

## **SUMMARY OF COMMENTS/RECOMMENDATIONS**

**PROPONENT: Town of Winkler**  
**PROPOSAL NAME: Wastewater Treatment Facility**  
**CLASS OF DEVELOPMENT: 2**  
**TYPE OF DEVELOPMENT: Aerated Wastewater Treatment Lagoon**  
**CLIENT FILE NO.: 2708.10**

### **OVERVIEW:**

On July 9, 2001, the Department received an Environment Act Proposal (EAP) from the Town of Winkler for the expansion and operation of its existing wastewater treatment lagoon located at SW 23 - 3 - 4WPM. The proposed expansion, consisting of three aerated cells, two storage cells and sludge drying beds, will be located at SE 22 - 3 - 4WPM adjacent to the existing wastewater treatment lagoon. The construction of the new aerated cells, associated site work, connections to the cells of the existing lagoon and conversion of the existing primary cells to storage cells will be completed in 2001. Adjustments to the aeration piping of the new aerated cells and construction of two new storage cells will be completed by the year 2004. The two new storage cells will be utilized in conjunction with the other storage cells. Treated wastewater from the wastewater treatment lagoon will be discharged to Deadhorse Creek between June 15<sup>th</sup> and October 31<sup>st</sup> of any year.

In addition to the lagoon expansion, the proposal indicated that a perimeter drain was to be installed along the south side of the existing lagoon to control groundwater levels in the vicinity of the existing lagoon. The collected groundwater was to be pumped via a pump lift station to the southwest cell of the existing lagoon in SW 23 - 3 - 4WPM. As a component of the proposed activities, this southwest cell was to be converted to a storage cell. Four monitoring wells would be established on the west and south sides of the new lagoon cells. Water from the wells would be monitored to assess whether any additional drain tile will be needed to control water table elevations on the perimeter of the cells of the expanded lagoon.

The Department, on July 13, 2001, placed copies of the EAP report in the Public Registries located at 123 Main St. (Union Station); the Centennial Public Library and the South Central Regional Library (Morden) and provided copies of the EAP report to the Canadian Environmental Assessment Agency, and TAC members. As well, the Department placed public notifications of the EAP in the Winkler Times and the Morden Times on July 23, 2001. The newspapers and TAC notifications invited responses until August 13, 2001.

On July 31, 2001 an Industrial Agreement between the Town of Winkler and Armstrong Cheese Company Ltd. was signed, entering the Town of Winkler and Armstrong Cheese Company Ltd. into agreement under the provisions of the Sewer Use By-Law 1548-95.

The public did not submit comments while several TAC members forwarded requests for additional information. On August 23, 2001 Manitoba Conservation forwarded the responses from the TAC members to the proponent's contact person (at Cochrane Engineering Ltd.), requesting additional information that would address the concerns. In reaction to these requests, on September 4, 2001 the proponent submitted additional information in response to the questions and comments.

On September 7, 2001, Manitoba Conservation forwarded the proponent's response of September 4, 2001 to TAC members that had generated the requests for additional information. Responses were requested not later than September 14, 2001. There were no further requests from TAC for additional information.

On September 25, 2001, Manitoba Conservation requested specific additional information from the proponent that had been requested but not yet been provided. Such specific additional information included; distances from property lines of the proposed sludge-drying beds and storage cells, details for the operation of the proposed drain tile system, and locations of proposed control chambers. On September 25, 2001 the proponent provided additional information.

On October 16, 2001, Manitoba Conservation requested additional information from the proponent regarding groundwater sources and characteristics and the potential impacts of collecting the groundwater and introducing it to the wastewater treatment lagoon.

On October 26, 2001, the Town of Winkler, in conjunction with J.K.W. Construction Ltd., requested that a Preliminary Steps Licence be issued such that site preparation could commence in the fall of 2001. On October 30, 2001, Manitoba Conservation issued a Preliminary Steps Licence, Licence No. 2525 PS, to the Town of Winkler, thereby making such site preparation activities permissible.

