NATURAL ENVIRONMENT ASSESSMENT

PROPOSED SKATEBOARD FACILITY
COLONEL SAMUEL SMITH PARK

PREPARED FOR:

PARKS, FORESTRY AND RECREATION
CITY OF TORONTO

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1. Introduction

The City of Toronto is conducting an evaluation of potential sites to locate a skateboard facility in South Etobicoke.

One of the sites being considered is in Colonel Sam Smith Park located along the Lake Ontario shoreline at Lakeshore Blvd. and Kipling Avenue within the site of the former Lakeshore Psychiatric Hospital. The park is part of a larger complex of institutional and municipal uses known as the Lakeshore Grounds. The location of the proposed facility is shown in Figure 1.

Marshall Macklin Monaghan was retained by the City of Toronto to conduct an assessment of this proposed site in Colonel Sam Smith Park and to identify potential impacts and mitigation measures to protect any significant natural heritage features that might be present.

2. Proposed Facility

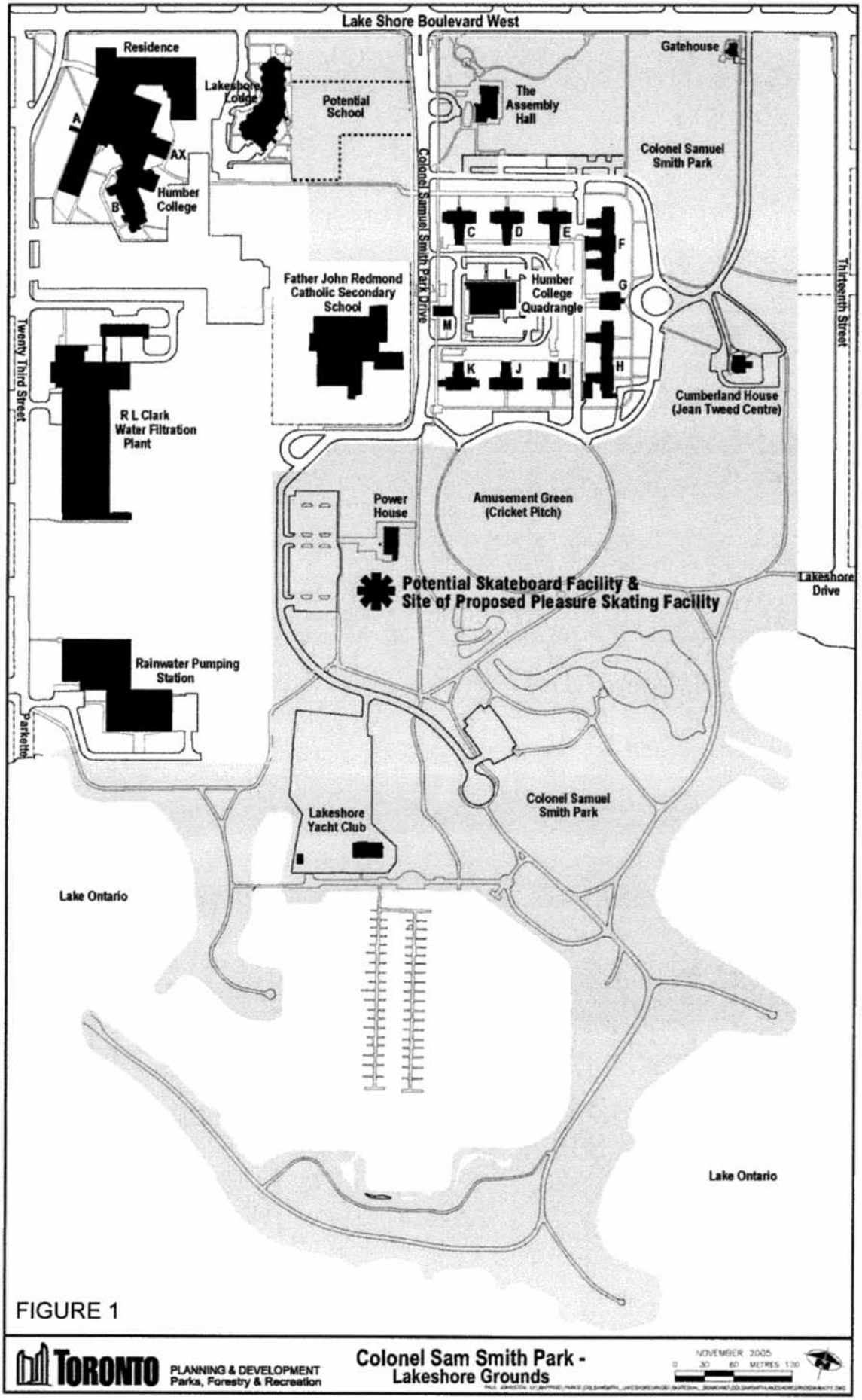
The proposed skateboard location in Colonel Samuel Smith Park is adjacent to the Power House, a former heating plant building that has been adapted to serve as a park building.

