SUBJECT: Application for Approval of a Ministry of Environment Provisional Certificate of Approval for a Waste Disposal Site (Processing), Ministry of Environment Reference 6966-7JLK85, 2120 10th Concession Road West, Flamborough (PED09068) (Ward 14)

RECOMMENDATION:

That the Environmental Assessment and Approvals Branch of the Ontario Ministry of Environment (MOE) be advised that should the Ministry consider approving Application CA-008-003, Delft Blue Veal Inc, Applicant, for a Provisional Certificate of Approval for a new waste processing site (anaerobic digester), located at 2120 10th Concession Road West, Flamborough, as shown on Appendix “A” to Report PED09068, that the City of Hamilton requests:

(a) That prior to the Ministry of Environment issuing any Certificate of Approval for the proposed waste processing site (anaerobic digester), that the Ministry require the applicant to notify all land owners within a 2 kilometre radius of the subject property about the proposed operation, and to hold a Public Information Session to provide additional information regarding the proposed operation to members of the public; and,

(b) That, if approved, the Certificate of Approval include the following requirements:

   (i) That prior to receiving any waste materials on site, the proponent obtain a building permit from the Building Services Division for the new facility, to the satisfaction of the Director, Building Services, City of Hamilton.

   (ii) That the Provisional Certificate of Approval limit the maximum waste capacity to 15.5 tonnes received daily.
SUBJECT: Application for Approval of a Ministry of Environment Provisional Certificate of Approval for a Waste Disposal Site (Processing), Ministry of Environment Reference 6966-7JLK85, 2120 10th Concession Road West, Flamborough (PED09068) (Ward 14) - (Page 2 of 11)

(iii) That the waste streams be limited to non-hazardous and primarily edible fats, oils, and greases (FOG) food wastes, and that the maximum amount of fats, oils, and greases (FOG) to be permitted as an input into the digester shall be no more than 25% of the total digester input.

(iv) That the waste accepted be limited to waste generated only from the Province of Ontario.

(v) That the Provisional Certificate of Approval include a requirement for an effective odour/dust mitigation plan for day-to-day activities, and a requirement that operating controls are adequate in design to mitigate all potential odour sources.

(vi) That the proponent implements spills prevention on site, and that containment measures be included in the Provisional Certificate of Approval to protect local groundwater. That the contingency plans for spills on site and clean-up procedures be covered under the Provisional Certificate of Approval, and that the City's Spills number (905) 540-5188 be included in the company's on-site Contingency Plan. Further, that a copy of the Contingency Plan be forwarded to the Compliance and Regulations Section, Water and Wastewater Division, Public Works Department, City of Hamilton.

(vii) That the biogas system (scrubber) be engineered and maintained to negate fugitive off-gassing. This includes proper handling of methane to prevent explosive hazards.

(viii) That any waste (organic residuals) be handled in a diligent manner under Regulation 347 and/or any other applicable legislation, and that strict adherence to all department/agency requirements, including the Ministry of Environment, Ontario Ministry of Agriculture, Food and Rural Affairs, (OMAFRA) and the City of Hamilton, be required.

(ix) That the proponent be required to provide financial assurance to the Ministry of Environment to cover final clean-up of the site, following the cessation of use.

(x) That a Ministry of Environment staff person be identified to the City as the contact for all issues and complaints regarding the subject property.

(c) That a copy of Report PED09068 be forwarded to the Environmental Assessment and Approvals Branch of the Ministry of Environment for their consideration.
EXECUTIVE SUMMARY:

The applicant, Delft Blue Veal Inc, has applied to the Ministry of Environment (MOE) for a Provisional Certificate of Approval for a Waste Disposal Site (processing). Delft Blue Veal Inc. is proposing the establishment of an anaerobic digester on the subject lands at 2120 10th Concession Road West, Flamborough (see Appendix “A”). The subject lands are currently used as a veal farm operation, with four barns housing 3,000 calves. The anaerobic digester would process up to 15.5 tonnes per day of non-hazardous fats, oils, and greases (FOG) food waste. These fats, oils, and greases, together with farm manure from the existing veal operation, would form the inputs into the digester. The outcome is methane gas used to generate electricity, and a nutrient rich fertilizer for use on the farm fields. The Certificate of Approval is required under Part V of the Environmental Protection Act due to the use of the fats, oils, and greases (food wastes) as inputs into the digester. Staff notes that this application is not subject to Interim Control By-law 08-104, passed on April 23, 2008, which prohibited the establishment or expansion of any private waste disposal sites. The Interim Control By-law applies only to industrially-zoned lands, whereas the subject property is located in an Agriculture “A” Zone.