In an October 30, 2001 response, the proponent provided the additional information requested by Manitoba Conservation on October 16, 2001. The impact of the response was to cause Manitoba Conservation to incorporate clauses to the Licence that do not allow the discharge of liquid collected in the proposed perimeter drain tile system to the cells of the Development. In addition, prior to April 1, 2002, the Licencee must submit a groundwater investigation and monitoring plan for the site of the Development and environs to the Director for approval.

On November 22, 2001, upon their request, a copy of a draft Licence was provided to the proponent. On November 28, 2001, the proponent responded with review comments pertaining to the draft Licence. Much of the review comments were assessed and disposed of through discussion. Any remaining requests for alterations to the Licence from the proponent were to be revisited in conjunction with the TAC review of the draft Licence.

On November 28, 2001, a Summary of Comments/Recommendations report as well as a draft Licence for the proposal was distributed to appropriate TAC members. Any comments on the draft Licence were to be forwarded by December 13, 2001.

On December 17, 2001 the proponent presented requests for two components of the draft Licence to be altered.

On December 20, 2001 the Regional office of Environmental Operations submitted comments respecting the draft Licence.

On January 2, 2002 Manitoba Conservation provided a response to the proponent's December 17, 2001 requests. Manitoba Conservation requested that an official copy of a signed agreement between the Town of Winkler and Armstrong Cheese Company Ltd. would be required before the Licence could be issued.

On January 7, 2002 Manitoba Conservation received a certified true copy of a signed and sealed Industrial Agreement made between the Town of Winkler and Armstrong Cheese Company Ltd.

On January 16, 2002 a memo provided comments to the Regional office of Environmental Operations regarding the points that they had presented.

**COMMENTS FROM THE PUBLIC:**

There were no comments from the public.

**COMMENTS FROM THE TECHNICAL ADVISORY COMMITTEE:**

**Conservation-Environmental Operations**

- *7.1 The proposal states that the facility will be constructed in two phases with the storage cells being constructed in 2 -3 years. Our records indicate numerous requests for emergency discharges prior to May 15 due to hydraulic concerns. This concern was one of the reasons a Directors Order was issued to address this ongoing problem. If the new license requires storage until June 15, I question the decision not to construct the additional storage cells to address the known problem of winter storage until May 15.*
- *7.6 This additional inflow will impact on the storage capacity. Same concerns as 7.1*
- *8.1 - 1) needs to include ammonia and any other parameters the license will address*
- *8.2 - 2) Routing oxygen levels in the primary cells should be included in their reporting.*

Disposition:

- The EAP indicates that the first stage of the construction involves the conversion of the two existing primary cells to storage cells, resulting in the availability of storage for 227 days based on information supplied by the proponent.
- Discharge of weeping tile drainage water to the wastewater treatment lagoon will not be permitted.
- Ammonia concentrations are not anticipated to be a problem because of the long retention period through to the latter part of spring.
- The Licence requires that the Licencee assess weekly the operation of the aeration system blowers, inspect annually the aeration system and make any necessary repairs, maintain a record of aeration system inspection dates, observations, maintenance and repairs completed, and make records of these activities available to the designated Environment Officer on request.