The proposed site for the facility is an open field located immediately south of the Power House building. A parking lot occurs to the west of the proposed site. A paved walking trail occurs to the east of the site, with the Power House to the north and an area of mixed tree cover and field located to the south. Tree cover occurs at the east and south margins of the site. The west of the site is defined by a single row of deciduous trees at regular spacing (although some of these have been removed due to poor condition).

There is no design yet for the proposed skateboard facility, as actual facility design will occur following confirmation of facility location. The program for the skateboard facility has been identified as a district-level facility, ranging in size between 1,500-3,000 sq metres in area and potentially featuring a combination of bowl and/or plaza features typical of current municipal skateboard facilities.

The same Power House site is also the location of a proposed pleasure skating facility. A detailed concept for the skating facility was prepared for the City in 1999, composed of a skating loop (5 m wide track approximately 180 metres in length and a small ice pad area). The area within and around the pleasure skating facility featured other amenities and landscaping. Design work for the pleasure skating facility also addressed drainage and other site conditions and requirements.

It is anticipated that the skateboard facility will not be illuminated after dark and therefore it is expected that there will be no use of the facility after dark. Illumination



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would likely be provided at the skating facility due to the short daylight hours in the winter.

The pleasure skating facility has not proceeded, however, funding is being secured for its development. A skateboard facility at the Power House site will, therefore, need to protect for a pleasure skating facility, including opportunity for integrated design and development of both facilities on the area. This would likely entail changes in the layout/design of the pleasure skating facility, but the facility program would remain similar.

Drainage and stormwater management will be addressed during facility design.

3. Existing Conditions

Existing natural environment conditions are shown in Figure 2.

Vegetation

It is identified that Colonel Sam Smith Park does not contain any vegetation communities of concern (City of Toronto, Natural Heritage Study, 2001).

The vegetation of the site is identified as cultural meadow (CUM1-1) following the vegetation descriptions of the Ecological Land Classification System for Southern Ontario (ELC). This is a culturally influenced community meaning that it has been created as the result of disturbance and in the regeneration of the land it represents the first stage which is dominated by field species of coarse herbs and grasses. Evidence of disturbance occurs through the presence of exposed concrete and rock debris at some locations at the site. The site is also higher in elevation compared to the surrounding ground and has the appearance of fill.

Due to the disturbed nature of the site the plant species present typically represent those found in a disturbed site. There are no significant plant species within the old field community. The community contains over 30 species, the majority of which are non-native. The co-efficient of conservatism, an indice developed to identify the quality of a habitat based on the fidelity of plant associations with habitat conditions was identified for this site. The co-efficient of conservatism for each species was extracted from data prepared by the Natural Heritage Information Centre. Indice values range from 0 to 10 with 0 having very low conservation value and 10 having the highest conservation value. For purposes of this assessment we have identified that the range from 0 to 3 is considered to be of low importance, 4 to 6 of moderate importance and 7 to 10 of high importance. Of the 31 herbaceous species recorded on site, 25 species have a value of 0 and 29 have a value of 0 to 3. Two species (heath aster and white flowered geum) each have a value of 4. Of the shrub and tree cover present, several have a value of 0. Black walnut and slippery elm, have values of 5 and 6, respectively.

