lot

Thames Centre is the most similar municipality in the table above to London in terms of the rural built environment. Within both London and Thames Centre farms are of a similar scale and separated by similar distances within the agricultural area. The setback distance of 500m for sensitive uses, like settlement areas, is consistent with the distance of 500m suggested by the Agricultural Advisory Committee. A smaller setback distance of 300m for rural uses would prevent a large area of rural London not being suitable for mushroom farms given the distances between rural homes.

Determining the Appropriate Setback

Although provincial policy regarding Minimum Distance Separation (MDS) does not provide formulae for calculating MDS related to mushroom farm development, the logic behind the MDS framework can be used to develop an appropriate setback distance. MDS calculations rely on factors which determine the impact added manure odour will have as the result of new storage sites or the increased size of any existing manure storage. MDS factors include the number and type of animals contained by a building of a given size; scale and construction of manure storage; characteristics of manure stored; type of uses near the manure storage; and an expansion factor which accounts for any existing manure-involving uses.

An alternative MDS calculation for mushroom farms requires the simulation of some factors based on assumptions regarding manure use from academic and agriculture department literature. As there is no 'number of animals' in a mushroom farm to use as a MDS factor, alternative calculations were conducted relying on a biological efficiency ratio to approximate the 'number of animals' factor. Biological efficiency is a ratio of mushroom production to substrate where a biological efficiency of 25% would indicate 25kg of mushroom are produced from 100kg of substrate material. The alternative calculations conducted also relied on average mushroom farm size data from Chester County Pennsylvania as the size of mushroom farms in Ontario was not available. The alternative calculations relied on an average sized mushroom farm, whereas MDS calculations are designed for use with a specific development. The alternative MDS calculations conducted have been used as a "double-checking" mechanism to compare with other approaches to determine appropriate setbacks.

--	--

File: Z-8513
Planner: L. Maitland

The alternative calculations conducted found that an average sized mushroom farm would require setbacks similar to those recommended in this by-law and consistent with the recommendations of the Agricultural Advisory Committee.

Proposed Regulations

The proposed regulations provide for a 500m setback for residential zones, neighbourhood facility and community facility zones and provide for a 300m setback to other neighbouring dwellings.

The proposed new regulations would read (note part 'a', does not change):

7) MUSHROOM FARMS

Notwithstanding Table 45.3, the following additional regulations apply to Mushroom Farms:

- a) The front yard depth shall be 60m (200 ft.);*
- b) The minimum distance between a Mushroom Farm and a dwelling on a separate lot shall be 300m.*
- c) The minimum distance between a Mushroom Farm and a Residential Zone, Community Facility (CF) Zone or Neighbourhood Facility (NF) Zone shall be 500m.*

The requirement for residential zones, community facility zones and neighbourhood facility zones to have a 500m setback from Mushroom Farms aligns with the request made by the Agricultural Advisory Committee and is the same as the setback Thames Centre uses for settlement areas. The setback is intended to protect sensitive uses from mushroom farm impacts.

The proposed 300m setback for farm dwellings is appropriate as farm dwellings do not require the same protections as those dwellings located within a settlement area. Rural dwellings within an agricultural area should expect a level of agricultural impacts from neighbours, and would not expect the same level of protection as dwellings in settlement areas. Farm dwellings are likely to be producing, through the farm cluster in which they are located, agricultural impacts themselves. The recommended 300m limit is consistent with the advice of the Agricultural Advisory Committee.

--	--

File: Z-8513
Planner: L. Maitland

CONCLUSION

Mushroom Farms are a distinct agricultural use and one that should be encouraged within the prime agricultural areas of London. The proposed amendments ensure that mushroom farms are permitted in the appropriate locations. The recommended regulations provide for appropriate setbacks to minimize the potential impacts of mushroom farms on adjacent properties.

PREPARED BY:	SUBMITTED BY:
LEIF MAITLAND PLANNER I, LONG RANGE PLANNING AND RESEARCH	GREGG BARRETT, AICP MANAGER, LONG RANGE PLANNING AND RESEARCH
RECOMMENDED BY:	
JOHN M. FLEMING, MCIP, RPP MANAGING DIRECTOR, PLANNING AND CITY PLANNER	

February 12, 2016

LM

Appendix A: Zoning By-law Amendment

Y:\Shared\policy\CITY INITIATED FILES\8513Z - Mushroom farms\Z8513 for March 7.docx

--	--

**File: Z-8513
Planner: L. Maitland**

Appendix "A"

Bill No. (number to be inserted by Clerk's Office)
2016

By-law No. Z.-1-16_____

A by-law to amend By-law No. Z.-1 to amend the regulations related to mushroom farms.

WHEREAS The Corporation of the City of London has conducted a review of the zoning regulations for mushroom farms;

AND WHEREAS this Zoning By-law amendment conforms to the Official Plan;

THEREFORE the Municipal Council of The Corporation of the City of London enacts as follows:

- 1) Section Number 2 "Definitions" is amended by adding the following new definition in the appropriate alphabetical location:

"MUSHROOM FARM" means a building or structure used for the growing of mushrooms in a climatically controlled environment including any associated stockpiles and shall include all parts of the operation designed for waste, manure, fertilizers or compost, either as part of a growing medium, or pre- or post- use in the mushroom growing process.

- 2) Section Number 2 "Definitions" is amended by deleting the existing definition for "Agriculture Use, Intensive" and replacing it with the following new definition in the appropriate alphabetical location:

"AGRICULTURAL USE, INTENSIVE" means an agricultural use where animals or birds are kept for grazing, breeding, raising, boarding, or training of livestock of all kinds including, but not so as to limit the generality of the foregoing, cattle, swine, sheep, goats, rabbits, poultry, fish, horses, ponies, donkeys, mules, and fur bearing animals. Agricultural uses for which manure and/or compost are an essential part of the operation, including but not limited to, Compost Facilities, Manure Storage Facilities and Mushroom Farms shall be considered an intensive agricultural use.

- 3) Section Number 45.2 "Permitted Uses" is amended by adding the following permitted use to the AG2 Zone variation:

_) Mushroom Farm

--	--

File: Z-8513
Planner: L. Maitland

- 4) Section Number 45.3 “Regulations” subsection 7) “Mushroom Farms” is amended by deleting b) and c) in their entirety and replacing them with:
- b) The minimum distance between a Mushroom Farm and a dwelling on a separate lot shall be 300m.
 - c) The minimum distance between a Mushroom Farm and a Residential Zone, Community Facility (CF) Zone or Neighbourhood Facility (NF) Zone shall be 500m.

The inclusion in this By-law of imperial measure along with metric measure is for the purpose of convenience only and the metric measure governs in case of any discrepancy between the two measures.

This By-law shall come into force and be deemed to come into force in accordance with Section 34 of the *Planning Act, R.S.O. 1990, c. P13*, either upon the date of the passage of this by-law or as otherwise provided by the said section.

PASSED in Open Council on March 22, 2016.

Matt Brown
Mayor

Catharine Saunders
City Clerk

First Reading March 22, 2016
Second Reading - March 22, 2016
Third Reading - March 22, 2016