

November 18, 2015

Mr. Wayne Strandlund
Strandlund Investments Ltd. c/o Deane Strongitharm
CitySpaces Consulting Ltd. / Strongitharm Consulting Ltd.

Re: The Properties (COMB) CDP Requirements - Ecological/Bio-physical Assessment Related to the Re-zoning Application / Comprehensive Development Plan (CDP) (update to letter dated September 17, 2014)

Dear Mr. Strandlund:

I understand that you are submitting an application for an alteration of the “Cliffs Over Maple Bay” Comprehensive Development Plan (CDP). The main change in the CDP is to have the golf course and residential zoning updated to residential only and increased housing density. In preparation of the application, the Project team has been in regular communications with the Municipality of North Cowichan (MNC) regarding the scope of their plan for the site.

In a letter dated December 10, 2013 from Mr. Scott Mack, MNC Director of Development Services, a number of required aspects for a draft CDP for this property were outlined. One of the required aspects was the development of a comprehensive site management plan to address the current state of the project site. Madrone Environmental Services (Madrone) was contracted by the current landowner and project development team to address issues related to the bio-physical /environmental assessment of the Comprehensive Development Plan (CDP) and associated re-zoning application for your property (KingsView - formerly the Cliffs Over Maple Bay - COMB).

Madrone's Role

The key components of the bio-physical assessment of the property at this stage of the development (the CDP application) are:

1. To provide a summary of current conditions;
2. To identify if there are any ecological/environmental issues of concern on the property;
3. To determine if/where environmental features of significance are present (if any) that they are appropriately addressed within the updated CDP; and
4. To provide input into site re-vegetation/remediation plans where appropriate.

Please note that hydrology and associated surface and sub-surface water management as they relate to the Stormwater Management Plan (SWMP) are covered in the 2015 CDP *Schedule G* by WSP. A Statement of Commitment outlining the requirements for a SWMP will be submitted by KingsView as a condition to approval of a new CDP and zoning for the subject property. Where appropriate, Madrone will provide advice where required in relation to Phase-specific management plans for maintaining surface water quality during and following construction.

Bio-physical Assessment - Background

A site visit, current ortho-photography (purchased by the owner; flown on Nov 1, 2012), and applicable background documents were reviewed in conducting this assessment. Due to the highly altered, degraded and cleared nature of the property, a full-scale ecological assessment is not warranted. The probability of rare plants or valuable wildlife habitat being on the site is very low to nil throughout the majority of the property; the one exception being the Garry oak woodlands at the north end (bottom of the slope).

Tania Tripp conducted a field visit in partnership with the project Landscape Architect (Victoria Drakeford) in February of 2014; with additional visits in early March and August. While on site, particular attention was given to determining the best options for management of Scotch broom and re-vegetation at the site. As well the focus was on potential for the property to support rare, sensitive Garry oak ecosystems and/or plant assemblages. General observations were also made of potential wildlife habitat values and the dominant vegetation composition.

General Site Description - Current Conditions

The natural state of the site has been extensively altered by previous land clearing, terra-forming, and processing of on-site materials from 2006-2008. The most obvious change was the removal of almost all of the vegetation (>80%). The majority of the cleared areas are now covered with the invasive shrub, Scotch Broom (*Cytisus scoparius*).

Prior to land clearing, the site was predominately covered by second growth (approx. 40-50 years old), dry, Douglas-fir forest with scattered Arbutus (typical of the 03 site series in the CDF biogeoclimatic zone). Additional, visible alterations are the terra-forming (large terraces), and construction of the site drainage network. As well, a paved road that links Kingsview Road to Nevilane Road now exists and development of homes along that road has been occurring over the last 3-4 years. A number of services have also been established along previously planned residential sites.

