MINUTES OF THE **REGULAR MEETING OF COUNCIL** HELD IN THE COUNCIL CHAMBER, CITY HALL, 141 WEST 14th STREET, NORTH VANCOUVER, B.C., ON **MONDAY, DECEMBER 17, 2012**

REPORTS OF COMMITTEES, COUNCIL REPRESENTATIVES AND STAFF

15. Wireless Communication Design and Consultation Policy – File: 6630-01

Report: Planner 2, Community Development, December 12, 2012.

Moved by Councillor Heywood, seconded by Councillor Keating

PURSUANT to the report of the Planner 2, Community Development, dated December 12, 2012, entitled "Wireless Communication Design and Consultation Policy":

THAT the proposed Wireless Communication Design and Consultation Policy be adopted as City Policy, on an interim basis, to guide the City's review of telecommunication antenna and tower proposals and to facilitate commenting to proponents and Industry Canada under the Federal *Radiocommunication Act* as set out in the December 12, 2012 report;

AND THAT the Rogers Communications North Shore Highway #1 Corridor proposal also being reviewed by the Districts of North and West Vancouver be reviewed and processed in that context;

AND THAT Staff be directed to continue the ongoing dialogue with the Districts of North and West Vancouver on this and related issues;

AND THAT Staff be directed to further consider the Wireless Communication Design and Consultation Policy and return with proposed amendments necessary to implement a Development Permit system and associated application fee bylaw changes necessary to streamline the process, for future consideration by Council.

CARRIED UNANIMOUSLY

The Corporation of the **CITY OF NORTH VANCOUVER**

CITY CLERK'S DEPARTMENT

January 10, 2013 File: 6630-01

Mr. James Gordon
Manager - Administrative Services
District of North Vancouver
355 West Queens Road
North Vancouver, BC V7N 4N5

Dear Mr. Gordon:

Re: Wireless Communication Design and Consultation Policy

The City Council at its regular meeting of Monday, December 17, 2012, unanimously endorsed the following resolution:

> **"PURSUANT** to the report of the Planner 2, Community Development, dated December 12, 2012, entitled "Wireless Communication Design and Consultation Policy":
>
> **THAT** the proposed Wireless Communication Design and Consultation Policy be adopted as City Policy, on an interim basis, to guide the City's review of telecommunication antenna and tower proposals and to facilitate commenting to proponents and Industry Canada under the Federal *Radiocommunication Act* as set out in the December 12, 2012 report;
>
> **AND THAT** the Rogers Communications North Shore Highway #1 Corridor proposal also being reviewed by the Districts of North and West Vancouver be reviewed and processed in that context;
>
> **AND THAT** Staff be directed to continue the ongoing dialogue with the Districts of North and West Vancouver on this and related issues;
>
> **AND THAT** Staff be directed to further consider the Wireless Communication Design and Consultation Policy and return with proposed amendments necessary to implement a Development Permit system and associated application fee bylaw changes necessary to streamline the process, for future consideration by Council."

Yours truly,

Robyn G. Anderson
City Clerk

Encl. (Electronic version posted on www.cnv.org/city hall/council meetings/council meeting agenda)

cc S. Smith, Planner, Community Development

Document: 1004619-v1

The Corporation of the **CITY OF NORTH VANCOUVER**

CITY CLERK'S DEPARTMENT

January 10, 2013 File: 6630-01

Ms. Sheila Scholes
Municipal Clerk
District of West Vancouver
750 17th Street
West Vancouver, BC V7V 3T3

Dear Ms. Scholes:

Re: Wireless Communication Design and Consultation Policy

The City Council at its regular meeting of Monday, December 17, 2012, unanimously endorsed the following resolution:

> **"PURSUANT** to the report of the Planner 2, Community Development, dated December 12, 2012, entitled "Wireless Communication Design and Consultation Policy":
>
> **THAT** the proposed Wireless Communication Design and Consultation Policy be adopted as City Policy, on an interim basis, to guide the City's review of telecommunication antenna and tower proposals and to facilitate commenting to proponents and Industry Canada under the Federal *Radiocommunication Act* as set out in the December 12, 2012 report;
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> **AND THAT** the Rogers Communications North Shore Highway #1 Corridor proposal also being reviewed by the Districts of North and West Vancouver be reviewed and processed in that context;
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> **AND THAT** Staff be directed to continue the ongoing dialogue with the Districts of North and West Vancouver on this and related issues;
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> **AND THAT** Staff be directed to further consider the Wireless Communication Design and Consultation Policy and return with proposed amendments necessary to implement a Development Permit system and associated application fee bylaw changes necessary to streamline the process, for future consideration by Council."