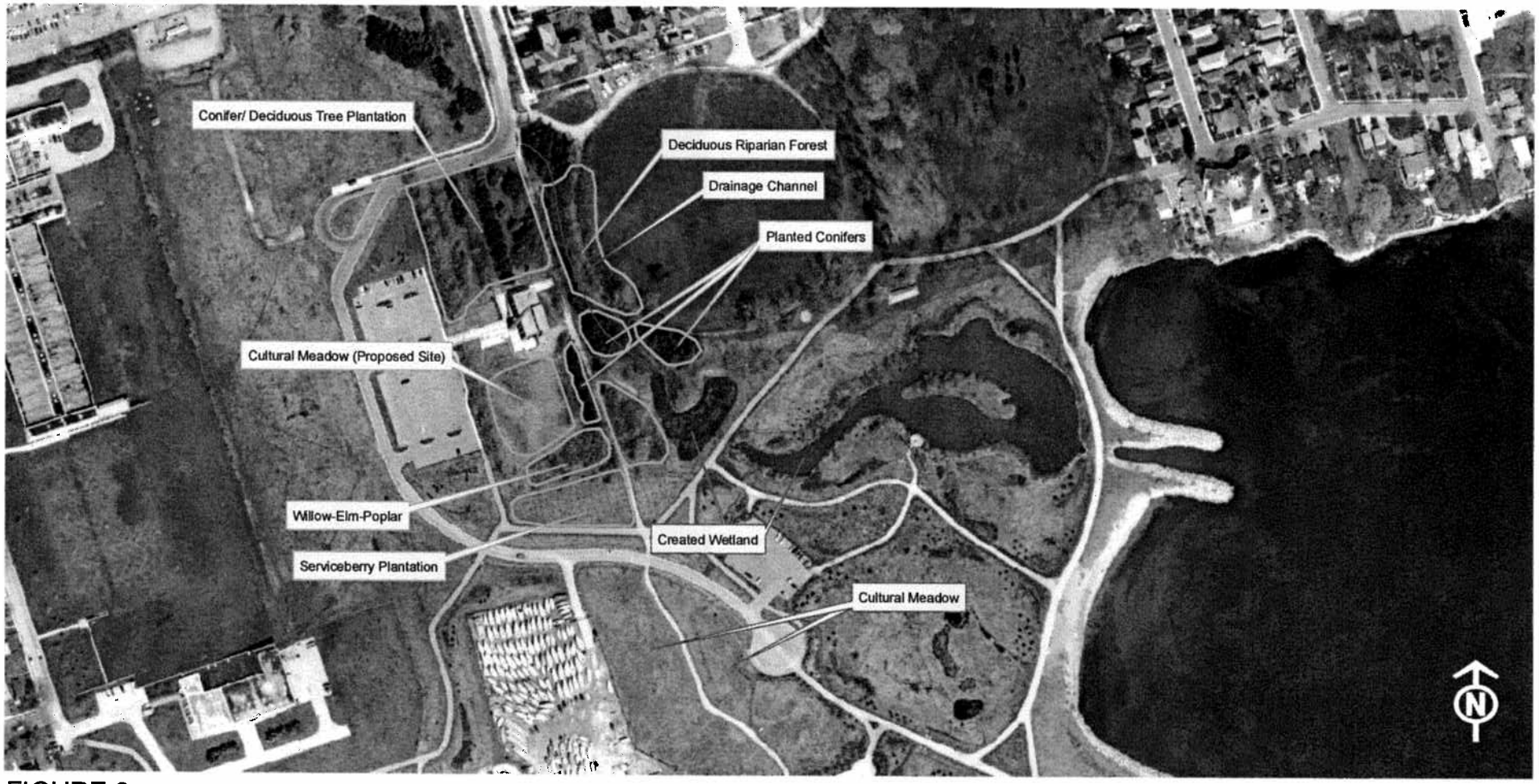

FIGURE 2

COLONEL SAMUEL SMITH PARK - PROPOSED SKATEBOARD FACILITY

NATURAL FEATURES

JANUARY 2006

0 50 100 200
Metres

Marshall Macklin Monaghan
PROJECT MANAGERS • ENGINEERS • SURVEYORS • PLANNERS

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The dominant species in the community include common thistle (*Cirsium arvense*), Canada goldenrod (*Solidago altissima*), Kentucky bluegrass (*Poa pratensis*), chickory (*Cichorium intybus*), sweet white clover (*Melilotus alba*), birdsfoot trefoil (*Lotus corniculata*), heath aster (*Symphiotrichum ericoides*), long-leaved aster (*Symphiotrichum lanceolatus*), common burdock (*Arctium minus*), sweet coltsfoot (*Tussilago farfara*), brown knapweed (*Centaurea jacea*), brome grass (*Bromus inermis*) and Virginia creeper (*Parthenocissus inserta*). A few scattered seedlings and saplings of willow (*Salix fragilis*), chokecherry (*Prunus virginiana*) and Siberian elm (*Ulmus pumila*).

Tree species that form a margin along the east and south sides of the site include Siberian elm, black walnut (*Juglans nigra*), red elm (*Ulmus rubra*), crack willow, American elm (*Ulmus americana*) and Manitoba maple (*Acer negundo*).

Wildlife

Observations of wildlife were made based on two site visits (July 28 and August 11, 2005). Bird species observed during those two ocassions included American goldfinch (*Carduelis tristis*), song sparrow (*Melospiza melodia*), cedar waxwing (*Bombycilla cedrorum*), least flycatcher (*Empidonax minimus*), barn swallow (*Hirundo rustica*), bank swallow (*Riparia riparia*), American robin (*Turdus migratorius*), European starling (*Sturna vulgaris*) and eastern kingbird (*Tyrannus tyrannus*). Only goldfinch was using the field habitat by foraging for thistle down. The other species used the tree and shrub cover found at the margin of the site and the mosaic of field and shrub cover located beyond the site.

A list of bird species provided by a local bird watcher identified a number of species that would use the different habitats of Colonel Sam Smith Park. Of the 160 species listed we identify that 121 are migrants, 51 potential breeders, 14 wintering and 4 vagrants. There are 46 species of waterbirds (gulls, ducks, geese, shorebirds) that are anticipated to be only associated with Lake Ontario and the shoreline area.

The large number of migrants that would travel through the site in the spring and fall would use the shrub and tree cover for foraging and resting. The small patch of field habitat at the proposed site would not provide a significant function in this regard.

