

## **SUMMARY OF COMMENTS/RECOMMENDATIONS**

**PROPONENT:** 4949839 Manitoba Ltd.  
(Plains Processors Ltd.)  
**PROPOSAL NAME:** Plains Processors Ltd. Meat Processing and  
Wastewater Storage Facility  
**CLASS OF DEVELOPMENT:** 2  
**TYPE OF DEVELOPMENT:** Meat processing and wastewater treatment  
**CLIENT FILE NO.:** 2412.10

### **OVERVIEW:**

On March 23, 2011, the Department received a Proposal from DGH Engineering Ltd. on behalf of Plains Processors Ltd. for the construction, expansion and operation of a cattle processing facility, a wastewater collection system and a wastewater storage facility. The Development will be located in southwest quarter of Section 18-7-4WPM in the Rural Municipality of Dufferin. The treated wastewater from the wastewater storage facility will be discharged via subsurface injection onto agricultural land between April 10<sup>th</sup> and November 10<sup>th</sup> of any year.

The Department, on May 25, 2011, placed copies of the Proposal in the Public Registries located at 123 Main St. (Union Station), the Millennium Library, the Manitoba Eco-Network and the R.M. of Dufferin office. Copies of the Proposal were also provided to the Technical Advisory Committee (TAC) members. The Department placed a public notification of the Proposal in the Carman Valley Leader on Friday, May 27, 2011. The newspaper and TAC notification invited responses until July 4, 2011. On July 14, 2011, TAC comments were forwarded to the consultant for response. On July 21, 2011, a response from the consultant was received and was forwarded to the TAC members who had requested additional information.

### **COMMENTS FROM THE PUBLIC:**

No responses were received from the public notification.

### **COMMENTS FROM THE TECHNICAL ADVISORY COMMITTEE:**

#### **Agriculture, Food and Rural Initiatives**

- *No comments received.*

#### **Conservation – Wildlife and Ecosystem Protection Branch**

- *No concerns.*

#### **Conservation – Parks and Natural Areas Branch**

- *No comments to offer.*

**Conservation – Environmental Services Branch**

- *No comments received.*

**Conservation - Sustainable Resource & Policy Management**

- *No concerns.*

**Conservation - Pollution Prevention Branch**

- *On the proposal to cover the anaerobic stabilization pond to control odour.*
  - *Would there be a gas management system? Anaerobic process in wastewater generates substantial quantities of gases (e.g. methane) which also include odorous gases (including H<sub>2</sub>S). Considering that the wastewater will potentially have high organic matter content, coupled with the wastewater retention period of 1 year, the cover (in the absence of any gas management system) may result in excessive accumulation of gases which consequently may result in venting or unintentional release of odorous gases (e.g. H<sub>2</sub>S, NH<sub>3</sub>) and other air pollutants.*

**Proponent Response (received July 21, 2011):**

- The wastewater stabilization pond will have a plastic cover and emissions are expected to be negligible. This technology has been evaluated and field verified on animal manure storages. The wastewater will be much lower in organic matter and BOD than manure hence the emissions from the pond are expected to be lower than from a covered manure storage. Should the outfall of the cover vents prove to be a source of odour at nuisance levels biofilters will be provided.

**Pollution Prevention Branch Response (received July 22, 2011):**

- *While plastic cover (HDPE) has been used in manure storage to minimize odours, using it in an anaerobic lagoon with 1-year retention period and in a cold climate may be a totally different scenario. Perhaps a more detailed discussion on the applicability of using plastic cover to control gaseous emissions, citing published studies or past experiences from similar activities (preferably cold climate) could be helpful. Additional information on the cover system should also address the expected higher generation of odorous gases in the spring (anaerobic systems do not work well when temperatures are below 50°F (10°C) because of low biological activity hence the lagoon may generate more odorous gases in the spring as temperatures increase and biological activities resume). All of the studies using plastic cover to control odour (from our internet search) appear to be located south of the border where the climate is warmer than Manitoba.*
- *One of the challenges in using biofilter in cold climate is maintaining the optimum temperature and moisture content required for biological oxidation by microorganisms. This would seemingly require a heat source resulting in a higher energy requirement during the long cold weather in Manitoba. Any studies or practical applications similar to this situation would be helpful to demonstrate the practicality of potentially using bio-filters as future odour control approach.*
- *It is worthy to note that in line with the Province's odour nuisance management strategy, any new development is encouraged to incorporate preventative measures in the design of the*

*facility to prevent odour nuisance, the most effective control should be installed at the onset of any development.*

Proponent Response (received August 10, 2011):