### **Conservation-Water Quality/Terrestrial Quality Management**

- *This proposal should have provided more information regarding the construction and operation of the sludge storage ponds. For example, the proposal does not indicate how potato wash water and the associated sludge will be separated from other wastewater entering the facility. Will the proposed plans for the sludge drying beds and biosolids disposal require a separate Environment Act Proposal?*
- *Will any preparation of the existing cells, such as sludge removal and disposal, be required as part of the facility expansion; particularly as the existing primary and secondary cells will be used as storage cells?*
- *If practical, the effluent should be allowed to pass through the entire series of storage cells prior to discharge to the creek. This would allow for a longer retention period in the facility and should yield a more refined effluent entering the receiving waters. The proposal now states that the effluent will only be discharged to the existing primary and secondary cells if further treatment is necessary.*
- *In view of the fact that the design capacity of the proposed facility will not be met for several years, it would be desirable to have the effluent retained in the aerated cells as long as possible or practical. This would allow for a greater degree of primary treatment in the aerated cells prior to transfer of the effluent to the secondary storage cells.*
- *The proposal used water quality data from the Plum River to assess the impacts of treated effluent discharges on Deadhorse Creek. The validity of this assessment is questionable. If historical water quality data for Deadhorse Creek do not exist it would have been preferable to have collected data as part of the facility expansion proposal.*
- *Is the average flow that was used in the effluent impact assessment the average annual flow? It is most appropriate to use flow values that correspond to periods of discharge when assessing effluent impacts. For determining the "worse case scenario" the historical low flow volume should also have been included in the assessment.*
- *It is indicated that a number of variables will exceed aesthetic drinking water guidelines and crop irrigation guidelines. Presumably the highest concentrations and the greatest number of guideline exceedences will occur in the immediate vicinity of the discharge point and will decline with distance downstream. Information regarding the spatial extent of the mixing zone and the amount of dilution with distance downstream would be helpful for potential downstream water use in the future.*
- *The proponent may be invited to participate in a watershed or drainage basin management plan that may be developed for the Red River drainage basin in the future.*

Disposition:

- All potato wash solids will be delivered to the site by means that are independent of the wastewater. The operations of the potato wash and sludge solids drying beds are proposed to be independent of the normal operation of the wastewater treatment lagoon. Distinct Clauses in the Licence address the operation of the drying beds.
- Other than altering the direction of flow in the existing inter-cell piping, there is no preparation of the existing cells proposed. In calculating the available storage in the existing lagoon cells an allowance of 0.3 metres was made for potential sludge accumulation. This was considered to be more than would normally accumulate but was used as a safety factor in the design process. At this time, the accumulation of sludge in the existing facultative lagoon is not significant. A maximum of about 0.3 metres of sludge has been observed around the inlet pipe in cell no. 1.
- It is unlikely that the storage cells will be used in a series format.
- The Licence requires that a minimum dissolved oxygen concentration of 3.0 mg/l be detectable in the top 2.0 metres of the liquid and that a minimum dissolved oxygen concentration of 2.0 mg/l be detectable in the bottom 2.3 metres of the liquid in the aerated primary cells.
- Flow in Deadhorse Creek is greatest in the spring. In the late summer and fall the creek bed is often dry.
- The average flow for the 8-month period from March to October was used in the effluent impact assessment. The flow in Deadhorse Creek at Morden in intermittent and the minimum flow for both July and October are 0.120 m<sup>3</sup>/s and 0.007 m<sup>3</sup>/s respectively. It is unlikely that fish will be in the Creek during the discharge period. Further, there are no licenced water users located downstream of the discharge in the Creek or Hespeler Drain. During low flow periods the effluent will be diluted in the Hespeler Drain and Plum River.
- For a 30-day discharge period the effluent flow is estimated to be 0.516 m<sup>3</sup>/s. This is considered to be the maximum discharge rate. The amount of mixing that occurs and the characteristics of the mixing zone is dependent on the coincidental flow rate in the creek.
- The Licence requires that the proponent actively participate in any watershed or drainage basin management plan, approved by the Director, that may be developed for the Deadhorse Creek and associated waterways and watersheds.

### **Environmental Approvals Contact**

- *The source of the liquid that is suspected to be raising the water table in the area south of the existing lagoon has not been clearly identified. Groundwater elevations and gradients should be provided so that it can be determined if the water table is rising due to natural precipitation and groundwater movement or seepage from the wastewater treatment lagoon. The ground water elevations should be provided for the area from the vertical cutoff of the lagoon lining system to an area beyond the zone of elevated water table and for the full length of the zone parallel to the lagoon dyke; and*
- *The potential impacts on lagoon operation and the receiving environment that would result if the liquid that is to be collected in the proposed drain tile contains constituents of leachate from the adjoining decommissioned waste disposal ground should be identified.*

#### Disposition:

- The Licence requires that a groundwater investigation and monitoring plan for the site of the Development and environs are submitted to the Director on or before April 1, 2002 for approval.
- The Licence requires that an approved groundwater monitoring program be carried out.