The Ministry of the Environment requests affected municipalities to provide comments on new and amended Certificate of Approval applications. The MOE then makes a decision on the application, on the basis of the comments received, in addition to various technical and environmental considerations. Comments from the City of Hamilton on Certificate of Approval applications are forwarded to the MOE. Based on the comments received from an internal circulation of this application, and the analysis undertaken, this MOE application for a Certificate of Approval is considered acceptable, subject to a number of conditions being included in the Certificate. These conditions include the following: requirement for a building permit; limits on the maximum capacity of waste to be received and the maximum amount of FOG input; requirements for odour and dust mitigation, spill containment measures, proper maintenance of the biogas scrubber and diligent handling of waste; as well as standard conditions relating to financial assurances to the MOE for final site clean-up; limitation on the origin of the accepted waste; and, identification of an MOE contact for all issues related to the digester.
BACKGROUND:

What is a Certificate of Approval

A “Certificate of Approval” pursuant to Part V of the Environmental Protection Act is a legally binding document, through which an individual, company or municipality is permitted, by the Ontario Ministry of Environment (MOE), to undertake an activity related to the management of waste. For this particular application, the Certificate of Approval is required because one of the inputs into the proposed anaerobic digester is fats, oils, and grease (FOG) food waste from the restaurant industry.

Each Certificate of Approval is drafted to address the site-specific considerations relevant to the proposal and contains enforceable requirements that ensure environmental and health protection, compliance with legislation and policy requirements. The Certificate of Approval stipulates the types of wastes that can be managed at the facility and contains “conditions” that describe the manner in which the facility is to be operated. Failure to comply with any of the Certificate’s conditions constitutes a violation of the Environmental Protection Act, and is grounds for enforcement through the Provincial Offences Act.

Interim Control By-law 08-104/Planning Study of Private Waste Disposal Sites

The City of Hamilton passed Interim Control By-law 08-104 on April 23, 2008, which had the effect of prohibiting the establishment of any new private waste disposal site or the expansion of any existing private waste disposal site in any industrial zones in the City. The Interim Control By-law was enacted in order to allow the City to conduct a planning study in respect of the land use policies for the location of private waste disposal sites in the City. The Interim Control By-law does not apply to agriculturally zoned lands, and therefore, it is not applicable to the subject property.

At the time of writing this Report, the Planning Study of Private Waste Disposal Sites by Jacques Whitford Limited, dated October 21, 2008, was scheduled to be considered by the Committee of the Whole on March 9, 2009. This study recommends new Employment Area/Industrial Official Plan policies and zoning for private waste facilities requiring a Certificate of Approval for waste. The study does not address uses which may require a Certificate of Approval for waste in agricultural zones, as these uses are usually considered part of a normal farming practice, and the concerns raised by Council and the public have been primarily related to waste facilities in industrial zones. The subject application for a proposed anaerobic digestion facility will operate with less than 25% FOG inputs and is, therefore, considered to be an agricultural use and part of normal farming practice (this is discussed further in the Analysis/Rationale section below). For information purposes, staff notes that the Study recommends a minimum separation distance of 300 metres between a private waste facility and a sensitive land use (i.e. residential and/or institutional use) in order for the private waste facility to be permitted as-of-right in an industrial zone; a lesser distance requires a site-specific
rezoning with supporting studies. The proposed anaerobic digester will be located at a distance greater than 300 metres from any surrounding residential dwelling.

**ANALYSIS/RATIONALE:**

**Anaerobic Digestion**

Anaerobic digestion is the process by which organic materials in an enclosed vessel are broken down by microorganisms (bacteria) in the absence of oxygen. These systems are also known as ‘biogas’ systems, because anaerobic digestion produces biogas, primarily methane and carbon dioxide. The ‘inputs’ into an anaerobic digester may vary, but commonly consist of farm manure and other farm-related and food processing by-products. These inputs act as food or energy for the bacteria, which break down the material. The output of these systems is methane gas, which is captured to generate electricity, which may be exported to the local power grid. In addition, a second output is a nutrient rich fertilizer which can be applied to farm crops.

The anaerobic digester proposed by Delft Blue Veal Inc. will function as described above. Specifically, the Delft Blue digester would use manure from their farm operation, combined with fats, oils, and grease (FOG) food wastes as inputs into the digester. The use of the FOG is desirable, as it is a good combination with the manure and can result in a major boost in biogas production. Delft Blue has arranged with a company called Organic Resource Management Inc. to supply the FOG wastes. The wastes will originate from restaurants in Hamilton and the Golden Horseshoe Area, and will be trucked into the facility every other day. The digester will process up to 15.5 tonnes per day of the FOG wastes. The FOG will be stored on the property for a maximum of three days prior to it being transferred to the digester.

