SUMMARY OF COMMENTS/RECOMMENDATIONS

PROPONENT:	**West Plains Holding Co. Ltd.**
NAME OF DEVELOPMENT:	**Delta Colony Wastewater Treatment Lagoon**
CLASS OF DEVELOPMENT:	**Two**
TYPE OF DEVELOPMENT:	**Wastewater Treatment Lagoon**
CLIENT FILE NO.:	**5339.00**

OVERVIEW:

The Proposal was received on April 11, 2008. It was dated March 31, 2008. The advertisement of the proposal was as follows:

"A Proposal has been filed by the Delta Colony (West Plains Holding Co. Ltd.) for the construction and operation of a new wastewater treatment lagoon for domestic wastewater from the colony. The facility would be located in NE 4-13-12W and would replace a sewage ejector system. Treated effluent from the lagoon would be discharged between June 15 and October 31 to the Gillespie Drain, a tributary of Pine Creek. Construction of the facility is proposed for the fall of 2008 or the summer/fall of 2009."

The Proposal was advertised in the Portage Central Plains Herald on Saturday, April 26, 2008 and the Neepawa Press on Monday, April 28, 2008. It was placed in the Main, Millenium Public Library (Winnipeg), Eco-Network, and Portage la Prairie City Library public registries and in the office of the R. M. of Westbourne as a registry location. The Proposal was distributed to TAC members on April 22, 2008. The closing date for comments from members of the public and TAC members was May 26, 2008.

COMMENTS FROM THE PUBLIC:

No public comments.

COMMENTS FROM THE TECHNICAL ADVISORY COMMITTEE:

Manitoba Conservation – Sustainable Resource and Policy Management No concerns.

Manitoba Conservation – Environmental Services No concerns.

Manitoba Water Stewardship

- *The Water Rights Act* indicates that no person shall control water or construct, establish or maintain any "water control works" unless he or she holds a valid license to do so. "Water control works" are defined as any dyke, dam, surface or subsurface drain, drainage, improved natural waterway, canal, tunnel, bridge, culvert borehole or contrivance for carrying or conducting water, that temporarily or permanently alters or may alter the flow or level of water, including but not limited to water in a water body, by any means, including drainage, OR changes or may change the location or direction of flow of water, including but not limited to water in a water body, by any means, including drainage. If the proposal in question advocates any of these activities, application for a Water Rights License to Construct Water Control Works is required.

- During construction of the development, erosion and sediment control measures should be implemented until all of the sites have stabilized.

- The Department recommends that an *Environment* Act licence, for this facility, include a requirement to develop and implement a nutrient mitigation plan. A nutrient mitigation plan could include:

    - effluent irrigation, or at a minimum

    - the requirement for trickle discharge only during periods of low or zero flow in the Gillespie Drain to maximize opportunities for the nutrients to be assimilated by vegetation in the drain prior to reaching Pine Creek.

- This proposal to discharge all of the effluent to the Gillespie Drain rather than continue to retain these nutrients onto land, moves the efforts to reduce nutrient loading to Lake Winnipeg in the wrong direction. Furthermore, the Lake Winnipeg Stewardship Board has recommended that all small wastewater treatment facilities, including municipal lagoons, should meet a phosphorus limit of 1.0 mg/L. The proposed phosphorus limit of 1.0 mg/L is consistent with efforts underway across Manitoba and in upstream jurisdictions to reduce nutrient loads to Lake Winnipeg and its watershed. It is desirable to recycle these nutrients on land, rather than releasing them to waterways. In the Lake Winnipeg Stewardship Board's December 2006 report to the Minister of Water Stewardship, the Board provides several strategies on how nutrient reduction could be achieved for small wastewater treatment facilities (see recommendations 14-20).

- In addition, the Department of Fisheries and Oceans Canada has indicated that, due to the amount of groundwater flow into the drain and the higher quality water, there is a high likelihood of attracting fish to this waterway. It is therefore desirable to retain the higher quality water quality in these waterways.

Disposition:

Information on other regulatory requirements was provided to the proponent's consultant. Additional information was requested to address the comment respecting nutrient management.

Historic Resources Branch No concerns. If at any time however, significant heritage resources are recorded in association with these lands during development, the Historic Resources Branch may require that an acceptable heritage resource management strategy be implemented by the developer to mitigate the affects of development on the heritage resources.