The following sections of this assessment provide a summary of what remains on-site that is ecologically significant, and recommendations for measures to protect them. Input regarding re-

vegetation and remediation efforts was provided to the project team's Landscape Architect, and is covered in the related sections of the CDP. Victoria and I have been working closely together on this challenging aspect of the plan, and have met with North Cowichan, Municipal Forester Darrell Frank to discuss suitable options for re-vegetation and control of invasive plants (namely Scotch broom). The main concern about the extensive broom infestation is the associated fire hazard, as the site is adjacent to North Cowichan forestry lands.

Natural Areas and Key Environmental Features

Some second growth forest (Douglas-fir leading with scattered Arbutus) remain along the north end and southwest corner of the property. Two patches of established, second growth, Arbutus stands are present at the bottom of the slope (northern boundary). Key environmental features that remain at the site are the Garry oak (*Quercus garryana*) woodlands along the northwest boundary (bottom corner of the slope). These Garry oak ecosystems are extremely uncommon locally, provincially, and globally, and often contain or are associated with rare and threatened species. In addition, Garry oak ecosystems are red-listed in Canada and protected under the federal *Species at Risk Act*.

Garry oak ecosystems are distinct because their plant communities are formed by species adapted to harsh environmental conditions such as shallow, low-nutrient soils and extreme drying periods. Garry oak and terrestrial herbaceous ecosystems have the potential to support a variety of wildlife and biodiversity elements that are specifically adapted to these climatic conditions. These ecosystems are also important because they are amongst the most poorly represented of all sensitive ecosystems in the Municipality of North Cowichan.

Protection Measure for Existing Key Environmental Features

A key environmental feature, representative of Garry oak woodland, occurs within the property boundaries at the most northeasterly boundaries of the Plan area. It is my recommendation that these features be protected as dedicated park space.

The integrity of this feature should be maintained in association with the implementation of a buffer around the edge of the woodland. The buffer may vary from 5 to >15 meters depending on the terrain and specific site conditions. The buffer should be flagged by a Professional Biologist and surveyed prior to the start of construction of any phase to ensure correct delineation and protection of the ecosystem. To assist this process, the largest cluster of Garry oaks has already been professionally surveyed. Additional inventory and surveys of Garry oaks will be needed prior to approval of adjacent building footprints to ensure protection of this environmental feature. The Garry oak woodlands are located within the area identified as "Phase 1" of the KingsView CDP, and as such their protection will be addressed within the first phase of development.

To further protect the Garry oak woodland features, temporary snow fencing (bright orange) should be installed at the outer-most extent of the buffer prior to any construction adjacent to them. This precautionary measure has been highly effective at other construction sites for keeping vehicles and heavy equipment from damaging the integrity of these sensitive sites. Additional mitigation measures may be required if development is proposed within this feature.

In the March 9, 2014 draft version of the CDP that I reviewed, the planned trail network indicated a trail going through the Garry oak woodlands. I recommended that the trail be removed in order to minimize further fragmentation. Instead of a trail through the woodlands, a viewpoint with signage and a bench could be provided for enjoyment, education, and protection. As of September 2014, these recommendations have been adopted and are reflected in the current 2015 CDP.

Parks and Open Space

The CDP Parks and Open Space Strategy indicates that a significant portion of the land will be provided throughout the development as an amenity for residents and the general public. These spaces will include passive green spaces, as well as more active recreation areas (such as playgrounds and public parking for access to biking/hiking trailheads) and areas of environmental significance. The dedicated green space will serve as a number of different amenity areas, including parks, open spaces, key environmental features (Garry oak woodlands), natural trail systems and recreational spaces. Merging of the existing pathways and trails with the new interconnecting trail system could provide extensive opportunities for walking, running and cycling; as well as educational/interpretive opportunities related to the Garry oak woodlands.

Invasive Plant Management - Scotch Broom

The presence of invasive species on the subject property is extensive and predominately Scotch broom. A Vegetation Management Plan (VMP) overview for the entire property that focuses on broom control along the fire interface with the North Cowichan forest lands will be provided to MNC as part of the CDP application. Madrone has provided input and review of documents related to broom management to Victoria Drakeford.