Delft Blue predicts that 360 kW per hour of electricity would be produced by the digester. A portion of this will be used on the farm itself, with the balance of the power being exported to the local power grid. No waste is generated by this process, as the liquid output is used as a soil fertilizer on the Delft Blue farm. The Delft Blue farm holdings total 135 acres, and the fertilizer will be applied seasonally to the farm fields in accordance with the farm’s Nutrient Management Strategy.

**Site Operations**

A site plan of the existing Delft Blue farm and the location of the proposed digester is attached as Appendix “B”, and a plan showing the anaerobic digester and related buildings is attached as Appendix “C”. The proposed digester would be located to the rear of the existing farm buildings. The Delft Blue farm operation has 3,000 calves in four barns. The manure from these barns will be pumped underground to the anaerobic digester, using an automatic pump system which will transfer the correct volume of manure to the digester. The FOG component will be delivered every second day to the site by Organic Resource Management Inc. (ORMI). Each truck can hold up to 28.5
tonnes of FOG. The digester will require 15.5 tonnes per day of FOG to produce the desired 360 kW of electricity. The ORMI truck will transfer the FOG through an in-ground piping system to a holding vessel. The FOG is held in a pasteurizer system for a minimum of 60 minutes and then transferred into the digester incrementally over the next 24 hours.

Complete anaerobic digestion typically takes 24 days. After this time, the nutrient liquid is available for use as a fertilizer on the farm crops. The nutrient liquid is held in an engineered, reinforced concrete in-ground nutrient storage vessel, and will be applied seasonally to the farm fields.

Zoning Consideration

The proposed use has been reviewed by staff to determine whether or not an anaerobic digester is considered to be an agricultural use and part of the farming operation. OMAFRA (Ontario Ministry of Agriculture, Food and Rural Affairs) considers an anaerobic digester, which uses manure from the farm as one of the inputs, to be a normal farming practice. OMAFRA also considers a digester to be an agricultural use, provided that no more than 25% of the inputs may be comprised of FOG. However, if the FOG input exceeds 25%, or if manure from other farms is used as an input, this would then be classified as an agriculture-related use and not part of a normal farming practice.

City staff has considered OMAFRA’s position, and has also discussed this issue with the Agriculture and Rural Affairs Advisory Committee. Based on these discussions, staff is in agreement with OMAFRA’s position, in that a digester that uses on-farm manure and a maximum of 25% FOG as inputs is considered to be an agricultural use. Any change from this formula (i.e. increasing the FOG input above 25% or using off-farm manure) would change this interpretation, and additional approvals may be required. Recommendations (b) (ii) and (iii) have been included to ensure that FOG inputs are limited to 15.5 tonnes per day and 25% of the total inputs through the Certificate of Approval.

Public Consultation Requirements

Public notification/consultation requirements for Certificate of Approval applications are regulated by the Environmental Protection Act and administered by the MOE. Upon receipt of the application, the MOE normally requires the applicant to circulate an Information Notice to abutting property owners. The Notice provides a description of the proposed operation. In addition, the MOE requires a Notice of the proposal to be posted on the Environmental Registry (website). In this case, the applicant hand delivered a notice of this application to seven adjacent landowners. The application was also posted on the Environmental Registry. Ministry of Environment staff has confirmed that no comments were received regarding this application from either the hand delivered notices or from the Registry.
City of Hamilton Public Health staff has reviewed this application and have concerns that the notification process did not include a wide enough circulation area. As there is potential for adverse impact from this proposal, primarily due to odour, Public Health has requested that the applicant notify all land owners within a 2 kilometre radius of the subject property about the proposed operation, and hold a Public Information Session to provide additional information regarding the proposed operation to members of the public. This request has been included as Recommendation (a).

**ALTERNATIVES FOR CONSIDERATION:**

The City of Hamilton is not the approval authority for Certificate of Approval applications, but has been requested to submit comments on this application to the MOE. The MOE will consider the City’s comments in making a decision on the application. The following alternatives are available to the City in providing comments to the MOE.

1. **Request MOE to Deny the Application**

   The City could request that the MOE deny the Certificate of Approval application.