Disposition:
This information was provided to the proponent's consultant.

Manitoba Infrastructure and Transportation

Manitoba Infrastructure and Transportation (MIT) has reviewed the above mentioned proposal as requested in your letter dated 22 April 2008. Based on the assessment, a component of the proposed project may impact PTH 34. Also, if structures through this road have to be upgraded due to the effluent discharges, we wish to submit the following concerns and conditions:

- All permits and agreements for the installation of the proposed pipelines through the road right-of-way (R.O.W) are required. MIT prefers that an underground agreement be obtained prior to tendering any proposed installation.
- The proponent is responsible in restoring all excavated areas within the affected right-of-way to the original condition prior to the construction.

For your reference, provided herewith are the Statutory Regulations pertaining to the conditions mentioned above:

> "Any new, modified or relocated access connection onto PTH 34 requires a permit from Manitoba infrastructure and Transportation. A permit is also required from our department for any construction above or below ground level within 38.1 m (125 ft) of these PR or to place any planting within 15.2 m (50 ft) from the edge of the right-of-way of this highway. in addition, a permit is required from the Department of Manitoba Infrastructure and Transportation for any planting placed within 15.2 m (50 ft) from the edge of the right-of-way of this highway."

For further information regarding the Accesses and Structures within Highway and Control Areas, you may contact the Senior Access Management Analyst and for Highway Right-of-Way, you may contact the Regional Technical Services Engineer or the Regional Planning Technologist. Kindly ensure that the proponent of the project is informed with these requirements and conditions.

Disposition:
This information was provided to the proponent's consultant.

Manitoba Agriculture, Food and Rural Initiatives No objections or concerns from an agriculture or agricultural land use perspective.

Canadian Environmental Assessment Agency I have completed a survey of federal departments with respect to determining interest in the project noted above. I can confirm that the project information that was provided has been reviewed by all federal departments with a potential interest. Based on the responses to the survey, application of the Canadian Environmental Assessment Act (the Act) will not be required for this project.

Note that Environment Canada (EC), Fisheries and Oceans Canada (DFO), and Health Canada (HC) have indicated that they have specialist advice that may apply to the project. Further, DFO has indicated that they wish to participate in the provincial review of the project. Responses from these agencies are enclosed.

ADDITIONAL INFORMATION:

Additional information was requested on June 5, 2008 to address TAC comments. The attached response was received on October 27, 2008. The response addresses nutrient management comments and clarifies a number of design and siting issues noted during an Environmental Assessment and Licensing Branch review of the Proposal and design drawings.

PUBLIC HEARING:

As no requests for a public hearing were made, a public hearing is not recommended.

RECOMMENDATION:

All comments received on the Proposal that require followup have been addressed through additional information or as licence conditions. Therefore, it is recommended that the Development be licensed under The Environment Act subject to the limits, terms and conditions as described on the attached Draft Environment Act Licence. It is further recommended that enforcement of the Licence be assigned to Environmental Assessment and Licensing until construction is completed. Once the facility is commissioned, enforcement should be assigned to the Central Region.

PREPARED BY:

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Bruce Webb, P. Eng.
Environmental Assessment and Licensing - Environmental Land Use Section
(for Municipal, Industrial and Hazardous Waste Section)
June 5, 2008 Updated October 27, 2008

Telephone: (204) 945-7021
Fax: (204) 945-5229
E-mail: bruce.webb@gov.mb.ca

Additional Information – October 27, 2008

From: Jason Bunn [Jason.Bunn@genivar.com]
Sent: Monday, October 27, 2008 8:00 AM
To: Webb, Bruce (CON)
Cc: Ross Webster
Subject: Delta Colony Wastewater Treatment Lagoon [G# 07-175-01](File: 5339.00)
Hi Bruce,

Below, under each question, (**in bold blue text**) are the responses to each request for additional information.

From: Webb, Bruce (CON)
Sent: Thursday, June 05, 2008 11:32 AM
To: 'Jason Bunn'
Subject: Delta Colony Wastewater Treatment Lagoon (File: 5339.00)

I have completed a preliminary review of the Delta Colony WWTL proposal. No public comments were received. A small amount of additional information is needed to address Technical Advisory Committee comments on the proposal:

1. Nutrient Management: It has been recommended that a nutrient mitigation plan be developed and implemented for the project to reduce the amount of nutrients entering Pine Creek and downstream waterbodies. Nutrient mitigation could include effluent irrigation or trickle discharge to maximize nutrient uptake in the Gillespie Drain before effluent reaches Pine Creek. Recommendations 14 - 20 from the Lake Winnipeg Stewardship Boards December 2006 report provide further discussion on measures that could be considered. Your comments on this recommendation are needed.