Adjacent to the east side of the site, on the east bank of the drainage feature that drains to the created wetlands, a single juvenile black-crowned night heron (*Nycticorax nycticorax*) was observed roosting toward the top of a tall Norway spruce tree. The tree was in an area where the canopy of the adjoining spruce trees were in contact with each other and with shading and loss of limb and needles an opening within the canopy between the trees has been created allowing access to this site for the night heron. Based on the amount of guano on the ground surrounding the tree it is our opinion that this roost location is used by one or two birds and has been occupied for a relatively short time (10

days to 2 weeks). However, local bird watchers have identified that this location has been used as a roost for several years. The area is also identified to provide roosting habitat for owls.

A gray catbird (*Dumetella carolinensis*) was heard calling from the area of the created wetland.

A single meadow vole (*Microtus pennsylvanicus*) was observed at the site. Gray squirrel (*Sciurus carolinensis*) was common at the site. No amphibians or reptiles were observed. A dragonfly species (one individual observed) was found hunting in the field habitat.

A list of bird species recorded from Colonel Sam Smith Park prepared by a local naturalist, was provided to the City of Toronto. The list was reviewed while conducting the analysis of habitat significance (Section 4).

Wetland

Located southeast of the proposed site is a created wetland habitat. The wetland receives drainage from a channel located to the east of the walking path east of the proposed site. Water supply to the wetland is provided by stormwater discharge and at its downstream end the wetland is connected to Lake Ontario. The wetland appears to consist of two cells. The upstream cell appears to serve as a settling basin and contains a dominant cover of emergent vegetation and no open water. However, it may contain open water during the spring runoff period. The second cell, is immediately downstream of the first cell and is mostly open water with a shoreline fringe of cattail. Water level fluctuation in the wetland occurs according to the volume of stormwater flow entering the wetland. Water quality in the open portion of the wetland appeared to be poor (high suspended solids and algae).

