



## Special Meeting of the RVC Land Use & Development Committee (LUD)

Thursday 15 March 2007

Parks Foundation Calgary (225 13 Avenue SW)

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**Topic:** Land use amendment application by the **Calgary Olympic Development Association (CODA)** to accommodate World Cup cross-country ski trails within **Canada Olympic Park (COP)**.

***N.B.*** *This document details the discussions that took place at the above-noted meeting, as well as some further remarks that have arisen since the meeting (as an Addendum). In lieu of extracting specific requests and recommendations in summary form, we have highlighted our key issues in the text (yellow = questions, blue = recommended actions).*

### Attendance

Dave Esau (Patterson), Ted Foster (CPAC, RVC), Mac Hickley (RVC), Eric Johanson (RVC), Hugh Magill (PSPS, RVC), Steve Meadows (RVC), Bill Morrison (RVC), Alex Taylor (CWRA, RVC).

### Guests

Giyen Brenkman (City), Shannon Chmelyk (CODA), Bruce Dewar (Stantec), Mike Janzen (Stantec), John Kansas (Ursus Environmental), Bela Syal (Brown & Associates).

### Background: overall proposal B Syal

- West side of COP is designated DC.
- East side is the Nordic Slopes area.
- Central section is the “Village Core” commercial area.
- Primary purpose of the land use change is for the X-country trails for the World Cup in December.
- Most of the area in question is outside of the Conservation Study Area, as identified in the Canada Olympic Park & Adjacent Lands Area Structure Plan (COP ASP).
- Ecological BIA and surficial hydrological reports were prepared for the City as required through their pre-application process.
- **An additional geo-technical report has been done and will be provided to RVC.**

**N.B.** Recommended action items are highlighted in **blue**, remaining significant questions are in **yellow**.



- Stantec was recently advised of the pipes for snow-making.
- It is technically feasible to install underground irrigation lines.
- The schedule projects construction during mid-summer.
- Monitoring is important during the May-June period.
- Three ice ponds collect runoff and groundwater flows to prevent spillages onto the Trans-Canada Highway.
- Problems have been identified by AB Environment where surface water is recharging into the groundwater.
- CODA's intention is to use the trails all year long (summer is slated for hiking and biking).
- Access to the trails will be controlled but not fenced.
- Irrigation system pipes will be steel.

### Open discussion \_\_\_\_\_ Everyone

- Bedrock in this area is variable, as shallow as 6m below the surface.
- The initial count of avian species occurred over 2 weeks in June.
- COP is part of a significant fly-way for migrating birds; there would likely be more species during spring and fall.
  - These species would be transient not residents, although important as well.
  - D Collister (Ursus) is a migration specialist, can confirm the significance of COP as a fly-way.
  - There is great potential for even more species in the area and a greater understanding of the importance of COP as a stop-over for birds...
- Slopes in the area are not stable; flows tend to be very erratic from year to year.
- Example of Cougar Ridge line breakage is well documented and illustrates the power of groundwater flow.
- That was a large pipe, buried fairly deep...
- A major factor in that case was the bedding material lining the trench around the pipe - there's a significant difference between gravel and benthic material.
- The alignment of pipes in this plan appears to follow natural fall lines rather than running across them (this is probably a good thing).
- There's a danger that these preliminary studies (and land use approval) could be interpreted as "carte blanche" for future encroachments into the CSA.
- CODA's "Nordic Slopes" area overlaps with the CSA.
- What assurance is there that the comprehensive study now underway will be complete prior to development of the final trail design?
- Promises were made at the ASP stage that this critical research would be complete at the Land Use stage (i.e., now).

