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**TO:** CITY MANAGER **DATE:** 2007 March 29

**FROM:** DIRECTOR PARKS, RECREATION AND CULTURAL SERVICES

**SUBJECT: BURNABY MOUNTAIN CONSERVATION AREA - REQUEST FOR LICENCE AREA FOR NSEMO EMERGENCY RADIO REPEATER**

**PURPOSE:** To request approval in principle to enter into a licence agreement with the North Shore Emergency Management Office for installation and operation of an emergency radio repeater service.

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**RECOMMENDATION:**

1. **THAT** approval be granted in principle to enter into a licence agreement with the North Shore Emergency Management Office for installation and operation of an emergency radio repeater service on an existing radio mast structure within the Burnaby Mountain Conservation Area subject to a review of Burnaby's emergency communication infrastructure needs and negotiation of a licence agreement acceptable to the City as outlined in the attached report.

**REPORT**

At its 'Open' Meeting of 2007 March 28, the Parks, Recreation and Culture Commission received the above noted report and adopted the two recommendations contained therein.



Kate Friars  
DIRECTOR PARKS, RECREATION AND CULTURAL SERVICES

KF:tc

Attachment

P:\ADMIN\TC\COUNCIL\PK-REQUEST FOR LICENCE AREA FOR NSEMO EMERGENCY RADIO REPEATER

Copied to: City Manager  
Risk Manager  
City Solicitor

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**TO:** CHAIR AND MEMBERS  
PARKS, RECREATION & CULTURE COMMISSION

**FROM:** DIRECTOR PARKS, RECREATION AND CULTURAL SERVICES

**SUBJECT:** BURNABY MOUNTAIN CONSERVATION AREA - REQUEST FOR  
LICENCE AREA FOR NSEMO EMERGENCY RADIO REPEATER

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**RECOMMENDATIONS:**

1. **THAT** Council be requested to grant approval in principle to enter into a licence agreement with the North Shore Emergency Management Office for installation and operation of an emergency radio repeater service on an existing radio mast structure within the Burnaby Mountain Conservation Area subject to a review of Burnaby's emergency communication infrastructure needs and negotiation of a licence agreement acceptable to the City as outlined in this report.
2. **THAT** a copy of this report be sent to Dirk deJager of Chroma Communication Group Inc. and to Fiona Dercole, Acting Director of North Shore Emergency Management Office.

**REPORT**

**INTRODUCTION**

The City is in receipt of a proposal from Chroma Communication Group Inc., on behalf of the North Shore Emergency Management Office (NSEMO), requesting permission to install a radio repeater service on an existing vacant radio mast structure located within the core Centennial Pavilion area of the Burnaby Mountain Conservation Area. This report seeks authorization to work with NSEMO and Chroma Communication Group Inc. to determine the infrastructure and licence area required for the NSEMO installation, compatibility with the City's existing and planned emergency communications infrastructure, opportunities for shared emergency communications infrastructure at the Burnaby site and on the North Shore; and, authorization to negotiate a licence agreement with NSEMO for the installation and operation of the requested radio repeater system.

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From: Director Parks, Recreation and Cultural Services  
Re: Burnaby Mountain Conservation Area-Request for  
Licence Area for NSEMO Emergency Radio  
Repeater

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## **THE NORTH SHORE EMERGENCY MANAGEMENT OFFICE**

Operating under the direction of the North Shore Emergency Management Office (NSEMO) is an inter-municipal agency supported by the City of North Vancouver, the District of North Vancouver and the District of West Vancouver. The NSEMO works in partnership with all three North Shore municipalities to plan, coordinate and test emergency and disaster response services. The NSEMO supports municipal planning initiatives required for an advanced level of emergency preparedness. In addition the agency works with community, regional and provincial inter-agency bodies to promote effective risk management practices and safer communities.

## **EMERGENCY RADIO SYSTEM PROPOSAL**

The NSEMO is undertaking to have an emergency radio repeater system installed to service the NSEMO, the City of North Vancouver, the District of North Vancouver and the North Vancouver School District. Chroma Communication Group Inc. is managing the installation of the emergency radio system on behalf of the NSEMO. The radio system will be a valuable resource to the North Shore agencies in their management of community emergencies.