2. **Request MOE to Incorporate the City’s Conditions**

   The City can request that certain conditions be included in the Certificate of Approval, if approved. The circulation of the application to City Departments did not result in any objections to the proposal. Staff has identified requirements that are to be addressed through the Certificate of Approval, as specified in the Recommendations section of this report.

**FINANCIAL/STAFFING/LEGAL IMPLICATIONS:**

Financial - N/A.

Staffing - N/A.

Legal - Certificate of Approval applications are processed by the Ontario Ministry of the Environment under the authority of the Environmental Protection Act. The City of Hamilton has been formally requested to provide comments to the Ministry on this specific application.
POLICIES AFFECTING PROPOSAL:

Provincial Policy Statement

The application has been reviewed with respect to the Provincial Policy Statement (PPS). As discussed above in the Analysis section, the proposed anaerobic digester is considered to be part of a normal farming practice and is, therefore, consistent with the Agriculture policies of Section 2.3.

Policy 2.3.3.3 states that new land uses and new or expanding livestock facilities shall comply with the minimum distance separation (MDS) formulae. The proposed anaerobic digester would be subject to the MDS II Formula. Staff has reviewed the location of the proposed digester against the MDS II Formula and are satisfied that the digester will comply with the required MDS setbacks.

In addition, Policy 2.6.2 outlines that development and site alteration may be permitted on lands containing archaeological resources or areas of archaeological potential if significant archaeological resources have been conserved by removal and documentation, or preservation on site. Where significant archaeological resources must be preserved on site, only development and site alteration which maintain the heritage integrity of the site may be permitted. The subject lands meet five of the eleven criteria used by the City of Hamilton and the Ministry of Culture in determining archaeological potential. Therefore, staff has made the applicant aware of this archaeological potential, and has provided the applicant with the following information:

“Should archaeological remains be found on the property during any of the proposed development activities, the Ontario Ministry of Culture (MCL) should be notified immediately (416.314.7143). In the event that human remains are encountered during construction, the applicant/landowner should immediately contact both MCL and the Registrar or Deputy Registrar of the Cemeteries Regulation Unit of the Ministry of Government Services (416.326.8392).”

Greenbelt Plan

The subject property is designated as “Protected Countryside - Prime Agricultural Area” within the Greenbelt Plan, with a portion of the property identified as Natural Heritage System. The location of the proposed digester is outside of the area identified as Natural Heritage System. Policy 3.1.3.1 states that within prime agricultural areas, normal farm practices and a full range of agricultural, agriculture-related, and secondary uses are supported and permitted. Therefore, the proposed digester complies with the Greenbelt Plan.
The subject property is designated as “Rural Area - Prime Agricultural Area” within the Hamilton-Wentworth Official Plan. Policy 3.2.2 states that agriculture will continue to be the predominant use in the rural areas of the Region. As the anaerobic digester is considered to be part of a normal farming practice, the proposal complies with the policies of the Hamilton-Wentworth Official Plan.

Rural Hamilton Official Plan

The subject lands are designated as “Rural” within the Rural Hamilton Official Plan, which has been approved by the Province of Ontario, but is not yet in force and effect due to appeals. Therefore, the policies of the Hamilton-Wentworth Official Plan continue to apply to this application, and the following information from the Rural Hamilton Official Plan is provided for information only. Uses permitted within the “Rural” designation include a full range of agricultural uses, as well as other resource based rural uses and institutional uses. Therefore, the proposal complies with the Rural Hamilton Official Plan.

Town of Flamborough Official Plan

The subject lands are designated as “Agriculture” under Schedule “B” of the Flamborough Official Plan. As the nature of the application is for the establishment of an anaerobic digester, which is considered to be normal farming practice, the proposed development complies with the Flamborough Official Plan.

Town of Flamborough Zoning By-law

The subject lands are zoned Agricultural “A” Zone and Conservation Management “CM” Zone in the Town of Flamborough Zoning By-law. Staff notes that the proposed digester is located outside of the “CM” Zone. However, staff from the Grand River Conservation Authority (GRCA) should still be contacted to ensure that their concerns and comments are appropriately addressed. Staff has been advised that the GRCA will be forwarding comments directly to the Ministry of Environment.

