



City of Richmond

Report to Committee

To: Parks, Recreation and Cultural Services
Committee
From: Dave Semple
Director of Parks Operations
Re: **Sports Field Lighting Upgrades 2003**

Date: March 19, 2003
File: 7200-01

Staff Recommendation

That staff bring forward a capital request as part of the 2004 Parks Capital program to finance the lighting improvement projects for Minoru 2 and Boyd fields in 2004.

Dave Semple
Director of Parks Operations
Local 3350

Att. 3

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CONCURRENCE OF GENERAL MANAGER

Staff Report

Origin

At the October 15, 2002 Council meeting, staff were directed to investigate opportunities for:

"...any surplus funds resulting from the installation of the artificial field at Minoru 2 be used to install additional lighting at the south end of the field, and that if such funding is not available, that the lighting project be considered in May, 2003 when funds become available through the Capital Reserve Fund."

At the November 26, 2002 meeting of the Parks Recreation & Cultural Services Committee, staff received the following additional referral in response to the sports community need for the additional lighting of sports fields:

"That Staff investigate the lighting of playfields at McNair Secondary School in an effort to increase the usable play time on the fields."

At the March 3, 2003 Council Meeting, as part of the deliberation on the 2003 Operating budget, Council amended the scope of the Sports Reserve Fund limiting it to only be utilized for artificial turf installation, and not for field lighting with the following resolution:

"That Part (2) of Resolution No. SP03/2-3 be amended by dedicating the funds in the statutory reserve fund for the establishment of all-weather and artificial turf fields to those priorities."

The purpose of this report is in response to the above referrals, and to outline a potential process for the upgrading of sports field lighting to address the current level of demand for lit field time by Richmond's fall/winter field groups.

Analysis

1. Current Lit Field Inventory

Richmond's current inventory of full size high quality fields includes sand based fields with excellent drainage systems and lighting at seven fields available for fall winter play in the rainy season when the days are shorter requiring lighting for play.

At present these sites are booked 100% of the time in the fall winter season from September to approximately May. In the fall/winter season, over 5,000 organised sports users compete for the coveted practise time under the lights, with youth having the first priority for quality facilities. The current lit playing field time available in the fall winter months today is approximately 7,700 hours, the addition of one more lit field in the inventory will increase available time by 15% or 1,100 hours.

In addition to the above Council referrals to investigate opportunities for upgrading and installing sports field lighting, the Sports Council Sub-Committee Report "Sports Field

Allocation, Policies and Procedures,” adopted by Council in April 2001 was “...referred to staff for review to develop necessary policy and procedure changes affecting the use and allocation of sports playing fields in Richmond.” The 2001 Sports Council report also supports the installation of additional field lighting as one way of increasing available field practise space.

A letter of support from the Richmond Sports Council (Attachment 1) has been received which identifies the upgrading of the field lighting system at the artificial turf field at Minoru 2, as well as the installation of a lighting system at the Boyd 1 field as being the preferred alternatives.

Minoru 2 Artificial Turf Field Lighting

The installation of the artificial turf at Minoru 2 was completed on November 1st, 2002. The new artificial field has received favourable comments and approvals from the Richmond Sport Council, the sport user groups and City staff. The tendered budget for the artificial turf field project was \$736,000. At the completion of the project an approximate surplus of \$14,000 remained in the reserve fund.

The existing lighting system at the new artificial turf field on Minoru 2 does not provide users with the adequate lighting levels and the illumination tests completed on October 30th, 2002 supports that there are areas which recorded substantially lower than the original design specifications. Essentially over time, the field lighting system at Minoru has deteriorated.

2. Options Available

Staff has worked with a lighting consultant to provide options available to upgrade our existing lighting system, details of each option ate presented in Attachment 2, and a summary of each is detailed below:

<i>Option</i>	<i>Action</i>	<i>Pros</i>	<i>Cons</i>	<i>Cost</i>
A	Installing two new poles, retrofitting the existing poles, and replacing all new light fixtures	Upgrade of lighting levels and utilizing some of the existing poles	High cost of installation of two new poles and foundation, overall lighting performance, upgrade of electrical service kiosk	\$135,479
B	Removing the existing four poles and fixtures and replacing them with a brand new four-pole system	Competitive costs to Option A, best overall lighting performance and efficiency, upgrade of lighting levels, retain existing poles & fixtures for future use	Initial installation costs, upgrade of electrical service kiosk	\$138,258
C	Relocating the existing poles and fixtures to provide better lighting coverage at the south end of Minoru 2	Less upgrades to electrical service kiosk required, least expensive option	Poor lighting levels and quality, existing fixtures will not provide adequate lighting coverage onto field, cost of foundation installation, existing foundations to remain	\$72,421

Minoru 2 Recommended Option B:

A new sports lighting system is recommended by the consultants in Option B which would consist of greater pole heights (70'-0 vs. 60'-0) and fixtures that will accommodate today's industry league standards of a 300 LUX lighting level for team and public sports use.