Yours truly,

Robyn G. Anderson
City Clerk

Encl. (Electronic version posted on www.cnv.org/city hall/council meetings/council meeting agenda)

cc S. Smith, Planner, Community Development

Document: 1004620-v1

The Corporation of the **CITY OF NORTH VANCOUVER**

CITY CLERK'S DEPARTMENT

January 15, 2013 File: 6630-01

Mr. Darren Hird
Manager of Real Estate and Municipal,
Network Implementation
Rogers Communications Inc.
#1600 - 4710 Kingsway
Burnaby, BC V5H 4W4

Dear Mr. Hird:

Re: Wireless Communication Design and Consultation Policy

The City Council at its regular meeting of Monday, December 17, 2012, unanimously endorsed the following resolution:

> **"PURSUANT** to the report of the Planner 2, Community Development, dated December 12, 2012, entitled "Wireless Communication Design and Consultation Policy":
>
> **THAT** the proposed Wireless Communication Design and Consultation Policy be adopted as City Policy, on an interim basis, to guide the City's review of telecommunication antenna and tower proposals and to facilitate commenting to proponents and Industry Canada under the Federal *Radiocommunication Act* as set out in the December 12, 2012 report;
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> **AND THAT** the Rogers Communications North Shore Highway #1 Corridor proposal also being reviewed by the Districts of North and West Vancouver be reviewed and processed in that context;
>
> **AND THAT** Staff be directed to continue the ongoing dialogue with the Districts of North and West Vancouver on this and related issues;
>
> **AND THAT** Staff be directed to further consider the Wireless Communication Design and Consultation Policy and return with proposed amendments necessary to implement a Development Permit system and associated application fee bylaw changes necessary to streamline the process, for future consideration by Council."

Yours truly,

Robyn G. Anderson
City Clerk

Encl. (Electronic version posted on www.cnv.org/city hall/council meetings/council meeting agenda)

cc S. Smith, Planner, Community Development

Document: 1005660-v1

Dept. Manager	Director	City Manager

The Corporation of **THE CITY OF NORTH VANCOUVER**
COMMUNITY DEVELOPMENT DEPARTMENT

REPORT

To: Mayor Darrell R. Mussatto and Members of Council

From: Suzanne A. Smith, Planner 2, Community Development

SUBJECT: WIRELESS COMMUNICATION DESIGN AND CONSULTATION POLICY

Date: December 12, 2012 File No: 6630-01

The following is a suggested recommendation only. Please refer to Council Minutes for adopted resolution.

RECOMMENDATION:

PURSUANT to the report of the Planner 2, dated December 12, 2012, entitled "Wireless Communication Design and Consultation Policy":

THAT the proposed Wireless Communication Design and Consultation Policy be adopted as City Policy, on an interim basis, to guide the City's review of telecommunication antenna and tower proposals and to facilitate commenting to proponents and Industry Canada under the Federal *Radiocommunication Act* as set out in this report;

AND THAT the Rogers Communications North Shore Highway #1 Corridor proposal also being reviewed by the Districts of North and West Vancouver be reviewed and processed in that context;

AND THAT Staff be directed to continue the ongoing dialogue with the Districts of North and West Vancouver on this and related issues;

AND THAT Staff be directed to further consider the Wireless Communication Design and Consultation Policy and return with proposed amendments necessary to implement a Development Permit system and associated application fee bylaw changes necessary to streamline the process, for future consideration by Council.

ATTACHMENT:

1. Industry Needs: Wireless Antenna Siting Forum, 2012 UBCM presentation: Canadian Wireless Telecommunications Association;
2. Municipal Best Practices – Antenna and Tower Policies;
3. Vancouver Coastal Health: Statement of the Chief Medical Health Officer (Vancouver), June 2011;
4. CNV Wireless Communication Design and Consultation Policy;
5. Industry Canada – Client Procedures Circular: Radiocommunication and Broadcasting Antenna Systems.