- Particularly for biophysical component(s), the professional consultants could back away and engage a wider spectrum of public and NGO stakeholder groups in a partnership approach (e.g., CFNS, PSPS, etc).
- Systematic and consistent data collection is needed for long-term monitoring.
- CODA is a non-profit agency - relies on public interest, partners, energy, etc.
- Committing a further \$250k to study the area could be risky...
- A larger hydrological study has already been commissioned (by CODA and City).
  - E.g., the Cominco lands were investigated through a cooperative approach in the past.
  - Ducks Unltd could be a valuable and knowledgeable partner.
- The City also requires a Joint Advisory Committee (JAC) meeting to review this application.
  - Copies of the supporting reports should be provided to JAC groups, too.
- Will there be any restrictions (e.g., seasonal) on the X-C trail operations to protect vegetation, birds and other wildlife from human intrusions?
- The City called Hugh M prior to drilling the bore holes and requested comments from PSPS, but then went ahead and drilled them anyway, in wet muddy conditions!
  - City called Steve M as well (gave them Hugh's number) but neglected to call him back, too.
- Lifeways will determine the final trail alignment this summer (April/May).
- Mitigation measures will be developed for the entire trail and areas identified in the COP ASP, particularly with respect to historical resources.
- The definition of "significant historical resource" is in accordance with current Provincial legislation.
- Will there be any external oversight of the archaeological work?
- A regional pathway has been identified across 85 Street - will it be a bridge?
- A bridge would cost \$750k - 1M; CODA is investigating options, including acquiring the right-of-way...
- The snow-blowing guns may be able to send snow 20m uphill, but area of coverage will depend on the wind and weather.
- Snow will be blown onto parts of the hill, then pushed along the trails by small tractors.
- To aid in snow-making, a type of bacteria is added to the water to allow it to freeze at -5C rather than -10C.
- If this approach is not taken, air must be mixed in and this is much noisier.
- Is this substance compatible with the natural environment?
- The addition of extra snow/moisture on the trails will alter the area's current and/or natural drainage patterns.

- This factor will be examined in the comprehensive study now underway.
- Erosion issues along the trail system are mitigatable, disturbed slopes can be reclaimed, etc.
- There will be up to 35% more moisture applied on the slopes than would occur naturally - where will this additional runoff go?
  - Snow melt occurring with weather changes will drain through existing channels and natural corridors.
  - The current climatic “cycle” is for low-snow characteristics - this additional moisture may still be within natural variability ranges.
- These changes need to be understood - downstream assets are precious to us all.
- How are the surface- and ground-water regimes being addressed in the X-C trail design?
- How will the drainage patterns be maintained as close to natural as possible?
- A report specific to the X-C trails is due before the final comprehensive study is finished (in the fall).
- The preliminary report(s) will set the tone for future development plans, and will teach valuable lessons and generate useful knowledge.
- The full report will cover the entire CSA, which is much more complex than the area proposed for the X-C trail system.
- International (and even local) events attract large numbers of people who often make extra efforts to watch (races, etc) from unique vantage points.
- What provision is being made for spectators and media coverage on the site, especially along the trails?
  - Events will be staged out of the current day lodge and other existing facilities.
  - There will be limited interest in watching skiers (etc) from out along the trails, as competitors will be travelling past quickly - most people will want to stay at the finish area (for race info, public amenities, etc).
- The preparation of guidelines for site use and access would be very beneficial.
- Guidelines for visitors/users would also assist with education and awareness, including penalties for inappropriate behaviour (e.g., expulsion from the park if found away from the trail, etc).
- BIA report recommends against using the trails for bikes.
- There is potential for this area to be developed as a “world-class” venue for bird watching, trail sections could be named for birds, etc.
- Bird-watching could be more lucrative for CODA than biking - this idea was supported by the previous President of CODA.
- Parks Foundation has the ability to facilitate funding for cooperative efforts for naturalist activities (or studies) [*to be confirmed...*].