The greater pole heights and better technology in today's lighting systems equates to better uniformity of light, cost efficiency, and more control of the lighting pattern which then equates to less spill and glare over to the residential areas. The consultant's cost estimate information provided suggest that the cost difference of only \$3,000 more for the brand new four-pole system would be the recommended.

In addition, the City would gain the use of the existing poles for future use. The existing four pole lighting layout would be removed and can be utilized at a later date towards a project requiring a lesser level of illumination (i.e. playgrounds, tennis courts, lacrosse boxes, etc.).

McNair & Boyd Field Lighting**McNair Park**

In 1996, the park master plan was completed through a public process and the residents of the community voiced their concerns regarding the impact of the lighting into their homes. Subsequently, Council did not approve sports field lighting at McNair.

The park site currently consists of four softball diamonds and two soccer/football fields. In order to bring in a lighting system into the site it would require completing an engineering lighting design and B.C Hydro service installation. The initial estimated costs associated with this would be upwards of \$400,000, which includes 10 new poles and fixtures for both one of the softball diamond and one of the senior soccer pitches.

The available proposed location of the light poles would be only 13 metres (42'-0) from the residential property line. This would create a fair amount of "glare and spill-over" lighting into the back of these homes. With the limited space available between the sport fields and the adjacent residential homes we can expect a number of negative responses regarding this proposal as we have experienced in 1996.

Although Minor Football have a signed petition from the neighbourhood, the distance from the proposed lighting system will not prevent spillage onto the residential properties. Essentially there is not a sufficient buffer in place.

Staff do not recommend proceeding with a lighting system at McNair Park at this time, due to the proximity of residential properties, and the high cost of acquisition and installation of the lighting system.

Hugh Boyd Park

This proposal would complete one more phase of the park plan for the lighting of the fields at the park. The City had completed phase one in 1993, which included the senior soccer sand field (Boyd 3) and provided some spill over lighting into the southwest softball diamond.

Since some of the electrical underground work has already been established in phase 1 of the lighting plan at the Hugh Boyd fields, the cost of implementing this next phase would be considerably less than in McNair Park.

The B.C. Hydro and lighting service kiosks originally installed were designed for the additional future phases which would mean that the City would now only have to extend new conduits and electrical service towards a new lighting system consisting of three new poles and additional fixtures onto the existing poles at Boyd 1.

The proposed poles at the north side would be located approximately 28 metres (92'-0) from the residential property lines across from Francis Road, which would provide as a buffer to the lighting levels. The estimates to complete this next phase of the lighting plan would be around \$125,000.

Boyd and McNair Lighting Options Summary:

<i>Option</i>	<i>Action</i>	<i>Pros</i>	<i>Cons</i>	<i>Cost</i>
Boyd 1	Installing three new poles, retrofitting the existing pole and installing new light fixtures onto the existing pole	Upgrade of another sandfield with lights, utilizing some of the existing poles, hydro service and load capacity already available	Cost of installation of three new poles, possible lighting impact to residents on Francis Road	\$125,091
McNair	Research, design and install new electrical service into the site and install 10 poles & fixtures	Cost savings of material, labour and installation when purchasing greater number of poles & fixtures, lighting of one ball diamond and one soccer pitch	Substantial initial installation costs, limited space and lighting impact to the residential homes	\$427,943

At the Hugh Boyd location, a park plan for the lighting of the sports fields was completed and approved by Council in 1993, which consisted of future phases for consideration. Lighting implications to the residential homes on Francis Road would not be as severe as with McNair Park. The proposal to complete one more lighting phase in Hugh Boyd Park would be the better choice.

Financial Impact


The financial implications associated with the upgrading of the lighting at the Minoru 2 field are estimated to be \$138,258, and for the Boyd field project \$125,091. The total capital allocation required to complete both lighting project in 2004 would be \$264,000.