A Radio Repeater is a combination of a radio receiver and a radio transmitter that receives a weak or low-level signal and retransmits it at a higher level or higher power, so that the signal can cover longer distances without degradation. In emergency services communications, repeaters are used extensively to relay radio signals across a wider area. Radio repeaters are typically placed in locations which maximize their effectiveness for their intended purpose. High-level repeaters are placed on tall towers or mountain tops to maximize their area of coverage. With these systems, users with low-powered radios (such as hand held "walkie-talkies") can communicate with each other over many miles.

Burnaby Mountain provides an excellent location for the radio system due to its elevation and view of the North Shore including the Deep Cove Area. There are two suitable sites to locate the radio system within the Burnaby Mountain Conservation Area as illustrated in Attachment #1; an existing radio site on the hill above the Centennial Pavilion; and the rooftop of the Pavilion building above Horizons Restaurant. Both sites have access to electrical power and a suitable structure to support a simple antenna system. Chroma Communications has reviewed both sites and at this time would like to further explore the option of the existing radio site for the NSEMO radio system.

The attached diagram (Attachment #2), provides details of the proposed radio repeater site configuration. It is proposed that the existing steel mast be inspected and re-furbished or replaced depending on its condition. The antenna would be mounted on a pole at the top of the mast. The equipment housing currently mounted on the lower part of the mast would be replaced, enlarged and moved to a new concrete base at the foot of the mast. The size of the new equipment enclosure would be approximately 1.2 meters square. If Burnaby plans to also utilize

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the mast for its emergency radio system, the design of the radio antenna and the size of the equipment enclosure can be modified to accommodate both the NSEMO and Burnaby infrastructure. There are many possible engineering solutions to sharing of antenna at one radio site, including use of filters and combiners, same-band repeaters and multicouplers.

The NSEMO is requesting the City of Burnaby permit the use of the existing radio site within Burnaby Mountain Conservation Area for its radio system and will provide suitable insurance coverage for the installation. As the radio system supports emergency preparedness and is not for profit, the NSEMO is also requesting that the site be provided with no ongoing fees.

### **EXISTING RADIO SITE AT BURNABY MOUNTAIN CONSERVATION AREA**

In November 1976 the City granted a licence to CKNW/CFMI a Division of Corus Radio (formerly Western Radio Group Ltd.) for permission to use a 9 ft. x 9 ft. area within Burnaby Mountain Park to locate a mobile F.M. control station for a period of five years. The radio site consisted of a 35 ft. high tubular steel mast with a 6 cubic feet housing unit mounted on a 2 ft. x 2 ft. x 3 ft. concrete base. The site is serviced by underground wiring for both hydro and telephone. In 2001, after five consecutive terms, CKNW cancelled its licence and turned the radio site over to the City. The per annum fee during the last five year term was \$250.

The radio site was offered to the City of Burnaby's Emergency Preparedness Program who had expressed an interest in the mast unit for one of its mobile repeaters. However, the decision was made not to use the structure at that time and hydro service to the unit was disconnected. The radio mast unit was left in place and is presently available for use.

### **PLANNING FOR EMERGENCY COMMUNICATION IN BURNABY**

Planning for emergency preparedness in Burnaby is now managed through the Office of the City Risk Manager. In principle, the use of the existing radio site within the Burnaby Mountain Conservation Area by NSEMO for its emergency radio repeater system is supported. However, a review of Burnaby's existing and planned emergency communications infrastructure requirements is warranted to first identify and reserve opportunities to meet Burnaby's needs and to ensure compatibility between radio systems. Consultation with the Burnaby Fire Department and Rescue Team regarding its emergency radio system requirements is also recommended.

NSEMO is also open to exploring reciprocal use of its radio sites on the North Shore by Burnaby for its emergency radio system. The siting of a radio repeater service on the North Shore may be of benefit to radio communications on the northface of Burnaby Mountain and Capitol Hill, where the steep terrain and cliffs make rescue efforts challenging.