### **Health**

- *No objections.*

### **Highways and Government Services**

- *No objections.*

### **Historic Resources**

- *No objections.*

### **Intergovernmental Affairs**

- *No objections.*

### **Canadian Environmental Assessment Agency**

- *The 2001 CEAA response indicates that application of The Canadian Environmental Assessment Act with respect to this proposal will be required.*

#### Disposition:

- Coordination of the cooperative environmental assessment with the participating departmental contacts was maintained. No requests for additional information were generated from that source following review of original and supplementary information submitted in support of the EAP.

### **Environmental Protection - Environment Canada**

- *Environmental Protection - Manitoba Division of Environment Canada submitted comments and requests for additional information pertaining to potential impacts on fish and aquatic species in the downstream reaches of the receiving stream(s). Of particular interest were the possible impacts of total and unionized ammonia. Other requests for additional information were made regarding; cumulative effects assessment downstream, potential impacts on the site and the creek resulting from construction, operation and maintenance of the aeration system, potential changes in wastewater characteristics resulting from operations or changes in industries that would discharge to the aerated lagoon. The following points summarize the comments and requests for additional information:*
  - *It appears that fish may frequent the area near the lagoon...Include information on the species of fish present in the creek and the Plum River, including seasonal distribution (if available).*
  - *The total ammonia concentration in the wastewater is estimated to be 14.6 mg/l...Are additional data available?*
  - *The un-ionized fraction (i.e. the toxic fraction) is estimated to be near 4.4 mg/l (page 18), but it is not clear how this value and the Manitoba water quality objective value of 6.46 mg/l were calculated, since the un-ionized fraction will vary with temperature and pH...Include information on predicted ammonia concentrations (total and un-ionized) at various downstream locations.*
  - *Include information on seasonal flow rates in Deadhorse Creek and Plum River.*
  - *Include information on possible effects of other variables, such as flow regulation at Lake Minnewasta and high rainfall years as have been experienced recently.*
  - *If other discharges are present, an assessment of the cumulative effects should be included.*



- *Information should be presented on any proposed mitigative measures to prevent or minimize soil erosion from the site and sedimentation of the creek during lagoon construction.*
- *Additional information on aspects including increased operating and maintenance requirements as a result of installation of aeration and compressor equipment on the aerated lagoons.*
- *Information on potential increases to loadings from existing industries as well as from new industrial sources during the design period and how these will be accommodated.*
- *The type of business Monarch Industries is engaged in and its finished products.*
- *Any available information on other contaminants (organic compounds?) in the wastewater from industrial facilities.*
- *Any available information on existing or planned pre-treatment facilities at the industrial facilities mentioned in the report.*

Disposition:

- In a letter dated September 17, 2001, Environmental Protection - Manitoba Division of Environment Canada indicated that their requests for additional information were addressed in Cochrane Engineering Ltd.'s response, dated September 4, 2001. Following are summaries of responses provided by the proponent:
  - A previous study was conducted in the area (CEC, 1981). The study revealed that the Deadhorse Creek was not important for fish, except in occasional years of prolonged or high spring melt water runoff (cited in Dillon, 1992).

Along its lower reaches, the Deadhorse Creek has been channeled in order to assist surface drainage. A review of aerial photographs has revealed that a number of control structures exist in Deadhorse Creek north of Winkler. Deadhorse Creek has been channelized to promote surficial drainage. In cross section, the control structures appear as steps from the base of the Creek to the bank. The steps act as obstructions to fish movement and no fish ladders are found in the creek. Therefore, it is unlikely that fish would be able to use the creek on a continuous basis.

However, at the lower reaches during the spring the creek may be accessible to fish (Dillon, 1992). Pike and channel catfish may use the lower reaches of the Creek during high spring flows.