- The plastic cover planned for this facility is similar to the design used by DGH Engineering Ltd. for approximately 50 manure storage structures located in Canada (Manitoba, Saskatchewan, Alberta, Ontario and New Brunswick) and the northern United States (Minnesota and Illinois). These covers have been the subject of research by the University of Manitoba, the University of Guelph, Agriculture and Agri-Food Canada, the Prairie Agricultural Machinery Institute, University of Illinois, and the Prairie Swine Centre. They are a proven technology to reduce odour and greenhouse gases for lagoon type organic waste and wastewater storages. Some of the storages in the USA have been very large anaerobic lagoons rather than the traditional Canadian manure storages.
- Manure has a much higher biochemical oxygen demand (BOD) than the wastewater in question and therefore a higher potential for gas production and odour generation. The cover system has consistently demonstrated the ability to virtually eliminate odours which are problematic in summer when manure storages are reasonably full and the warm temperature promotes biological activity. This experience is directly transferable to this project. The cover is affordable and cost effective for the scale of this project and the overall wastewater system proposed.
- The use of a bio-filter is not expected to be necessary. As noted above, the cover virtually eliminates odours from manure storages, which have a higher odour production than the proposed wastewater storage. Bio-filters have never been necessary.
- Bio-filters are referred to as a contingency. The cover is in fact the most effective control measure available and is the primary odour mitigation measure. Research conducted at the University of Manitoba among many others has demonstrated that the bio-filter technology is feasible. However, odour is not expected to be a problem in winter when there is little biological activity and a natural cover of ice and snow in addition to the plastic. Based upon our experience with other wastewater storages and lagoon biological activity and odour potential are at a maximum in June, July and August when bio-filters can be very effective. We are therefore of the opinion that bio-filter technology is a viable contingency albeit most certainly unnecessary.

Pollution Prevention Branch Response (received August 16, 2011):

*Comments submitted can be summarized as follows:*

- *The Air Quality Section would request that a Licence clause be included requesting the details for the construction of the process wastewater treatment lagoon cover and its odour control effectiveness be submitted to the Director for approval prior to the construction and operation of the Development.*

Disposition:

Clause 59 has been added in the draft Environment Act Licence to address the Air Quality Section's request.

**Science, Technology, Energy and Mines – Mines Branch**

- *No comments received.*

**Culture, Heritage and Tourism - Historic Resources**

- *No comments received.*

**Water Stewardship**

- *The Licencee must protect the potable water supply to the abattoir with backflow/back-siphonage prevention devices in compliance with The Manitoba Plumbing Code. The Licencee must consult with the Manitoba Office of the Fire commissioner, respecting backflow prevention requirements.*
- *The Licencee must comply with the restrictions, including setback distances from surface waters, including wetlands and marsh areas, in the Nutrient Management Regulation under The Water Protection Act, for the application of substances that contain nitrogen or phosphorus, including wastewater.*
- *The Licencee must not apply wastewater to lands located within 15 metres of a first or second order drain.*
- *The Licencee must not apply wastewater to lands located within 30 metres of lakes, wetlands, marsh areas, or a third or greater order drain.*
- *The Licencee must send all human waste to a licensed on-site wastewater stabilization pond.*
- *The Licencee must not implement an outlet for the proposed wastewater stabilization pond.*
- *The Licencee must not apply wastewater to pasturelands where livestock graze.*
- *The Licencee must not apply wastewater to vegetable or fruit crops.*
- *The Licencee is required to develop and implement a contingency plan for the occurrence of exceeding the volume of the proposed wastewater stabilization pond.*

**Proponent Response (received July 21, 2011):**

- Backflow prevention will be installed as required by the Manitoba Plumbing Code. Plumbing drawings will be sealed by a mechanical engineer and submitted to the Office of the Fire Commissioner. Site inspections and certification of the completed works will be provided by the design engineer. Protection of potable water supplies was considered during the design of the solid and liquid waste handling systems. The regional potable water supply is from a pipeline operated by the R.M. The design considerations, such as a double liner for the wastewater pond, are outlined in detail in the Environmental Assessment and are intended to safely control wastewater until such time as disposal can be effected.
- The injection of wastewater from Plains Processors wastewater stabilization pond will adhere to the more stringent setback of either the Nutrient Management Regulation (MR 62/2008) under The Water Protection Act or the conditions presented by Manitoba Conservation.
- Appendix 14 of the Environmental Assessment identified two second order drains near proposed spreading areas. Wastewater from Plains Processors will not be applied within 15 metres of a first or second order drain.
- Wastewater will not be applied within 30 metres of lakes, wetlands, marsh areas, or a third order or greater drain.