The wetland would support a variety of bird and herpetofauna. A list of bird species provided by local bird watchers includes a number of species that could be identified to use this habitat. Species of note that were highlighted include Virginia rail and sora. It is unknown whether these species are breeding. The only species that could use the wetland for foraging and loafing and use the field for breeding would be mallard. Midland painted turtle is abundant in the open water portion of the wetland.

4.0 Analysis of Natural Heritage Features

Habitat Significance

The proposed site provides a small habitat area of old field that contains a large percentage of non-native species. Field habitat is the most abundant habitat in Colonel Sam Smith Park. No ground nests were observed during the survey which would indicate that it is unlikely this site would be selected for nesting by ground nesting species. Other

sites in the park may support more traditional ground nesters of field habitat such as field sparrow, savannah sparrow, and possibly eastern meadowlark and bobolink.

The majority of birds found at the site were associated with shrub and tree habitat within an overall open field environment. The species that were observed are common and observed to be abundant at the site.

It has been reported that Colonel Sam Smith Park is a rich site for birding during migration. This is true of many sites along the lakeshore that contain habitat areas. The majority of passerines that would migrate through the park would seek out shrub and tree cover for foraging and rest sites and can commonly be seen in these habitats during migration. Unless specifically searching for rest sites there are few species that would use the field during migration.

Wildlife Corridors and Habitat Linkage

Colonel Sam Smith Park projects out into Lake Ontario and like other similar landforms along the shoreline of Lake Ontario it serves as a first landing location for birds migrating across the Lake. This is identified for the Leslie Street Spit and East Point Park. The park provides the opportunity for birds to forage and rest on their migration. There are no significant natural corridors in the Park such as creek valleys, riparian forests and forest blocks.

At a local scale, the tree/shrub cover that forms the margin of the east and south sides of the site integrate with the more mature tree cover that occurs on the tableland and along the drainage feature to the east. This cover connects with the plantation area located to the north side of the Power House. The function of this tree cover in providing movement corridors for birds and mammals would not be affected by the proposed undertaking as the cover would remain.

It can be assumed that birds, outside of the migratory bird breeding period, would use the tree and shrub cover of this area to move throughout the immediate adjacent area for foraging. During the summer resident period, bird species that use the tree/shrub fencerow type habitat and field, apart from red-winged blackbird and foraging swallows, would not use the created wetland habitat to the southeast. Although these habitats are in close proximity and are connected by vegetation cover the bird species are partitioned based on the distinct habitat differences.

The cultural meadow habitat that occurs at the proposed site for a facility in Colonel Sam Smith Park is a habitat well represented in the Park and a large area of this habitat occurs south of the site between the road and the lakeshore. Based on this close proximity to similar habitat, the same types of species would continue to use the same general area.

The juvenile black-crowned night heron has likely arrived at Colonel Sam Smith Park after fledging from the colony on the Leslie Street Spit. It has likely taken up residence in this area of spruce trees which is close to the created wetland where it can forage for food. Juvenile black-crowned night heron will use a variety of sites for roosting and many are temporary (M. Peck, Royal Ontario Museum pers. comm.). This scenario would tend to be supported by the evidence of the amount of activity and presence of one or more birds using this as a temporary site. As there are no other sites of conifer cover close to these wetlands there are likely no other roosts within the immediate area of the site.

5. Assessment of Impacts and Mitigation

Vegetation Removal

Siting of the facility in the cultural meadow area would be appropriate as it minimizes the potential removal on woody vegetation and generally occurs in an impacted habitat that is not considered significant or important within the context of the entire Park. The vegetation to be removed for facilities on the site is primarily the old field vegetation described in this report.

The tree and shrub cover that forms the east margin of the site should be retained when locating the facility. The 1999 concept for the pleasure skating facility indicated enhancements to vegetation along the east margin of the site through plantings. These should be incorporated into facility plans for the site.