The Creek has been dammed at Morden (upstream of Deadhorse Creek), consequently creating Lake Minnewasta. The 1981 CEC report contained no information regarding fish species found in Deadhorse Creek. However, the report provided fisheries information on Lake Minnewasta. According to the report, the lake provides habitat for pike, black crappie, bluegill, pumpkinseed, white suckers, carp, brook stickleback and a number of minnow species. It is periodically stocked with walleye, northern pike and largemouth bass.

- There is no additional analytical information available for the total ammonia concentration in the wastewater.
- Un-ionized ammonia should have read total ammonia. Ammonia nitrogen includes both the ionized ( $\text{NH}_4^+$ ) and the un-ionized ( $\text{NH}_3$ ) forms. The  $\text{NH}_4^+$  forms are relatively less toxic to aquatic organisms than the  $\text{NH}_3$ .

The degree of ammonia removal is highly dependent on the dissolved oxygen content. In order to determine the ammonia concentration in the treated effluent, the design of the aeration cells was reviewed. Based on the design of the cells, ammonia removal in the winter is expected to be approximately 30%, while removal in the summer should be approximately 70%. Therefore, based on an initial concentration of 14.6 mg/l, the winter and summer concentrations of total ammonia in the effluent were calculated to be 10.22 mg/l and 4.4 mg/l respectively. No discharge is to take place during the winter months.

The Draft 2000, Tier II, Manitoba Water Quality Standards, Objectives, and Guidelines (MWQSOG) for ammonia are based on pH and temperature. Canadian Climate Normals were not available for Winkler, however, they were available for nearby Morden. The average temperature during the discharge period (June to October) was calculated as 15°C. The pH of the wastewater is 6.25 and pH of the Creek is 7.95. Therefore, the estimated combined pH is 6.6. A table in the MWQSOG lists Water Quality Objectives for ammonia at different pH and temperature increments. For a pH of 6.6 and a temperature of 15°C, the Water Quality Objective was listed as 6.46 mg/l total ammonia. Therefore, the discharge concentration of 4.4 mg/l is with the Manitoba Guidelines.

During the June through October discharge period the concentration of  $\text{NH}_3$  in the discharge water would be estimated to be 0.004 mg/l. The CCME Canadian Water Quality Guideline value for un-ionized ammonia for the protection of aquatic life is 0.019 mg/l.

- Water flow information was obtained from Water Survey Canada, Environment Canada. No flow records were available for Hespeler Drain or Plum River. However, flow for Buffalo Creek near Rosenfeld was available. Water flows from Buffalo Creek northwest into the Plum River.

Plum River is connected to a number of drains and channels in the area, which join the Plum River upstream of the point where Deadhorse Creek connects to the River. The flow in the Plum River is approximately the combined flow of the Deadhorse Creek and the Buffalo Creek. The average flow in Buffalo Creek from June to October is 0.208 m<sup>3</sup>/s. Average June flow is 0.688 m<sup>3</sup>/s.

- Lake Minnewasta can store 3740000 m<sup>3</sup> at its full supply level. The annual yield is estimated to be 1145000 m<sup>3</sup>. However the 1992 annual allocated water demand (1172000) on the lake is in excess of the reservoir. Due to a small upstream drainage area and the water demand, the reservoir is prone to experience large drawdowns.

There is no regulation of flow from Lake Minnewasta following spring runoff and prior to the following winter. During periods of high rainfall where the lake is filled to capacity water will overtop the dam and flow into the creek.

A valve that is attached to a 36 cm culvert located at the bottom of the dam can be opened. This has only taken place in the winter when high spring runoff is anticipated. The culvert has a 5 cm bar screen. The valve would be opened around January or February, approximately 2 months before spring melt.

The sole reason for regulating the lake waters in this manner is to decrease the hardness of the lake water by dropping the levels and replacing the water with fresh spring runoff water. The mechanism has not been used for the last 4 years.

