Native Orchid Conservation Inc.

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Minister of Indigenous and Municipal Relations
C/O Community and Regional Planning
Unit 1B-2010 Currie Blvd.
Brandon, MB R7B 4E7

Re. Development Plan Amendment By-Law No. 107/02/16 November 24, 2016

Dear Sir/Madame:

On November 3rd 2016 I presented my comments on behalf of Native Orchid Conservation Inc. at the Public Hearing conducted by the Brandon and Area Planning District on the proposed By-Law No. 107/02/16. The intent of the By-law is to re-designate a parcel of land along PTH 110 in the Rural Municipality of Cornwallis from "Agricultural" to "Rural Residential". I submitted a copy of my remarks to the Secretary afterward that I hope you have already received. At this time I would like to provide some additional comments for your consideration.

In my presentation I pointed out that there are several other colonies of the small white lady's-slipper (*Cypripedium candidum*) within the Brandon City limits. It is important that all colonies in the area be protected in case something happens to one or more of them. In fact, the colonies within the City might be at greater risk from development and so it is even more important that the colony that inhabits the property directly south of the proposed development area, which is outside the Brandon City Limits, be protected.

When a plant or other species is designated as "Endangered" under the federal Species at Risk Act, or the Manitoba Endangered Species and Ecosystems Act, it means that it is already on the brink of extinction. When a species is designated as "Threatened" it is considered "almost endangered".

Thus, when only small colonies of Endangered plants exist in a particular area and are isolated from other areas by geographical distance, the risk of extinction is even greater. Other small, isolated colonies of this orchid occur in the Interlake, and fortunately at present there is a large

population at the Tall Grass Prairie Preserve near Gardenton, Manitoba. Nevertheless, the risks to these orchids are great. Because they bloom in early spring, they are often killed or prevented from setting seed due to late spring frosts. Human caused issues include development, as we are discussing, and disturbances such as wetland drainage, mowing before their seeds have been released, encroachment by invasive species such as leafy spurge, fire suppression, the scarcity of pollinators due to the use of pesticides, and alteration of hydrology. Climate change may also have an impact because the pollinators (which are often species specific) may arrive either too early or too late to provide their essential services. If this happens too many times, then the plant is doomed.

When making seemingly small decisions about the use of land, for the sake of being thoroughly informed, it would be advantageous in these decisions to look at the larger global picture as well. One recent news headline came from the World Wildlife Fund, who proclaimed that urgent action is needed:

> Global biodiversity is declining at an alarming rate, putting the survival of other species and our own future at risk. The latest edition of WWF's Living Planet Report (2016) brings home the enormity of the situation - and how we can start to put it right. The Living Planet Index reveals that **global populations of fish, birds, mammals, amphibians and reptiles declined by 58 per cent between 1970 and 2012. We could witness a two-thirds decline in the half-century from 1970 to 2020 – unless we act now** to reform our food and energy systems and meet global commitments on addressing climate change, protecting biodiversity and supporting sustainable development.

More information may be found at
http://wwf.panda.org/about_our_earth/all_publications/lpr_2016/

Biodiversity reflects the number, variety and variability of living organisms. It includes diversity within species (i.e. genetic diversity), between species (species diversity), and between ecosystems. Because of the many habitat types in Manitoba our orchids come in many shapes, sizes, and colours and this variety enhances the biodiversity of all plant life in the province, nature's way of ensuring that plants (and animals) can respond to changing environmental conditions.

It can be stated that a large number of small ill-advised, detrimental decisions eventually adds up to a world crisis and these small decisions very often get lost in such large headlines. It is similar to a frog being plunged into boiling water or being heated slowly to the boiling point -- it may take a little longer, but he dies just the same. Here is a chance to set a precedent and do something that would actually do something positive for the environment. Rather than allow people, no matter how well-intentioned, to develop lands

right next to federally and provincially-designated Critical Habitat, why not look at the bigger picture? True sustainable development looks at all three components; the environmental, social, and economic. In our constant emphasis on building the economy, however, the environment is invariably the component that suffers. I maintain that we cannot have a healthy economy without a healthy environment. They go hand-in-hand.

I have read the responses from the various branches of the Manitoba government including the Wildlife and Fisheries Branch, the Lands Branch, and Environmental Compliance and Enforcement. I will not reiterate their concerns here.

However, in my research I spoke with a hydrogeologist from Manitoba Sustainable Development who has been studying the relationship between groundwater and lady's-slipper orchids and is familiar with the critical habitat. He explained his concerns thus:

> The proposed development area sits on top of a shallow sand unconfined aquifer. Development of that parcel of land will require that the drainage of the area be altered. Roads and houses create impermeable surfaces, while drains will be needed to remove surface water. The result will be an increase in surface runoff to the creek basin and a decrease in direct recharge to the aquifer. The small white lady's-slipper has very limited site tolerances for their growing conditions. They typically grow near higher intensity groundwater discharge, including springs which discharge high pH, calcium rich water that this species needs to survive. In this situation the plants are located between a line of springs near the edge of the hay field and creek. The springs are contact springs, which emerge where unconfined sand aquifer which occupies the upland area immediately north of the site, cuts out against lower permeability materials (clays) near the stream channel. The plants occur exclusively between the springs and the creek. They are not found on the south side of the creek because this area does not have an associated aquifer or springs. The groundwater recharge source area for the shallow groundwater discharge which creates the orchid habitat occupies most of NE-01-10-19W, essentially the area covered by the hay field and a portion of the upland area which is between the hay field and the creek. Redevelopment of the hay field to a housing development will change the hydrodynamics of the site. Less water would be available to the aquifer and the springs which create the orchid habitat would be lost. The same shallow aquifer supports a nearby colony of *C. candidum* in SW-12-10-19W. This colony receives its source water from SE-12-10-19 and SW-7-10-18W.
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> Development of land located in NE-01-10-19W would threaten the existence of the colony of small white lady's slippers in NE and SE01-10-19W. Development of land located in SE-12-10-19W would threaten the colony in SW-12-10-19W.

As they say, "when they're gone, they're gone". It would be a shame to threaten this colony further by allowing this development and contribute to the potential destruction of this species in Manitoba. As a conservation organization Native Orchid Conservation Inc. strongly opposes this proposal and we hope that our concerns will be duly considered and that the proposal will be denied.

Respectfully submitted,

Peggy Bainard Acheson, President