As stated above in the Analysis section, staff has reviewed the proposal for the anaerobic digester and has confirmed that it is considered to be an agricultural practice and is, therefore, a permitted use in the “A” Zone. However, in order for the digester to be considered an agricultural use, the maximum amount of non-farm inputs shall be no greater than 25%. As such, staff has included Recommendation (b)(iii) to ensure that the FOG inputs do not exceed 25%. If the FOG inputs exceed 25%, the digester would be considered an agriculturally-related use and would not be permitted in the “A” Zone. This development is subject to the issuance of a building permit in the normal manner, and must comply with all setback requirements of the “A” Zone.
SUBJECT: Application for Approval of a Ministry of Environment Provisional Certificate of Approval for a Waste Disposal Site (Processing), Ministry of Environment Reference 6966-7JLK85, 2120 10th Concession Road West, Flamborough (PED09068) (Ward 14) - (Page 10 of 11)

RELEVANT CONSULTATION:

The Health Protection Branch, Public Health Services, advises that they have no objection to the proposal, subject to a number of requirements being included in the Certificate of Approval. These requirements relate to spill containment procedures, proper operation and maintenance of the facility, proper engineering of the biogas system and methane, dust and odour control, and compliance with all provincial and City regulations. These requirements have been addressed through Recommendations (b) (v to viii). Public Health Services also requested that additional public notification be provided to surrounding property owners within a 2 kilometre radius regarding this application. This request, Recommendation (a), has been discussed above in the Analysis section.

The Public Works Department, Waste Management Division, has advised that the proposed anaerobic digester would have no impact on the City’s Solid Waste Management Master Plan or the Waste Management System.

The Public Works Department, Water and Wastewater Division, notes that a review of the application indicates that spill prevention and containment measures will be dealt with through the Certificate of Approval, and that all solid and liquid waste will be appropriately dealt with through the proper MOE guidelines. In addition, contingency plans for spills on site and clean-up procedures are covered under the company’s Contingency Plan. The City’s Spills number 905-540-5188 will be included in the company’s on-site Contingency Plan. A copy of this Plan should be sent to the Compliance and Regulations Section, Water and Wastewater Division, Public Works Department. The above items have been included as Recommendation (b) (vi).

The Public Works Department, Traffic and Operations Section, has stated that the applicant should be aware that 10th Concession Road West is a reduced load road from March 1 to April 30 every year. Heavy vehicles will be restricted to 5000 kilograms per axle during this time period. The 10th Concession Road West is not a designated truck route, and as such, heavy vehicles must use the shortest route from the nearest designated truck route road in order to access this property. Staff notes that both Regional Road 97 and Cooper Road are both designated truck routes.

Hamilton Emergency Services, Fire Prevention Division, has advised that they have no objection to the proposed Certificate of Approval, provided that the applicant obtains the necessary permits from the City of Hamilton Building Division for construction and installation of the digester and holding vessel (see Recommendation (b)(i)).
Public Consultation

As discussed in the Analysis section above, in accordance with MOE regulations, the applicant hand-delivered a notice of this application to seven adjacent landowners. The application was also posted on the Environmental Registry. Ministry of Environment staff has confirmed that no comments were received regarding this application from either the hand-delivered notices or from the Registry. However, due to the potential for adverse impact from this proposal, primarily due to odour, City of Hamilton Public Health staff has requested that additional circulation of this application should be required, as included in Recommendation (a). Staff notes that the MOE is not required to request that the applicant provide this additional public notice, as the MOE’s public notice requirements have already been fully satisfied.

CITY STRATEGIC COMMITMENT:

By evaluating the “Triple Bottom Line”, (community, environment, economic implications) we can make choices that create value across all three bottom lines, moving us closer to our vision for a sustainable community, and Provincial interests.

Community Well-Being is enhanced. ☑ Yes  ☐ No
Community well-being is safeguarded by providing for continued opportunities for recycling waste materials, subject to the Ministry of the Environment requiring appropriate safeguards in place to protect the community.

Environmental Well-Being is enhanced. ☑ Yes  ☐ No
Environmental benefits include the reduction of waste, reduction of greenhouse gases through methane capture, and the production of renewable energy which reduces dependence on fossil fuels.

Economic Well-Being is enhanced. ☑ Yes  ☐ No
Economic benefits can be realized through the reduction of energy costs for the applicant and the potential to sell excess power to the local power grid.

Does the option you are recommending create value across all three bottom lines? ☑ Yes  ☐ No
Utilizing waste materials to produce electricity creates a valuable resource, provided that appropriate safeguards are in place to protect the environment and the community.

Do the options you are recommending make Hamilton a City of choice for high performance public servants? ☐ Yes  ☑ No

:HT
Attachs. (3)
Aerial View of location of Process System & Proximity to Existing Nutrient Storage

Existing Nutrient Storage 41. m diameter

Anaerobic Digester 22m diameter

FOG holding vessel 6 m diameter

Biogas Scrubber

Engine-Generator room 13.4 X 2m

2 pasteurizers

Emergency Flare