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From: Director Parks, Recreation and Cultural Services  
Re: Burnaby Mountain Conservation Area-Request for  
Licence Area for NSEMO Emergency Radio  
Repeater

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## **SUMMARY**

The City has been approached by Chroma Communication Group Inc. with a request to permit NSEMO to use an existing radio site within the Burnaby Mountain Conservation Area for an emergency radio repeater to assist in the management of community emergencies on the North Shore. As the radio site is presently available for use the NSEMO request is generally supported. Staff are seeking approval in Principle to enter into a licence agreement with NSEMO for use of the existing radio site subject to a review to ensure compatibility with the City's existing and planned emergency communications infrastructure and the identification of opportunities for shared emergency communications infrastructure at the Burnaby site and on the North Shore. If approval in principle is granted, staff will work with Chroma Communication Group Inc. to identify shared infrastructure opportunities and to ensure a compatible system is designed, and will negotiate a licence agreement with NSEMO for consideration by Commission and Council at a future meeting.



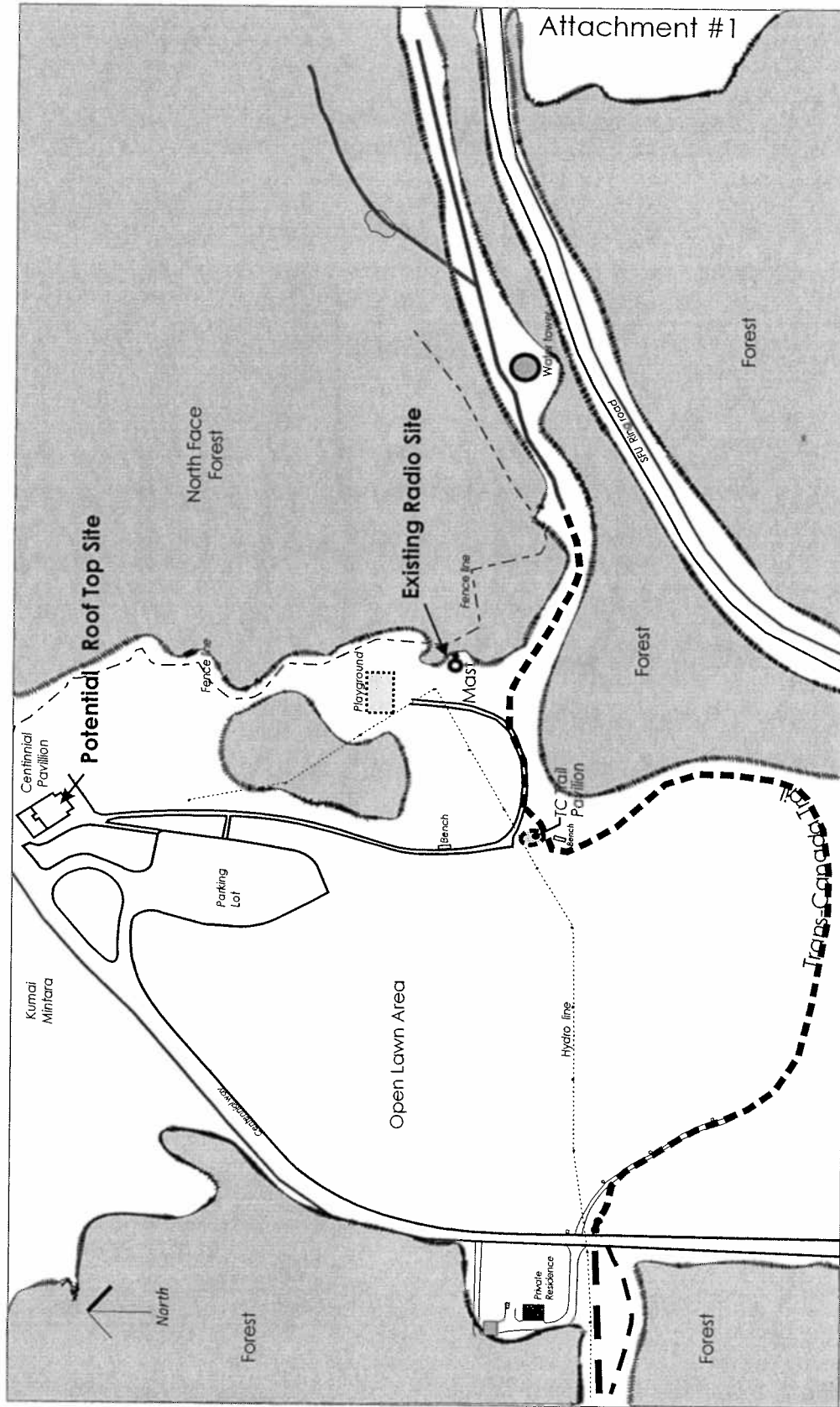
Kate Friars  
DIRECTOR PARKS, RECREATION AND CULTURAL SERVICES