- The Morden lagoon discharges into the Deadhorse Creek approximately 13 km upstream from the Winkler lagoon. The total storage capacity of the Morden lagoon is 525.4 ML. Lagoons are commonly discharged within a 2-week period. Thus, flow from the Morden lagoon could range from 0.3 to 0.4 m<sup>3</sup>/s.

The Plum Coulee wastewater treatment system is designed for a population of 1100. The effluent discharge is into the Deadhorse Creek, located approximately 20 km downstream from the Winkler lagoon. Based on the design population, the storage capacity will be approximately 101 ML and the estimated 2 week discharge flow will be about 0.08 m<sup>3</sup>/s. There are no known additional municipal, industrial or agricultural point source discharges to the Deadhorse Creek upstream or downstream of the discharge route.

The Deadhorse Creek does not provide suitable habitat for fisheries and there are no licenced water users of the Creek downstream of the proposed lagoon expansion. No flow data were available for the Plum River. The minimum flow rate of the Red River is 18 m<sup>3</sup>/s. The flow of the Red River is approximately 14 times larger than the effluent flow. The dilution factor is approximately 1:14 wastewater to river water. This dilution factor should be adequate to safeguard against any adverse impacts.

- The construction will be staged, and thus limit the environmental impact. The construction will consist of clearing and excavation of a small portion of land in the vicinity of, and adjacent to the area of the proposed lagoon. The clearing will disturb a narrow portion of land, including movement of soils and vegetation. Heavy equipment will be used to excavate soil from the proposed cells. To minimize possible erosion and subsequent sedimentation in the nearby stream, the unused topsoil will either be spread on the surrounding land or used for cover material in the waste disposal site.

Silt dams will be constructed along the discharge ditch until vegetation becomes established.

- The aeration equipment will require regular maintenance. These maintenance activities will comprise daily monitoring of equipment operations at the blower building. Maintenance activities beyond the blower building are expected to be minimal. The anticipated activity on site will be less than that currently required by the Town of Winkler to maintain temporary aeration equipment at the existing treatment facility. Access to the site will be by all weather road.
- The most significant industrial discharge is from the Armstrong/Saputo Cheese plant. Armstrong/Saputo and the Town of Winkler have signed an agreement. The agreement establishes limits on wastewater loading from the cheese plant, as well as penalties for exceeding these limits and a cost sharing formula for capital works. Other industrial discharges as regulated by the Town of Winkler Sewer Bylaw, which sets limits on discharges.

In the event that significant industrial expansion occurs, the Town of Winkler will establish an appropriate agreement with the subject industry, evaluate the capacity of the treatment facility and, subject to environmental reviews, expand the treatment system capacity, as required.

- Monarch Industries is a manufacturing operation that produces iron castings both for its own use and to sell to other manufacturers. The business is involved in manufacturing hydraulic cylinders for the agricultural implement manufacturing and construction equipment sections. Monarch Industries also makes pump and water systems and portable concrete mixers.
- The BOD<sub>5</sub>, TSS, and pH were measured for all industrial facilities. The industries are primarily involved in food processing, excluding Monarch Industries, which is involved in manufacturing.
- Specific plans for pre-treatment facilities at the cheese plant or other industries are not known. The cheese plant will employ methods, which concentrate on improved operation and maintenance procedures, to improve wastewater quality.

The cheese plant practices whey concentration. The material is dehydrated to a powder form, which separates the protein and the lactose retentate. The protein concentrate is dried on site, bagged and marketed. The lactose concentrate is trucked to hog feeders.

**PUBLIC HEARING:**

A public hearing is not required.