Excavation of the old field (fill) is not anticipated to occur within the dripline of the margin trees. Therefore these trees will not be impacted by the construction works. A setback of 3 to 5 m from the dripline was identified for the 1999 concept plan to protect the existing trees that will remain on the east side of the site. This follows a recommendation made in April 1998 (D. Gregory; correspondence). A snowfence should be erected at this setback limit as an on-site construction limit and with no storage of equipment or use by construction staff during the works. Again, for purposes of this report, it is assumed that these conditions would be observed in any development of the Power House site

The operation and use of a recreation facility (pleasure skating or skateboard) adjacent to the tree margins may present some risk that limbs from trees at the margin may be damaged by vandalism due their close proximity. Mitigation of this potential impact is possible though plantings along the east margin with shrub cover to fill the gaps between the trees to prevent access and to prevent use of this space for shade during the summer period. This could also be mitigated by providing access routes to the facility area from the paved walking trail to the east and a joint formal access from the west and southwest.

As the surface of the site will have some hardened surfaces and a drainage catchment system will be implemented there will be a loss of infiltration into the ground. At the present time there is no evidence that infiltration or surface runoff at the site supports vegetation or wildlife habitats downgradient from the site. This change in surface conditions will not affect the surrounding natural environment. It is anticipated that any facility design would incorporate some interior plantings and vegetation, and these would allow moisture to travel through the soil and reach the subsurface.

Wildlife Habitat

The site itself is small, is covered by non-native plant species and based on observations does not provide critical habitat for the common species observed at the site. Again, the tree margin and contact with adjacent habitat beyond the site would appear to provide the habitat for birds.

As indicated earlier, the 1999 concept for the pleasure skating facility indicated removal of a limited margin of shrub cover and some smaller trees at the south end of the site. It is assumed for purposes of this report that some limited removals may still be required with respect to overall development of the site. Such removal would result in a small loss of habitat to the few common bird species that use this specific habitat. However, it is also important to note that the existing bird species are common and abundant and the habitat present is not considered to be significant.

Plantings along the south limit of the site to provide additional cover of deciduous and coniferous trees and shrubs were proposed as part of the 1999 concept plan for the skating facility and would appear to address any impacts over time. This recognizes some lag time as the vegetation matures to provide some of the conditions that occur today, however, it is fully expected that the species present today would use new plantings for roosting, foraging and possibly nesting.

Wildlife Corridors

As there are no significant wildlife corridor functions within the Park, the proposed development will not create an impact. At the local scale, the old field meadow does not provide an important wildlife corridor function. Tree cover adjacent to the site will not be impacted and will continue to provide the current function of provide wildlife movement opportunities within this area of the Park.

Wetland

Stormwater management will be provided for the proposed facility. Stormwater discharge will be directed either to the adjacent watercourse or directly to the created wetland. Development of the facility will result in an increase in impermeable surface which will then generate greater stormwater runoff than occurs at present. Stormwater

directed to the watercourse would likely require the placement of stone at the outlet to dissipate flow energy with perhaps some bank stabilization measures if required.

It would appear that the vegetation in wetland cell 1 is stable and therefore is not impacted by storm flows. Wetland cell 2 is primarily open and directly connected to Lake Ontario. Examination of the shoreline cattail cover would indicate that water levels rise and decline based on flows passing through from storm events. It is likely that the existing storm flow (and pond depths) prevent cattails from colonizing the open portion of the pond. It is anticipated that this condition will remain the same with the addition of runoff from the facility. Cattails are able to withstand short term changes in water levels and therefore are expected to remain intact in the wetland.

Overall, the created wetland provides a stormwater treatment function at present and additional stormwater runoff would not appear to impact this function or impact the vegetation communities that have become established. Again, drainage and stormwater management would be addressed in detail design during the facility design stage.

Noise Impacts on Wildlife

Noise will be generated during construction and presents a potential impact as wildlife may stay away from the area, e.g., during operation of heavy machinery. The potential impact from construction noise will depend on timing and duration of construction. In terms of bird life, construction activity between September and March will tend to have less effect as the majority of the birds will have migrated.

During operation there will be two seasons of potential impact; winter, with ice skating activity and spring to fall, when skateboarding will occur. During the winter period, again, there is less wildlife at the site that would be affected by the noise. Typically there is negligible noise associated with skating and it is anticipated that outdoor music would be played. This potential impact is considered to be negligible.