Trickle discharge may be an option for the Delta Colony wastewater treatment lagoon due to the 7 kilometres the treated effluent will travel in the Gillespie Drain before entering the Pine Creek. The maximum discharge from a full secondary cell is 7,700 cubic metres and the discharge time, if the valve was fully opened, would be approximately 22 L/s, for a total duration of approximately 4 days. Only during the spring discharge would this option of trickle discharge be considered, due to the necessity of quickly discharging and preparing the lagoon for winter storage during the fall. However, under the typical low or no flow conditions in the Gillespie Drain during October, it would not be necessary to use a trickle discharge because, at 22 L/s, most likely all of the effluent will be absorbed by the soil and the vegetation in the Drain and would not reach Pine Creek.

In our experience, most Colonies that have agreed to effluent irrigation in the past have since applied for surface discharge. Irrigation of effluent is limited to actively growing crops and poses a significant burden relative to schedule, functionality and cost to a community that is driven by busy farming schedules at the exact same time as the lagoon discharge is required. This, added to high moisture conditions in recent years, has made it impossible for some of them to discharge their lagoons in the fall of years such as 2004 and 2005.

2. Adjacent Facilities: Although the Proposal mentions that the Colonys water supply is obtained from a well near Pine Creek south of the Colony, plans indicate a pumphouse and pipeline immediately west of the proposed wastewater treatment lagoon. Is this infrastructure in use, and what is its purpose?

This infrastructure is used for irrigating the Colony's lawns and gardens.

3. Backwash Flow: The Proposal discusses backwash flows, and estimates an annual volume of 78 m3. What type of system is used? Does the system include a zeolite softener? What effect does the backwash flow have on wastewater quality, both entering and leaving the proposed facility?

My understanding is that a zeolite softener is also referred to as sodium softener. The Colony does use a sodium softener to soften the water used for washing, toilets etc.. The backwash volume is a

very small component (~0.7%) of the total wastewater flow into the lagoon. However, this water will increase the sodium content in the wastewater entering the facility and also of the treated effluent leaving the facility. From previous experience, the SAR of the treated wastewater that has received backwash and rinse water from a softening process is between 6-8, which is at and slightly above the recommended levels for irrigation. According to the USEPA Design Manual for Land Treatment of Municipal Wastewater, a sodium adsorption ratio (SAR) level of <6.0 presents no problems and levels between 6.0-9.0 have increasing problems, with levels over 9.0 listed as severe. These suggested values (6.0-9.0) are noted to be flexible and should be modified when warranted by local experience or special conditions of crop, soil, and method of irrigation. In addition, these values are listed for arid and semiarid climates, where irrigation is a major, if not the main source of water for the crops. This particular surface drain discharge to the Gillespie Drain will only occur periodically (typically once during the spring and once during the fall), nor will it be of a sustained duration. Rainfall runoff will remain as the main source of water in the ditches. Therefore, the discharge of treated effluent with SAR levels of 6.0-9.0 is expected to be sustainable in this instance.

4. Decommissioning of Existing System: The existing system involves a gravity sewer and an ejector. How are residual solids disposed of? What are the plans for decommissioning the existing system?

Solids from the septic tank are hauled to the Colony fields twice per year. Plans for decommissioning are included in section 6.4 of the Environment Act Proposal. If additional information is required, please contact me.

A number of TAC members provided information on other approvals that may be needed for the project. Comments are attached from Manitoba Water Stewardship (concerning water control works), Historic Resources (concerning heritage resources), and Manitoba Infrastructure and Transportation (concerning culvert upgrades). These items are provided for your information; no response is needed on this information.

Jason Bunn, E.I.T.
Environmental Project Engineer

GENIVAR | Constructive people
5 Donald St., Suite 600, Winnipeg, Manitoba, Canada R3L 2T4
204-477-6650 ext. 251 | F 204-474-2864 | www.genivar.com