PURPOSE:

To seek Council endorsement of a Wireless Communication Design and Consultation Policy (Attachment #4) which would regulate the placement and design of any new towers, modification to existing facilities and building or City infrastructure mounted antennas in the City. While recognizing the City's limited jurisdiction in these matters, the attached proposed design and consultation policy would nonetheless replace the default Industry Canada standards (Attachment #5) and potentially contribute to greater consistency in wireless facility design and consultation across the North Shore.

Staff would also use this policy in continuing to process the Rogers Communication Tower proposal and to guide the integration of new or different technology, Shaw EXO, on City infrastructure as per a previous Council resolution.

BACKGROUND:

The cellphone/wireless industry is expanding at a phenomenal rate (Attachment #1), putting pressure on existing communications infrastructure (towers, antennas, etc.). As more wireless spectrum becomes available to a greater number of carriers the need for more towers and antennas increases. The widespread increase in the use of devices is drawing on the network capacity to the extent that cell sites that could once be counted on are now suffering from reduced coverage and gaps in service are appearing.

The industry is expanding in its demand for new sites around the region. For example, Rogers Communications is working on a consistent approach for service provision across the North Shore along the Highway corridor; meanwhile Shaw Communications, for example, has pursued a different technology called EXO which requires smaller antennaes to be placed in closer proximity (every half block) to connect its system. The City is currently discussing the installation of such installations on City infrastructure to provide wi-fi service to core areas in the City. The introduction of new technologies such as this also require care in design and integration.

In short, there is increased demand and growing pressure for placing more of these utilities on private land/buildings, city buildings and public streetscapes and parks.

Municipalities are, increasingly, updating or introducing formal policy to guide the design and consultation requirements, elements over which municipalities have authority (Attachment #2). There are, however, matters beyond the City's authority or expertise when it comes to wireless communications, such as health and safety. This has been a big issue in past applications such as Tempe Heights. Some communities, such as the City of Vancouver, have relied on a press release issued by Vancouver Coastal Health on the topic (Attachment #3). Industry Canada refers to Safety Code 6 (GL-02) as the final word on acceptable levels. The City will refer any inquiries regarding health and safety to the prospective applicants for a response.

Rogers Communications:

In July Staff met with representatives of Rogers and their consultants regarding a proposal for a series of design sensitive towers along Highway#1 across the North Shore, in the Provincial right of way, which would fill in current or imminent gaps in service (Rogers) to the sub region.

On July 16, 2012, Council endorsed the following recommendation:

> **GIVEN THAT** the City, like other municipalities across Canada, struggles with the local impacts of the growing number of cellular/wireless installations in a federally regulated industry;
>
> **THEREFORE** the City acknowledges the forward thinking approach by Rogers for a design sensitive approach to new or revised cellular/wireless communications infrastructure across three North Shore municipalities;
>
> **AND** directs staff to process this proposal, subject to participation from both the District of North Vancouver and District of West Vancouver;
>
> **AND THAT** staff report back with the results of this process.
>
> **CARRIED UNANIMOUSLY**

In the time since this Council resolution was passed, staff have worked with Rogers Communications regarding their proposal and have followed their progress in connecting the other two North Shore municipalities in a collaborative, highly design sensitive approach to filling the gaps in their service along the highway corridor.

The two proposed tower locations in the City are undergoing final modifications in (positive) response to the City's request for Rogers to seek other service providers to share (co-locate on) these facilities. This reduces the need for Council and staff to revisit the issue with multiple carriers in the future.

Staff have also been working in parallel to update and create a formal City policy (design and consultation requirements) regarding wireless facilities more broadly while

recognizing our limited jurisdiction. In doing so, staff have drawn from other municipal policies but especially West Vancouver and its interim policy to address similar issues, in an effort to support consistency in application across the North Shore over time.