During the skateboarding period of operation, the noise level will be greater than skating and has the potential to impact wildlife in the adjacent habitat. There is available literature that describes some of the responses of different wildlife to noise. The information generally describes the response to different noise types such as sudden, loud and repetitive noise. To address the potential for noise impacts at the site, they are reviewed in terms of frequency, repetitiveness and magnitude and rank the effect as low, moderate or high.

Noise associated with skateboarding can be considered to be infrequent in the sense that that the time of day it occurs, the period of time it occurs and how many users are on site at the same time. This would tend to indicate that there are periods of time when wildlife can use the immediate area without disturbance from noise. During the night time period (darkness) when birds roost, no skateboard activity is expected and, therefore, low or no

noise impacts are expected. Bird singing and activity during the early part of the day will not likely be affected as this would be too early for most facility users to be on site. The effect is considered to be low.

There is some repetitiveness to the noise generated in the sense that there is a somewhat steady noise from the rolling wheels and the noise of the board hitting the hard surface. This effect is considered to be moderate.

The magnitude of the noise is based on the number of users present and the coordination of skateboard activities. For example, a number of skateboarders rolling on their boards in unison for the same period of time will be louder than the independent activities. It assumed that based on independent activity the noise magnitude will be low.

The created wetlands are separated from the site by some 100 metres and are at a lower elevation in the park. They are also separated by the existing vegetation surrounding the Power House site itself, as well as the regenerating vegetation around the margins of the wetlands. For these reasons it is unlikely that more secretive and sensitive species such as black-crowned night heron that will use the created wetlands will be affected by noise.

Apart from the noise associated with the activities themselves (i.e., ice skating or skateboarding) there is also the potential for related noise associated with the recreational uses (e.g., music played at the facility during regular use or events). Due to the multi-use nature of the park and the interest in passive uses such as walking and nature viewing, ambient noise is an important consideration. Ambient noise can be controlled through facility operations (e.g,, controlling music played through any facility sound systems) and through park management (e.g., user education/awareness). Vegetation can also be planted to enhance barriers to noise (east side) and potential impacts from intrusion into the adjacent vegetated areas.

6. Conclusion and Recommendations

The assessment of the natural heritage features of Colonel Sam Smith Park and the proposed skateboard facility location did not identify any significant habitats or species that would be significantly impacted by the proposed facility. The type of habitat available at the proposed location is abundant and of better quality elsewhere with the expanse of the Park. Therefore no further assessment is required.

The park and surrounding open spaces that make up the Lakeshore Grounds are acknowledged as undergoing transformation from historic hospital grounds to more diverse and intense uses, including the development of new facilities in the park (such as the proposed skateboard and pleasure skating facilities) and on surrounding lands (such as the schools). As new uses and facilities are implemented, appropriate mitigation and monitoring measures are recommended, including consultation with TRCA and

stakeholder groups on status of habitat and species (such as the black-crowned night heron) activity.

Should skateboard/skating facilities proceed at the site, mitigation measures to address potential impacts can be addressed in the facility design stage. The following recommendations are made to avoid or mitigate potential impacts or effects associated with development of the Power House site for recreation facilities.

1) Ensure buffer areas and plantings identified in earlier site analysis and facility development proposals are pursued;
2) Plantings should be designed to provide noise buffers and to enhance habitat and provide net benefit to the park;
3) Direct users to constructed paths and prevent establishment of "short cuts" and informal trails through existing vegetation and newly planted areas, associated with the facility;
4) The migratory bird period in this area of the province is generally from April to July. There should be no vegetation removal during this period.

7. References

City of Toronto and Toronto Region Conservation Authority.
2001. City of Toronto Natural Heritage Study - Final Report.

Ecologistics. 1990. Draft Lakeshore Environmental Management Master Plan.

Oldham, M.J., Bakowsky, W.D. and D.A. Sutherland. 1995.
Floristic Quality Assessment System for Southern Ontario. Natural Heritage Information Centre, Peterborough, Ontario.

Mark Peck. Ornithologist. Royal Ontario Museum. Personal communication.