CONCLUSION

The proposal to upgrade the lighting levels at Minoru 2 will compliment the new artificial turf sports field usage and resolve the lighting concerns during evening and late night games. Minoru 2 will continue to benefit all the community field sport users for years to come with its proven all weather capability during the heavy rainfall conditions we have experienced.

The location at Minoru 2 presents the City with an excellent tournament site for existing and future events, and also has increased the availability of much needed well-drained sports play space in the fall/winter season.

Based on the costs associated with implementing a new lighting system and the implications to the residential homes at McNair Park, staff would suggest the proposal for lighting this site be placed for future discussion. Council did not approve lighting in the park master plan when it was completed in 1996 due to a number of concerns from the community.



Mike Redpath
Manager, Parks - Programs, Planning & Design
Local 1275

MER:mer

Richmond Sports Council
c/o 6331 Bouchard Court
Richmond BC
V7C 5W3

Attachment 1

20 February, 2003

Mr. Mike Redpath

Parks Department
City of Richmond
6911 No 3 Road
Richmond BC
V6Y 2C1



Dear Mr. Redpath:

At the 28 January 2003 monthly meeting of the Richmond Sports Council members discussed lighting of Field #1 at Hugh Boyd/West Richmond and /or upgrading lighting on Minoru 2 field (field turf field). Sports Council's recommendation is in the following motion:

To proceed with lighting Boyd #1 and upgrade lighting on new Turf
Total approximately \$238,000. Suto/Donaldson, carried

Members of Sports Council feel there is a need to upgrade the lighting a Minoru 2 as this is Richmond's premier field and lighting on this field is presently inadequate. The addition of lighting to Boyd #1 will upgrade this field and allow for night use.

We trust our recommendation will be taken forward.

Sincerely

Cheryl Taunton
Chair

Attachment 2 Minoru 2 Field Lighting Detailed Cost Estimates

Option A (not recommended)

The option of installing two new poles & fixtures and retrofitting the existing four poles with new fixtures and upgrading the electrical service to accommodate the new lighting levels:

New poles (2) and fixtures (GE or Hubbell)	\$52,889.00
Install/Retrofit poles & fixtures (4 existing) and upgrades to electrical service	\$35,000.00
Install 2 new poles and foundation	<u>\$15,000.00</u>
	\$102,889.00
Taxes	<u>\$14,918.91</u>
	\$117,807.90
Contingency @ 15%	<u>\$17,671.19</u>
Total	\$135,479.09

Option B (recommended)

The option of installing four new poles and fixtures and upgrading the electrical service to accommodate the new lighting levels:

New poles (4) and fixtures (Musco)	\$70,000.00
Installation of poles and upgrades to electrical service	<u>\$35,000.00</u>
	\$105,000.00
Taxes	<u>\$15,225.00</u>
	\$120,225.00
Contingency @ 15%	<u>\$18,033.75</u>
Total	\$138,258.75

Option C (not recommended)

The option of relocating the existing four poles and fixtures to provide lighting coverage at the south end of the field:

Install new concrete foundations (4)	\$30,000.00
Relocate existing poles & hardware (4)	<u>\$25,000.00</u>
	\$55,000.00
Taxes	<u>\$7,975.00</u>
	\$62,975.00
Contingency @ 15%	<u>\$9,446.25</u>
Total	\$72,421.25

Attachment 3 McNair Park and Hugh Boyd Park Field Lighting Detailed Cost Estimates

Hugh Boyd Park

The option of installing three new poles and fixtures and to upgrade the existing pole for Boyd 1

New poles (3) and fixtures	\$60,000.00
Install/Retrofit poles & fixtures (1 existing) and upgrades to electrical service	\$20,000.00
Electrical components and installation	<u>\$15,000.00</u>
	\$95,000.00
Taxes	<u>\$13,775.00</u>
	\$108,775.00
Contingency @ 15%	<u>\$16,316.25</u>
Total	\$125,091.25

McNair Park

The option of installing 10 new poles and fixtures & installing electrical service to accommodate lighting at McNair Park:

New poles (10) and fixtures	\$150,000.00
Design, layout, and consultation	\$25,000.00
B.C. Hydro service	\$30,000.00
Contract installation	<u>\$120,000.00</u>
	\$325,000.00
Taxes	<u>\$47,125.00</u>
	\$372,125.00
Contingency @ 15%	<u>\$55,818.75</u>
Total	\$427,943.75