

CLEAN ENVIRONMENT COMMISSION  
REPORT ON  
BONNE HOMME COLONY FARMS  
RURAL MUNICIPALITY OF WESTBOURNE

JULY 28, 1988

REPORT ON HEARING

BONNE HOMME COLONY FARMS

RURAL MUNICIPALITY OF WESTBOURNE

BACKGROUND

On September 30, 1987 Poetker Engineering Consultants filed a proposal with the Environmental Management Division pursuant to Section 14(1) of the Clean Environment Act for the construction of a wastewater treatment lagoon to serve Bonne Homme Colony Farms. The proposed lagoon was to be located in the SE 1/4 of Section 1-13-11W in the Rural Municipality of Westbourne, sized to treat domestic wastewater from a projected Colony population of 120 people, with discharge of effluent to a field ditch which empties into the Squirrel Creek. The creek flows into the Whitemud River via Pine Creek.

The Environmental Control Services made a report on this proposal dated January 18, 1988 with recommendations for limits, terms, and conditions for a control order to regulate the operation of the lagoon facilities.

On February 9, 1988, the Clean Environment Commission advertised its consideration of the proposal, in accordance with the then prevailing Clean Environment Act, in the Winnipeg Free Press and appropriate rural newspapers. In response to this advertisement, a large number of objections and concerns

were received by the Commission from residents in the area as well as an objection from the Board of the Whitemud Watershed Conservation District.

As a result of these objections the Commission scheduled a hearing in Westbourne for March 29, 1988, with the intention of making an order before the proclamation of the new Environment Act. However, on being advised of the objections to the discharge of effluent from the Colony farm to Squirrel Creek, Poetker Engineering Consultants, acting on behalf of the Colony, withdrew their original proposal and re-submitted a revision under which effluent would be discharged on Colony owned land. There was insufficient time to consider and approve an order before the proclamation of the new Act and consequently the hearing was cancelled.

On April 1, 1988 the new Environment Act was proclaimed and on April 29, 1988, the Commission received a memorandum from the Deputy Minister of Environment and Workplace Safety and Health, requesting the Commission to hold a public hearing on the revised proposal pursuant to Section 11(10) of the Environment Act and to provide a report pursuant to Section 7(3) of the Act.

A number of the original objectors were contacted and many of them stated a continuing interest. The Commission decided to delay holding a hearing until after June 15, 1988, to permit members of the farming community to attend the hearing following spring work and scheduled the hearing for June 16, 1988 at 7:00 p.m. in the Westbourne-Longburn Community Hall in Westbourne. Advertisements were placed in the Gladstone Age News, the Portage la Prairie Leader, and the Winnipeg Free Press. As well, all people who had

previously expressed an interest or a concern, were individually notified of the new hearing by letter. Copies of the revised report by Poetker Engineering Consultants were sent to a number of interested people prior to the hearing and additional copies were distributed at the hearing.

### HEARING

Approximately two dozen people were in attendance at the hearing most of whom represented the farming community in the vicinity of the colony farm.

(a) Proponent's Presentation

Alf Poetker of Poetker Engineering Consultants, the firm responsible for the design and supervision of construction of the lagoon facility, represented the colony farm. As noted earlier, the proposal to construct a 2 cell sewage lagoon and discharge to Squirrel Creek was originally registered on September 30, 1987. Subsequently a new proposal was filed March 21, 1988 to construct a 2 cell sewage lagoon with discharge once annually to agricultural land under the control of the Colony. The proposal had been revised by the proponent in an attempt to allay concerns of nearby residents with respect to the impact of the lagoon effluent on the receiving streams — Squirrel and Pine Creeks and the Whitemud River.

Mr. Poetker noted that the lagoon design would meet the requirements of the Departmental guidelines for loading to the primary cell and also seepage to the surrounding soil.

The organic loading proposed at 35 kilograms per hectare would result in minimal odors during the spring break up period and the virtual absence of odors at other times.

It was proposed that effluent be applied to agricultural land to owned by the Colony located north west of the lagoon away from Squirrel Creek. The land in question is sandy loam and under all circumstances including a wet spring and early summer should assimilate the effluent without ponding. The proponent also noted that it was not likely that the lagoon would require discharge for several years because of the limited loading.

(b) Citizens Presentations

Many of the original citizen's concerns were not further pursued at the hearing following the proponent's change in the proposal to dispose of lagoon wastes on colony land; however, there were still some serious concerns expressed about the quality and quantity of water in Squirrel and Pine Creeks and the Whitemud River. Although some of the respondents directed attention to Hutterite colonies as pollution sources, other sources of pollution were not discounted. There was a general

expression of concern that the quality of the Whitemud River had deteriorated badly over the past several decades. Most of the spokespersons identified wastes from livestock operations as being a larger problem than human wastes.

(c) Presentations from Manitoba Government Personnel

Marus Rutulis, Ground water Geologist with the Water Resources Branch, addressed concerns related to pollution of the groundwater aquifer. In his view, because of the proposed impervious character of the lagoon bottom and dykes, the impact on the shallow sand aquifer would be negligible.

The land spreading of effluent on the sandy soil should not result in pollution of the local shallow wells because of the uptake of pollutants by plants and soil. Also, the direction of the groundwater flow in relation to nearby wells was such that the wells would not be adversely affected. In addition, any pollutants reaching the water bearing aquifer would be diluted to levels of no consequence.