DISCUSSION:

Policy Context – Federal Government

Industry Canada regulates wireless spectrum and antennae through the Federal *Radiocommunication Act.* This legislation gives local government very little authority regarding the siting of cell towers or antennas. Industry Canada regulations do permit local governments to develop a public consultation policy for the siting of such structures (Attachment #5). These federal guidelines are, however, restrictive regarding what topics can be considered during consultation. Issues of impact on property values or safety issues are not considered relevant.

Industry Canada will respect a local government consultation process if it has been enacted through adoption of policy or bylaw. The City's current approach has been less formalized to date, only applying to building mounted antenna applications seeking a variance for height through the zoning bylaw, at the City's request. Staff are looking to effect greater control over such installations without taking on an approval role for which the City has no authority to refuse.

Policy Context – Provincial Government

The Ministry of Transportation & Highways has recently changed its approach to now require that a service provider proposing a new tower on Provincial lands, seek local government approval before allowing use of its right of way. However, should a local Council pass a resolution of non-support for such an application, the proponent, under Federal regulations, may apply to Industry Canada for an "impasse request" wherein Industry Canada acts as an arbiter and may choose to permit the application. Still, this would appear to be a positive move on the part of the Province.

Policy Context - City of North Vancouver

In the City of North Vancouver, very few requests in the past have been received regarding towers over 15m in height. Of antennas on private or public buildings, only those in which the antenna would project beyond the current permitted heights in the Zoning Bylaw, such as a third party antenna, would require Council consideration and approval via a Development Variance Permit. These applications are awkward at the best of times given the City's lack of jurisdiction. At best, staff have worked with proponents who have stepped forward and agreed to make specific design related changes such as grouping, shrouding and painting antennas to match. A formalized process will require, per Industry Canada policy, service providers to respond to design and consultation requirements.

The City of North Vancouver is motivated to see improvements in the service level provided by telecommunications infrastructure in the City. For one, having adequate

facilities such as repeater equipment to support and even enhance emergency communication services, is of great importance. This has a direct benefit to public safety as a whole.

CNV WIRELESS COMMUNICATION DESIGN AND CONSULTATION POLICY:

The consideration of new wireless communication towers, modification to existing facilities and building mounted antennas in the City has been considered within the context of the placement of these utilities on private land/buildings, city buildings and public spaces. The proposed policy attempts to address the nuances of each.

The policy provides direction for wireless antennas and towers on siting, blending with existing buildings and streetscapes, ensuring equipment cabinets are properly addressed as well as points of contact with staff, community consultation and Council approval (for any Zoning Bylaw variances triggered). The Development Variance Permit process would still be used in the interim for properties where a third party installation would project beyond the height maximum for the building. If, as recommended, staff are directed to proceed with a Development Permit process for these in the future they can be accommodated with a broader amendment and processed mainly at the staff level.

The four 'types' of installations governed by this design and consultation policy include:

- Type A: Rooftop – includes facilities located on the roof or side of building.
- Type B: Adaptive Reuse – facilities added to existing structures such as telephone or hydro poles.
- Type C: Towers – new and retrofitted existing towers which would be lengthened to beyond 15m.
- Type D: City Streetscape & Public Areas – facilities located on City infrastructure or in public areas such as streetscapes, plazas and parks.

This policy also addresses the application of new technology such as Shaw EXO which uses multiple smaller installations on City infrastructure to achieve coverage over an area. It encourages the removal of obsolete technology and equipment (by all service providers) over time as upgrades occur. Also encouraged is permitting of colocation of repeaters and equipment in new installations in support of local emergency communication services.

Across the spectrum of wireless facilities and their proposed installation, the policy would see the following breakdown in roles:

- City role: design and consultation expectations; input on the consultation process, monitoring of the process; provision of input (resolution) at the end of the consultation process.

- Applicant role: design concepts & implementation; prepare, advertise, conduct and pay for consultation process; field and respond to inquiries regarding health, safety and view impacts.

HOW PROPOSED CITY POLICY DIFFERS FROM INDUSTRY CANADA REGULATIONS:

The City's policy differs from the default Industry Canada policy in that it outlines expectations for design to help new wireless communication facilities of various sizes better fit into the City's urban form and streetscapes. It clarifies optimal siting locations and consultation/notification requirements as well as providing clarity on roles. The City will defer inquiries on aspects such as health to the applicant for example. This policy can also be applied to otherwise exempted facilities as a preferred approach.