- Inglewood Bird Sanctuary and other groups present educational tours, etc, all over town.
- The irrigation system does not align entirely with the X-C trail design.
- Were the trenches for the pipes assessed in the BIA or the hydrological study?
  - Not in the BIA.
  - Hydrological impacts from the proposed trench alignment were not assessed but will not be difficult to mitigate.
- Two disturbances will be required: for the X-C trails and the irrigation system.
- Significant differences (hydrological, geological, etc) can be seen at separation distances of 10m or less.
- The alignment for the irrigation system was not known when the BIA and hydrological studies were conducted.
- The archaeological component will also need to investigate both alignments (i.e., trails and irrigation trenches).
- There are slight discrepancies between trail alignments shown on different maps (different parts of the land use application), especially regarding trail widths (i.e., 6m, 7m, 8m).
  - There have been many iterations of the trail design - the final alignment will be prepared in time for the DP application.
  - The City will circulate the DP materials to RVC.
- What does the trail width refer to exactly - are the cleared corridors 6/7/8m across or are the trails themselves 6/7/8m wide?
- Is CODA's intention to provide access to the X-C trails after dark, with lights?
  - Lighting is not an issue for high-performance or competition athletes, only for the public.
- Were the potential impacts from lighting studied?
  - Not in the BIA.
  - Lights create subtle impacts - there is not much research on this topic.
- If the trails are to be lit at night, the lights should be installed so as to illuminate the trails only, not surrounding habitat areas.
- The duration of lighting needs to be sensitive to nocturnal wildlife and seasonal requirements (nesting, brooding, etc).
- Calgary is in a position to set global standards for international events - we're well known for other international competitions (e.g., Spruce Meadows, COP, speed skating, etc) - this development could set benchmark for trail lighting.
- Trail users could be a very mixed group with potential for conflicts - extreme sports enthusiasts vs. extreme naturalists - how will this be managed?

**Meeting adjourned.**

**ADDENDUM** Post-meeting comments & questions

- The following points have been raised since the 15 March meeting ...

**Technical reports**

- Concern re: fragmentation - gathering baseline data on birds and rare plants. Should baseline data be used to make enduring decisions? By its nature, baseline data is used as a base only.
- Adequate erosion control must be implemented on the trails, as there is potential for increased overland flow due to decreased vegetation.
- What criteria are used to determine the widths of the trail sections? Are these Olympic/FIS standards?
  
- The BIA associated rare and regionally significant plant communities (e.g., tall willow, balsam poplar stands, etc) with the occurrence of natural springs and seeps, as these features would not normally be found so far removed from a water-rich riverine environment (i.e., the Bow River).
- Where exactly are the springs and seeps? They are discussed but no physical locations are given.
- What defines a spring seep? No matter the volume, all should be addressed. Micro-scale hydrogeologic maps should be consulted prior to site construction.
  
- At what time of year was the Surficial Groundwater / Drainage Assessment completed?
- This ad hoc way of “encountering springs” and using weeping tile to divert while still “maintaining the existing drainage patterns” indicates unknown groundwater conditions and surficial hydrogeological regimes.
- These water bodies should not be encountered and should be planned for before site construction occurs.
- Re: encountered springs - “special consideration given to...” the possibility that groundwater may be released from cuts in the slope, is not really addressed by a groundwater assessment, as these problems are to be solved on-site.
  
- Hydrogeologic maps should be in detail and at a scale whereby flowpaths are representative of the topographic scale used to identify slope cut and fill locations, and thereby accurately describe the water and surficial geology relationships.
- Special precautions should be taken with pipelines that cross drainage areas as periodic flows in combination with clay lining may create preferential pathways and alter the existing drainage. (How effective are culverts for this purpose?)
- Has the potential for groundwater releases from the slope cuts been considered in the design of drainage culverts? What volumes could be released?
- Generally simplistic, the hydrology report does not acknowledge variable groundwater associated with glacial tills, nor does it describe the strata encountered on-site (unlike the reports for the Patterson Ridge residential development proposal).