ATS:ats:tc

### **Attachments**

p:\shared\as\reports\to be formatted\licence area for nsemo emergency radio repeater

cc: City Manager  
Risk Manager  
City Solicitor



Attachment #1

Dwg. # O.P. 15-1-83s  
 Date: 99 06 28  
 Updated: Mar. 2007-dd  
 Scale: nts  
 Drawn by: HD

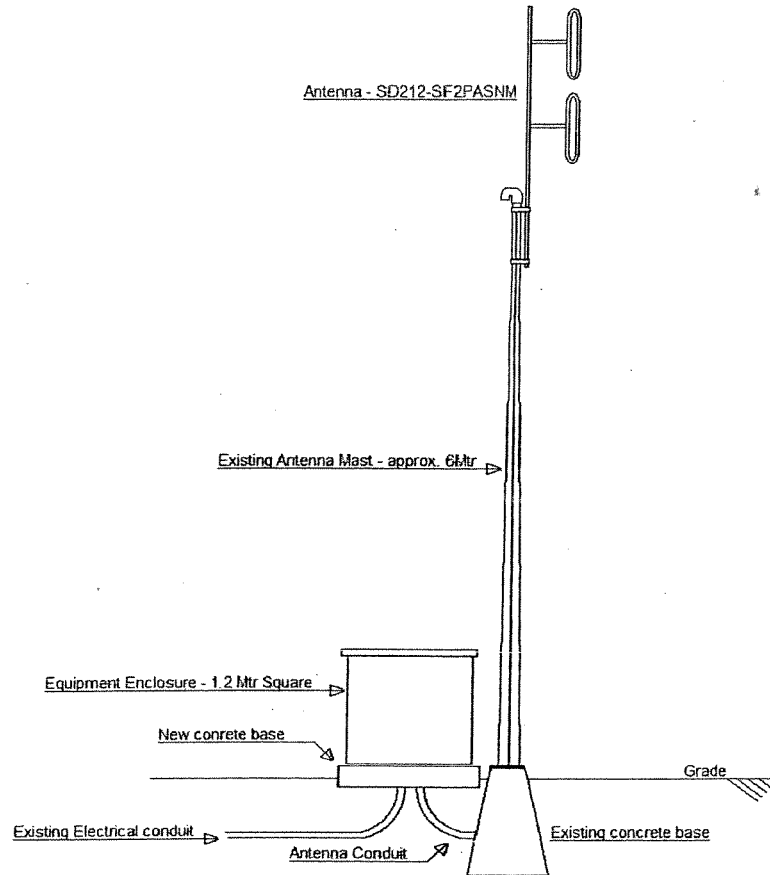
## Burnaby Mountain Conservation Area

(Location of radio mast sites for proposed NSEMO Emergency Radio Repeater)



Chroma Communications Group Inc.

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Coquitlam, BC V3J 5X3  
Tel: 604-280-1936  
Fax: 604-937-7372



Not to scale

North Shore Emergency Management Office	
Burnaby Mountain Antenna Site Conceptual Design	
DWG.1	February 15, 2007

ATTACHMENT #2