CONCLUSION:

With a formalized design and consultation process in place in the City, service providers can expect a rapid approval process sanctioned (relatively speaking) by the local municipality, a higher aesthetic standard for installations across all providers and a more positive reaction from customers to any installations in their neighbourhoods.

From the municipal perspective, the community (residents and businesses alike) receive the benefit of an effective network, antennae installations on buildings, and any new towers along the Highway #1 corridor do not compromise architectural expression or aesthetics. This would be the same for any equipment cabinet designs which would be more attractive.

NEXT STEPS:

If endorsed, staff would process the Rogers' application based on the attached interim policy. Staff anticipate bringing this interim policy back to Council early in the new year for comments and feedback before it is finalized.

FINANCIAL IMPLICATIONS:

There will be some financial implications for the City associated with this approach as staff process or continue to process applications such as Rogers Communications has brought forward for Highway #1 as there currently is no fee associated with such an application. Staff are confident this application and any minor ones that may come forward in the next few months could be accommodated within existing staff resources. The staff recommendation to return with a Development Permit process with an

associated fee structure for Council consideration would address this issue for the longer term.

INTER-DEPARTMENTAL IMPLICATIONS:

Engineering, Parks and Environment and Community Development, Lands & Business Services staff have worked together and contributed to this report. The report was considered at the December 11, 2012 Civic Projects Team meeting.

SUSTAINABILITY COMMENTS:

Being able to communicate and having access to information, through wireless communication service, contributes to a responsive and engaged community and contributes to its livability. Working through inter-jurisdictional issues on behalf of the community is key to finding a solution to this complex issue.

CORPORATE PLAN AND/OR POLICY IMPLICATIONS:

Although cellular/wireless communication is federally regulated, the proposed approach supports Section 11.1 in the Community Infrastructure section of the Official Community Plan. This section references telecommunications as a key element of basic services necessary to sustain the health, safety, social and economic wellbeing of a community.

STRATEGIC PLAN IMPLICATIONS:

This approach supports the City's Strategic plan goals to enhance community safety as well as balance economic and social needs of the community.

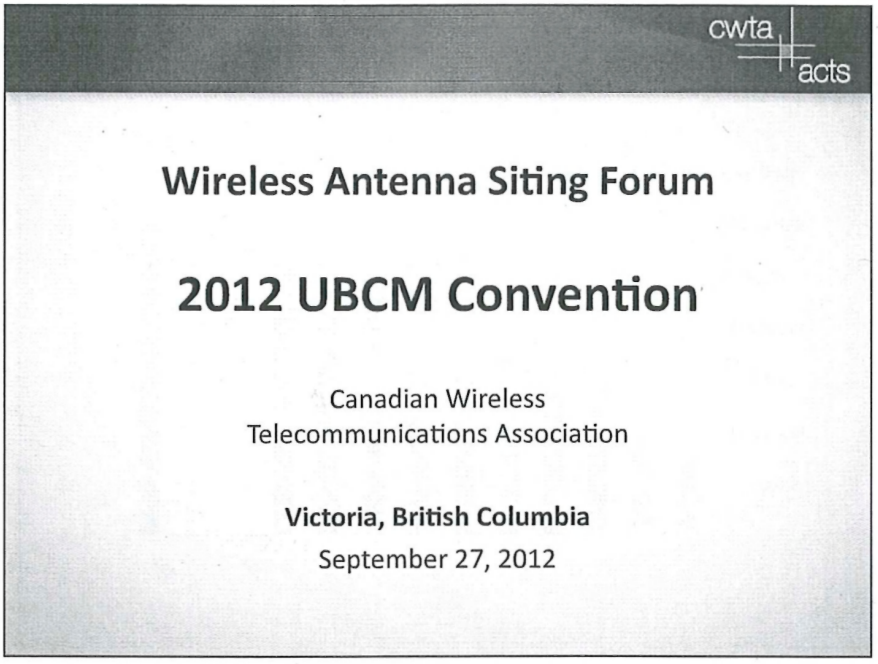
RESPECTFULLY SUBMITTED:

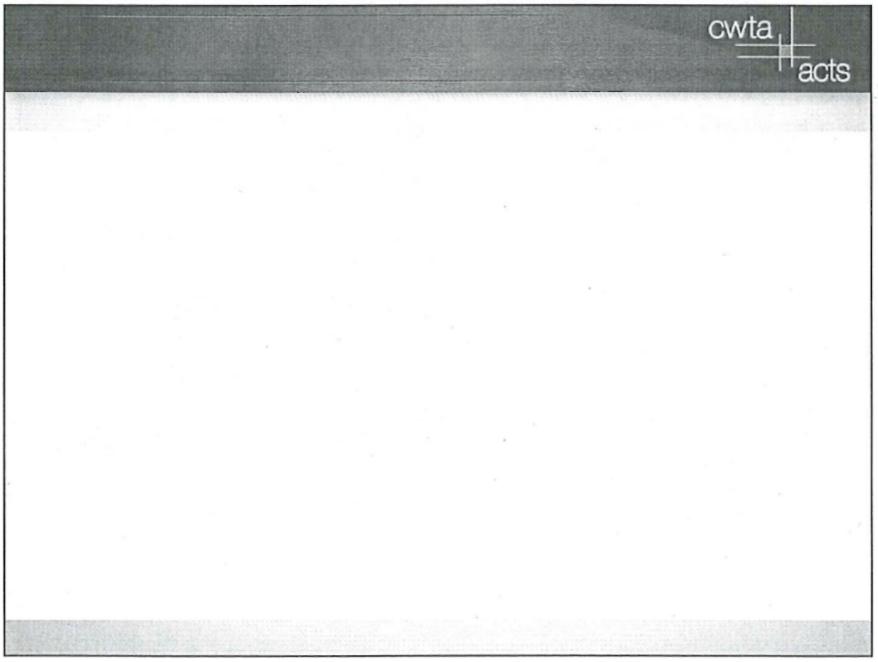
S.A. Smith
Planner 2, Community Development