**COMMENTS RESPECTING DRAFT LICENCE:**

**Conservation-Regional Environmental Operations**

- *It is recommended that the license remains with approvals until the soil testing is completed. As stated the final two cells will not be completed until 2004. As a point of clarification will the license stay with approvals until that time if all other stage one works are completed prior to that date. If so the licensee should be made aware of same.*
- *Clause 6. - does/should the Town have to provide a copy of the agreement to the Dept?*
- *Clause 13 a), b), & 29 c) requirement to monitor for dissolved oxygen at designated times should be required. Clause 2 allows for the director to request monitoring but would be easier to enforce if requirement of license.*
- *Clause's 9 & 16 a) refers to waste disposal ground operating under a permit under Manitoba regulation 150/91. This should be changed to include a waste disposal ground operating under an E. A. License which the local facility does - SWAMP, E.A. License #2019 S2*
- *Clause 13. d), e), f), is it possible to have the facility install some form of visual measuring device to reference. It would be difficult to have a permanent device due to ice but possibly some form of high water mark on the dyke.*
- *Clause 15 Limited options for disposal. should have an otherwise approved clause similar to 16 b)*
- *Clause 17 Where is the discharge to and will there be any monitoring of this discharge to determine if there would be any negative impact from the discharge.*
- *Clause 22. This should be reworded to address septage from outside the jurisdiction of the Town limits. It may be possible that there may be septage generated within the Town boundaries.*
- *Clause 31 d) possible change Director to a specific office (Winkler) to enhance review of data.*

Disposition:

- An Environment Officer from the local office of Manitoba Conservation will enforce the Environment Act Licence (the Licence) for the general operation of the Winkler

wastewater treatment lagoon. The responsibility of specific assessments, required to verify that newly constructed components of the lagoon are in compliance with the terms and conditions of the Licence (such as the lagoon liner(s)), will remain with the Environmental Approvals Section until such time as construction of the lagoon and these assessments are completed;

- Manitoba Conservation is in possession of a certified copy of the July 31, 2001 signed and sealed Industrial Agreement made between the Town of Winkler and Armstrong Cheese Company Ltd. (copy attached);
- Changes to the Clauses of the Licence respecting monitoring for dissolved oxygen (DO) have not been made. If specific monitoring of DO becomes necessary, a request or an Order by the Director can be prepared;
- The Clauses referencing waste disposal grounds have been altered such that they also include waste disposal grounds operating under the authority of a Licence issued under The Environment Act;
- Visual measuring devices to indicate liquid depths or high water marks would be desirable but introduce maintenance difficulties;
- A Clause that makes it possible for the Director to approve of a means of disposing of dried potato wash solids from the potato wash drying beds other than that proposed was added to the Licence;
- The discharge would be to another appropriate location if allowable and/or necessary;
- Disposal of septage directly into the lagoon was not proposed; and
- Maintaining the Clause as drafted makes it necessary to channel information such as results of lab analyses while allowing opportunities for flexibility.

#### **Proponent**

- *Request that the Licence require a minimum dissolved oxygen concentration of 2.0 mg/litre for the aerated lagoon cells; and*
- *Request that the Licence limit for the organic loading be increased to 2220 kg/d, to reflect the peak day loading, or that the 1837 kg/d be described as a maximum daily loading, averaged over a 7 day period.*

#### **Disposition:**

- The Clauses respecting required minimum dissolved oxygen concentrations are replaced with one Clause requiring that the lagoon be operated and maintained in such a manner that a minimum of 2 milligrams of dissolved oxygen per litre is detectable at all times in the liquid in the aerated primary cells.

- The maximum organic loading on the aerated wastewater treatment lagoon indicated in the draft Licence was not altered because the information presented in the EAP indicated that 1837 kg/d was the calculated total organic loading used for design. There were no changes to the originally proposed design, respecting total organic loading, and therefore no change to the daily maximum allowable five-day biochemical oxygen demand that was indicated in the draft Licence was contemplated at this time.

**RECOMMENDATION:**

An Environment Act Licence should be issued in accordance with the attached draft. Enforcement of the Licence respecting new construction should be assigned to the Approvals Branch until the soil testing has been completed.

Operations and Approvals Branches should work cooperatively to enforce operational aspects of the aerated wastewater treatment lagoon until such time as all new construction has been satisfactorily completed.

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November 22, 2001  
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