- The system for human waste will be completely separate from the process wastewater throughout the facility. The domestic sewage system for human waste at Plains Processors will be licensed and will comply with Manitoba Conservation's "Onsite Wastewater Management Systems Regulation MR 83/2003". All domestic wastewater will be transported from on site holding tanks to a licensed receiving facility.
- No outlet for surface water discharge is contemplated for the wastewater stabilization pond. The wastewater will be transported by pump and pipeline directly to nearby farm fields and will be injected below the soil surface of agricultural lands as described in the Environmental Assessment.
- Wastewater will not be applied to pasture lands where livestock graze.
- Wastewater will only be applied to cereal and oilseed crops. It will not be applied to crops that are directly consumed (certain vegetables such as celery, cabbage, cauliflower, and broccoli). It will not be applied to fields that will be used to grow potatoes within one year of the date of wastewater application. Wastewater will not be applied to fruit crops.
- Contingency was build into the design of the wastewater stabilization pond. The pond is designed for 400 days of operation between pump-outs. The pond has 20 inches of freeboard, which represents an additional 18% of capacity. In addition, over six times the amount of spreading lands required are available. The pond is designed to be emptied once annually (in fall), however, it could be emptied bi-annually (spring and fall) more frequently or on a contingency basis.
- Sediment and erosion control will be used as required during site development, foundation work, trenching and construction of the wastewater stabilization pond, until stabilization of the exposed surfaces has been completed.
- No water control works are contemplated in the design and execution of the project, however, an application for a Water Rights Licence will be applied for in the event that any "Water control works" are required.
- On behalf of Plains Processors and by copy of this correspondence we acknowledge that the Department of Water Stewardship's goals and mandates are understood and will be respected in the design and execution of the project.

Water Stewardship Response (August 16, 2011):

- *The Licencee is required to meet the following wastewater standards, prior to wastewater being injected into agricultural fields:*
  - *E. coli  $\leq$  200 organisms per 100 mL);*
  - *Conductivity  $\leq$  1500  $\mu$ S/cm;*
  - *Sodium Absorption Ratio  $\leq$  6.0; and,*
  - *Maximum concentrations of metals shall meet the current Manitoba Quality Standards Objectives and Guidelines (attached) for the protection of sensitive crops and to prevent build-up of substances in soil.*

Disposition:

The limits for *E.coli*, conductivity, and sodium absorption ration have not been included in the draft Environment Act Licence, as the wastewater storage facility will not provide the same type of treatment as a wastewater treatment lagoon and is not discharged to surface water.

### **Infrastructure and Transportation**

- *We understand that is an existing access road to Provincial Trunk Highway (PTH) 13. However, if the proponent should require a new or modified access, the proponent should be informed that, under the Highways and Transportation Protection Act, any new, modified or relocated access connection onto a PTH will require a permit from Manitoba Infrastructure and Transportation (including changed use in access). A permit may also be required for any construction (above or below ground level) within 38.1 m (125 ft) or for any plantings within 15.2 m (50 ft) from the edge of the right of way of PTH 13.*
- *Traffic volumes generated by the proponent will be monitored to ensure that the volumes do not exceed 200 vehicle per day (vpd) or 50 vpd making left turn. If these traffic volumes are exceeded, intersection improvements are warranted. The proponent shall be responsible for these intersection improvements.*

### **Proponent Response (received July 21, 2011):**

- The need for a new or modified access connection to PTH 13 is not currently expected. Should this change in the future a permit will be applied for.
- On behalf of Plains Processors and by copy of this correspondence we acknowledge that intersection improvements will be implemented if traffic volumes exceed 200 vpd or 50 vpd making a left turn.
- Existing drainage patterns will be preserved. All affected slopes and ditches will be restored in the event that access maintenance or property landscaping changes become necessary.

### **Disposition:**

No further comments were received from Manitoba Infrastructure and Transportation. This was assumed to indicate that the original concerns submitted were satisfied.

### **Intergovernmental Affairs**

- *No comments received.*

### **Canadian Environmental Assessment Agency**

- *Following a review by all federal departments with a potential interest in the proposed development, the application of the CEAA will be required.*
- *The Canadian Food Inspection Agency (CFIA), Environment Canada, and Health Canada have provided specialist review and comments for consideration in both federal and provincial environmental assessment.*
- *The federal screening report has been signed and the Environmental Assessment has been completed with the following decision posted to the Canadian Environmental Assessment Registry:*

*Agriculture and Agri-Food Canada has taken the following course of action on August 26, 2011 relating to the screening of the Beef processing plant expansion. The authority may exercise any power or perform any duty or function with respect to the project because, after taking into consideration the screening report and taking into account the implementation of appropriate mitigation measures, the authority is of the opinion that the project is not likely to cause significant adverse environmental effects.*

*Implementation of mitigation measures is required for the project to address:*

- *human health and safety*
- *air quality*
- *water quality*
- *soil quality*

*A follow-up program for this project was not considered appropriate. Circumstances where a follow-up program would typically be warranted are outlined in the Agency's Operational Policy Statement regarding Follow-up Programs.*

**PUBLIC HEARING:**

A public hearing was not requested by the public and is not recommended for this Development.

**RECOMMENDATION:**

The Proponent should be issued a Licence for the construction, expansion and operation of the cattle processing facility, wastewater collection system and wastewater storage facility in accordance with the specifications, terms and conditions of the attached draft Licence. Enforcement of the Licence should be assigned to the Environmental Assessment and Licensing Branch until the liner testing of the process wastewater storage facility has been completed and the Development is commissioned.

**PREPARED BY:**

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September 19, 2011

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