Attachments

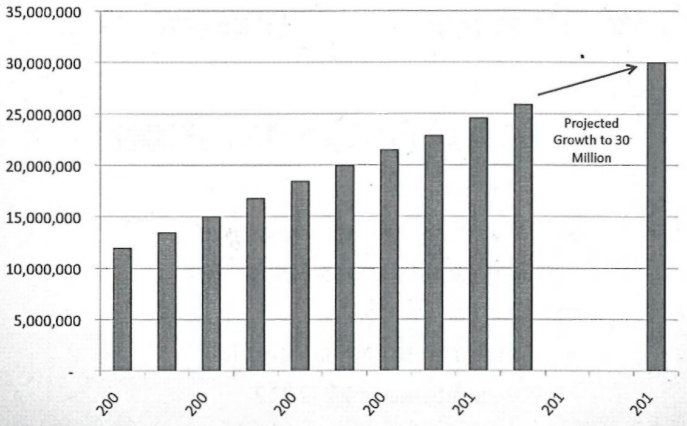
SS:eb

Attachment No. 1



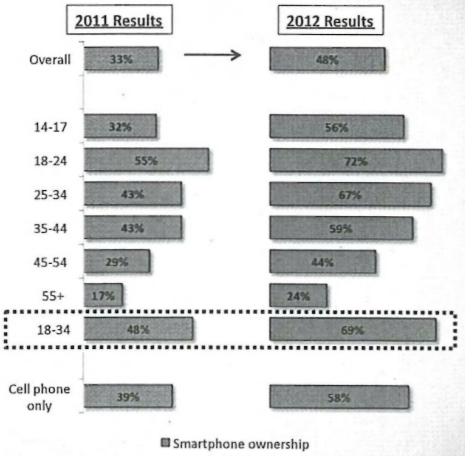


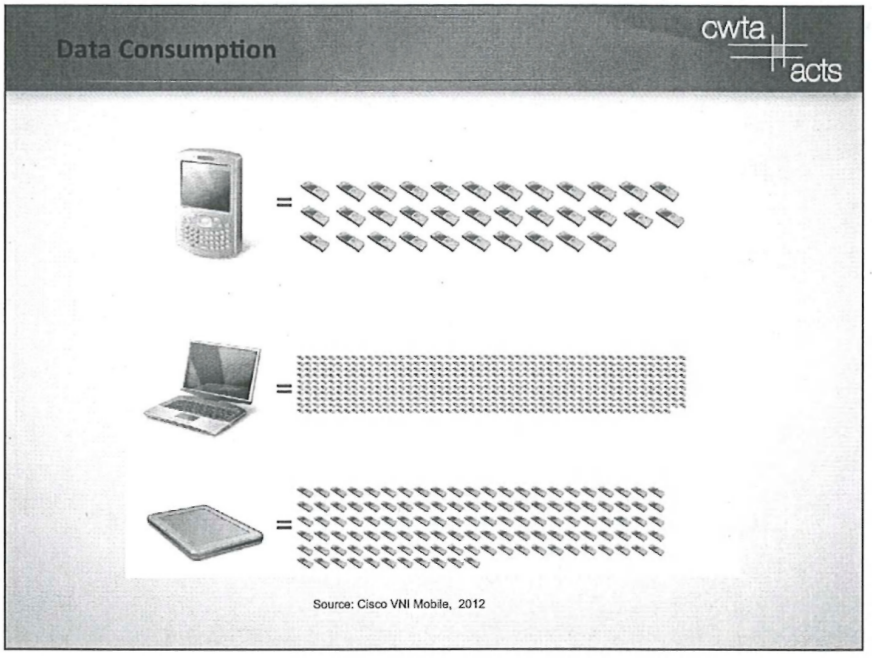
Subscribers



Smartphone Usage

- In the last year, smartphone usage has increased significantly from one third of Canadian cell phone users to nearly half.
- A noteworthy finding shows that over half (56%) of cell phone users between the ages of 14 and 17 have a smartphone.
- The adoption of smartphones is significantly higher among Canadians 18 to 34 years old (69%), particularly among those 18 to 24 years old (72%).
- Year-over-year growth in the use of smartphones is seen universally across all age groups. Even though Canadians over 55 years of age continue to lag other age groups in the adoption of smartphones, their use nonetheless shifted from 17% in 2011 to 24%, representing a meaningful year-over-year increase of 41%.




Data Consumption
cwta
acts
=
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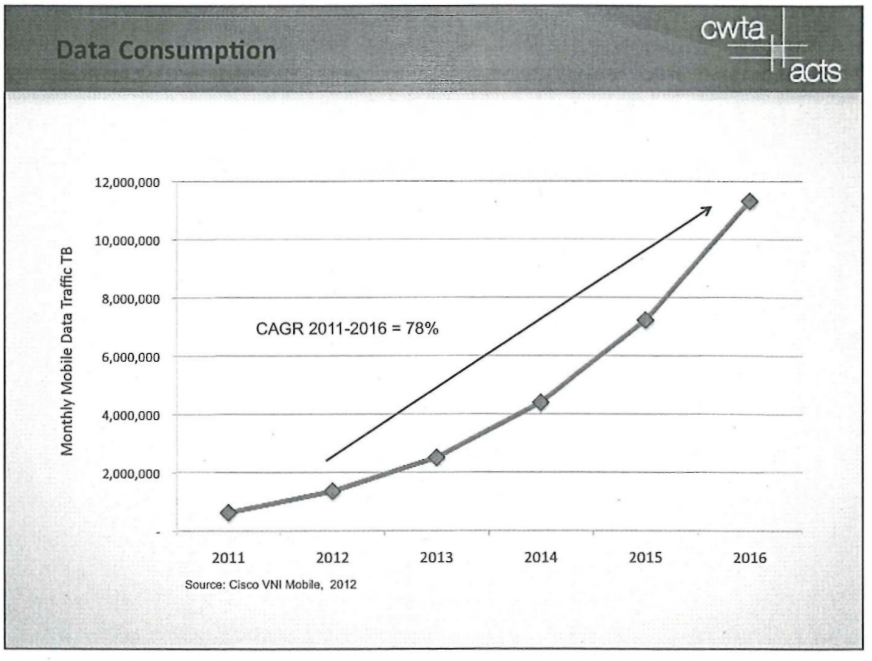
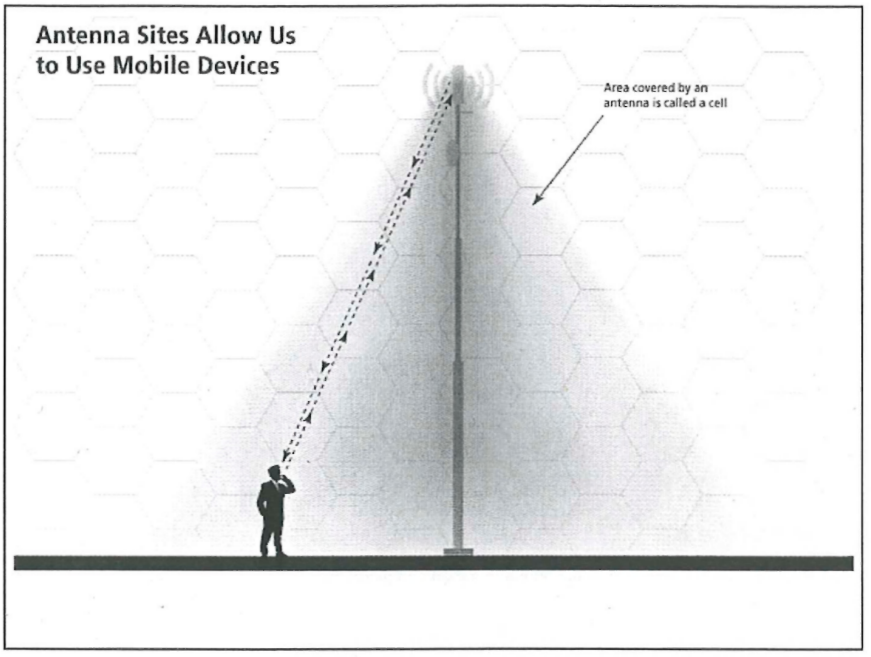
Source: Cisco VNI Mobile, 2012