Mike Van Den Bosch and Keith Lockhart,, representing Environmental Control Services, addressed questions related to wastes from livestock operations and requirements for land applying treated lagoon effluent. It was noted that there was a regulation governing livestock operations under the Environment Act. Also, there are guidelines related to the discharge of treated lagoon effluent to agricultural land.

## THE COMMISSION'S FINDINGS

1. The proposed sewage lagoon is to be constructed in accordance with the proponent's engineering consultant's design criteria and in accordance with the stipulations recommended by the Environmental Management Division. An adequate lagoon providing for satisfactory treatment of domestic waste and posing no threat to groundwater should result.
  
2. If the lagoon is operated in accordance with the practices recommended by the Environmental Management Division, a satisfactory quality of lagoon effluent should result. Limits, terms and conditions for effluent quality have been recommended.
  
3. The proponent changed his original proposal to discharge effluent into Squirrel Creek and now proposes to discharge the effluent to irrigate Colony land. Such discharge to Colony land carried out in accordance with recommended practices, including the necessity to apply the effluent in such a manner and on such land that lagoon effluent will not run off Colony land, will remove all threat of the pollution of Squirrel Creek attributable to the Colony's domestic sewage lagoon and will also present no risk of the contamination of groundwater.

4. While the issue under consideration at the hearing was the operation of the proposed sewage lagoon, much of the concern expressed by local citizens at the hearing was about alleged generally unsatisfactory water quality of the Whitemud River basin and deterioration that had been observed in recent times. Hog and cattle operations were cited in particular as major contributors to water pollution and at the hearing there was a general expression of the desire of local citizens to be assured that all such operations are carried out in an acceptable manner and in accordance with all rules and regulations that apply to such operations.

#### RECOMMENDATIONS FOR LICENCE

##### Operational and Discharge Conditions

1. The applicant shall direct all domestic sewage generated within the said Colony Farms towards the said sewage lagoon. Wastes from livestock operations shall be excluded from the said sewage lagoon.

2. The applicant shall maintain and operate the said sewage lagoon in such a manner that:
  - (a) the release of offensive odours is minimized;
  - (b) the organic loading on the primary cell, as indicated by the five day biochemical oxygen demand, is not in excess of 56 kilograms per hectare per day.
3. The applicant shall not discharge effluent to Squirrel Creek either directly or through a drainage system.
4. The applicant shall not discharge effluent from the said sewage lagoon during the period from October 1 of any year until May 15 of the following year.
5. The applicant shall ensure that effluent from the said sewage lagoon system
  - (a) is discharged, only onto land owned or lawfully controlled by the said Colony and
  - (b) the discharge remains on property controlled by the said Colony.

6. The applicant shall not discharge effluent from the said sewage lagoon system within 300 metres of any dwelling not owned or legally controlled by the said Colony.

7. The applicant shall carry out the discharge of sewage effluent by means of irrigation equipment in such a manner that:

(a) effluent is discharged only to irrigate:

i cultivated summerfallow fields; or

ii grasslands which will not be utilized for hay, grazing or similar use during or for at least:

A. 30 days prior to grazing by dairy cattle;

B. 7 days prior to grazing by livestock other than dairy cattle; or

iii agricultural crops where:

A. irrigation does not take place during or for at least 7 days prior to harvesting of the crops;

B. forage crops, cereals grain or oil seed crops are grown on effluent irrigated lands provided that where corn is grown it is used solely for silage.

(b) surface ponding or surface runoff does not occur during irrigation.

Effluent Quality Limits, Terms and Conditions

8. The applicant shall not discharge effluent from the said lagoon system where:

(a) the organic content of the sewage effluent, as indicated by the five day biochemical oxygen demand, is in excess of 30 milligrams per litre;

(b) the faecal coliform content of the sewage effluent, as indicated by the MPN Index, is in excess of 200 per 100 millilitres of sample;

(c) the total coliform of the sewage effluent, as indicated by the MPN Index, is in excess of 1500 per 100 millilitres of sample.

Construction Limits, Terms and Conditions

9. The applicant shall, prior to the construction of dykes for the said sewage lagoon system:
- (a) remove all organic topsoil from the area where the dykes will be constructed.
  - (b) remove all topsoil from the interior 3.0 metres of dyke foundation to a depth of 0.9 metres or the depth at which soil with a hydraulic conductivity of less than  $1 \times 10^{-7}$  cm/sec is encountered and replaced with soil having a hydraulic conductivity of  $1 \times 10^{-7}$  cm/second or less.
10. The applicant shall construct all dykes with soil such that the interior surface of the dykes contain a minimum of 1 metre of soil having a hydraulic conductivity of  $1 \times 10^{-7}$  cm/sec or less.
11. The applicant shall arrange with the said Division a mutually acceptable time and date for any required soil sampling.

12. The applicant shall subject soil samples from the sewage lagoon cells to hydraulic conductivity tests, the number and location of said samples to be specified by an officer of the Environmental Management Division.
  
13. The applicant shall, not less than 2 weeks before the said sewage lagoon system is placed in operation, submit to the said Division, the results of the tests carried out pursuant to Clause 12.

#### ADDITIONAL RECOMMENDATIONS

In response to concerns expressed by a number of local citizens about the disposal of agricultural wastes from livestock operations in the area, the Department should ensure that such wastes are being properly applied to agricultural land so that the waste is being retained on the land and prevented from entering any body of water or watercourse.

The Department should also ensure that dead animals are disposed of in accordance with the regulations respecting livestock production operations.