In addition to the general broom management plan for the property, Phase-specific (detailed) VMPs are recommended. Due to the site variation in aspect, topography, drainage and current conditions, remediation plans tailored to each planned phase of the development should be completed and provided to MNC for approval. Each Phase-specific remediation and vegetation management plan should provide appropriate strategies, plants lists/schemes, with input and guidance from qualified professionals.

Phase-specific VMPs should, at a minimum, include the following:

1. Mapping of
 - a) location of the Scotch Broom
 - b) location and description of existing native vegetation if applicable
 - c) location and description of regenerating patches of native vegetation within parks and open spaces
 - d) existing and proposed stormwater channels
2. Detailed planting schemes should take into account the uses of the park areas and their view potential.
3. A discussion and agreement with MNC on strategies for broom removal, to include:
 - a) feasibility of methods
 - b) timing/phasing in accordance with the phased development

Rehabilitation and Landscaping with Native Species

Landscaping in the proposed development should give priority to native plants. Using native plants for landscaping purposes is beneficial, as once the plants become established, very little maintenance is required. Native species are inherently drought tolerant and provide benefits to local fauna. Native plants can also be used to help manage competition from invasive species.

In particular, care should be taken to source native grasses to minimize colonization by exotic species. Xeriscapes (drought tolerant landscaping) should be incorporated as much as possible to increase the likelihood of successful growth, and will be representative of the natural ecological character of the site. This input has been discussed with and provided to the Landscape Architect. Please refer to the report by Victoria Drakeford for details related to re-vegetation concepts suitable for the site.

Wildlife Management - Breeding Birds

Prior to further land clearing occurring on the property, it is important to be aware of the following legal protection measures that apply to all breeding birds (taken from Section 34 of the Wildlife Act):

Birds, nests and eggs

- 34) A person commits an offence if the person, except as provided by regulation, possesses, takes, injures, molests or destroys:
- (a) a bird or its egg,
 - (b) the nest of an eagle, peregrine falcon, gyrfalcon, osprey, heron or burrowing owl, or
 - (c) the nest of a bird not referred to in paragraph when the nest is occupied by a bird or its egg.

Section 6 (a) of the federal Migratory Birds Convention Regulations (MBCR) also applies. Under Section 6 (a), it is illegal to destroy or take a nest, egg or nest shelter of a migratory bird. Migratory birds covered under the regulation include a number of species known to visit and likely to breed in terrestrial habitats within the general vicinity of the assessment area, including hummingbirds, warblers, flycatchers and swallows.

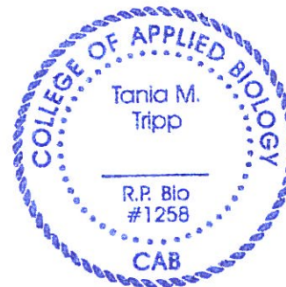
The MBCR does not explicitly limit the protection of nests to active nests, as is the case with the Wildlife Act. Removing a nest of a migratory bird after the nest has been used outside the breeding season, however, will generally have no impact upon the bird, as the majority of species will construct or use different nests from season to season.

The vast majority of all of the migratory species that may breed in the study area have generally left the south coast of BC by the end of August. Even if there are a few remaining stragglers of some species, they are unlikely to have young still in the nest.

Therefore, based on breeding cycles, an acceptable window for any type of vegetation clearance to avoid impact upon active nests would be August 1st to April 1st. The main areas of the property that this should be applied to include: vegetated riparian areas, standing trees (patches of second growth Arbutus and Douglas-fir), and natural shrub areas dominated by native vegetation.

Due diligence has been followed in hiring a Qualified Environmental Professional (QEP) to carry out an ecological/biophysical assessment of current site conditions. If there are any questions regarding the results of our assessment, please do not hesitate in contacting the undersigned.

Prepared By:



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