### Planning process

- At the time of the COP ASP's approval (14 March 05), the RVC addressed City Council in favour of approving the ASP, with the following reservations:
  - Council was being asked to approve the land use concept in the absence of adequate information regarding potential impacts to the local hydrology and biophysical features.
  - Specifically, CODA's proposal for multi-purpose cross-country trails included the installation of underground irrigation lines, traversing the slopes in an as-yet-unknown alignment, with trenches up to 3m deep [*that was the estimate at that time; the current estimate is 2m*].
  - The vegetation and wildlife habitat of this landscape - revered and celebrated as an iconic piece of Calgary's natural heritage - are entirely reliant on the ground- and surface-water flow patterns that have evolved in this area over time.
  - Past experience indicated that the escarpments in this area are very sensitive to disruptions to ground- and surface-water flow regimes.
  - Information regarding these impacts was promised at the land use stage, and Council approved an amendment to the ASP as follows (from Council Minutes of 14 March 2005; emphasis added):

In Appendix D, Comprehensive Planning Guidelines, D.2 Environmental Analysis, D.2.2 Guidelines, as follows:

- a) In (5) Hydrological Analysis, by adding a new paragraph (c), as follows:
  - “(c) To maintain the ecological quality of this part of the Paskapoo Slopes, any changes to the drainage pattern or ground-water levels within the planning area **should not impact** the ecological quality of the remaining natural areas within the Conservation Study Area Map 3, or any natural areas in the vicinity. Site specific geotechnical and hydrological studies shall consider this requirement and shall be reviewed by the Approving Authority when land use and development proposals are considered.”; and
- b) By adding a new section (9), as follows:
  - “(9) Fencing  
Prior to the construction or replacement of any fencing within or bordering the Conservation Study Area or any other area that is intended to serve as part of the open space system, that an appropriate design and construction plan be prepared and submitted to the satisfaction of The City of Calgary.”.

- Interestingly, the final COP ASP includes the above amendment but in slightly altered form (emphasis added for comparison with above):

- (c) To maintain the ecological quality of this part of the Paskapoo Slopes, any changes to the drainage pattern or ground water levels within the plan area **should minimize the impact on** the ecological quality of the remaining natural areas within the Conservation Study Area (Map 3) or any other natural areas in the vicinity.
- (d) Site specific geotechnical and hydrological studies shall consider this requirement and shall be reviewed by the Approving Authority when land use and development proposals are considered.

- Also interestingly, the proposed “new section (9) ... Fencing” does not appear in the approved ASP.
- **These apparent discrepancies should go to the City Clerk for clarification.**

- The approved COP ASP also includes the requirement for a Management Plan (Appendix D.2.2), to be submitted with a Land Use Amendment application:

**(8) Management Plan**

- (a) A Management Plan for the multi-use trail system within the Recreation (Nordic Slopes) Area shall be submitted.
- (b) The Management Plan should
  - (i) identify, but not be limited to, the operational measures to be introduced to mitigate the impact of the multi-use trail system on the natural landform and wildlife habitat, and
  - (ii) be formulated to ensure the sustainability of the sensitive ecosystem in perpetuity, including the restoration of damaged habitat.

- The RVC has neither seen nor been informed of such a Management Plan, and we would offer further questions along the following lines:
  - What uses will be permitted on the “multi-use” trail system?
  - Will there be seasonal restrictions on specific recreational uses or users? For example, will biking be prohibited during periods of heightened sensitivity for birds or other identified wildlife species in the area?
  - Will public access be restricted in areas with identified rare or sensitive plant species?
  - Will the trails be limited to travel in one direction only (would they be wider if two directions)?
  - What will be the schedule for night-lighting in or near the Nordic Slopes area?
  - How will trail users or visitors be prohibited or discouraged from leaving the formalized trail areas?
  - How will unauthorized access be (a) discouraged and (b) addressed if discovered?
  - The trails are expected to be further altered in the future, as the commercial core area of COP is developed; it is assumed that the trail system will then be realigned and ultimately expanded. What is CODA’s commitment to remediation, restoration and rehabilitation of the disturbed natural areas when the trail system is realigned?

N.B. *Should any further comments or questions arise within the RVC, we will be sure to forward them to the appropriate City of Calgary representatives directly.*