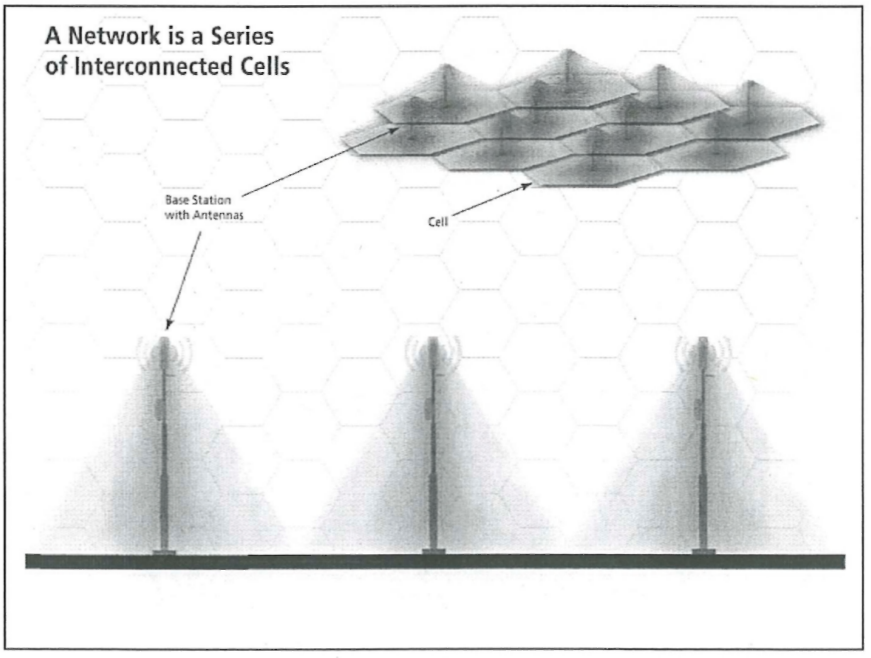

Data Consumption
cwta
acts
Monthly Mobile Data Traffic TB
12,000,000
10,000,000
8,000,000
6,000,000
4,000,000
2,000,000
-
CAGR 2011-2016 = 78%
2011
2012
2013
2014
2015
2016
Source: Cisco VNI Mobile, 2012

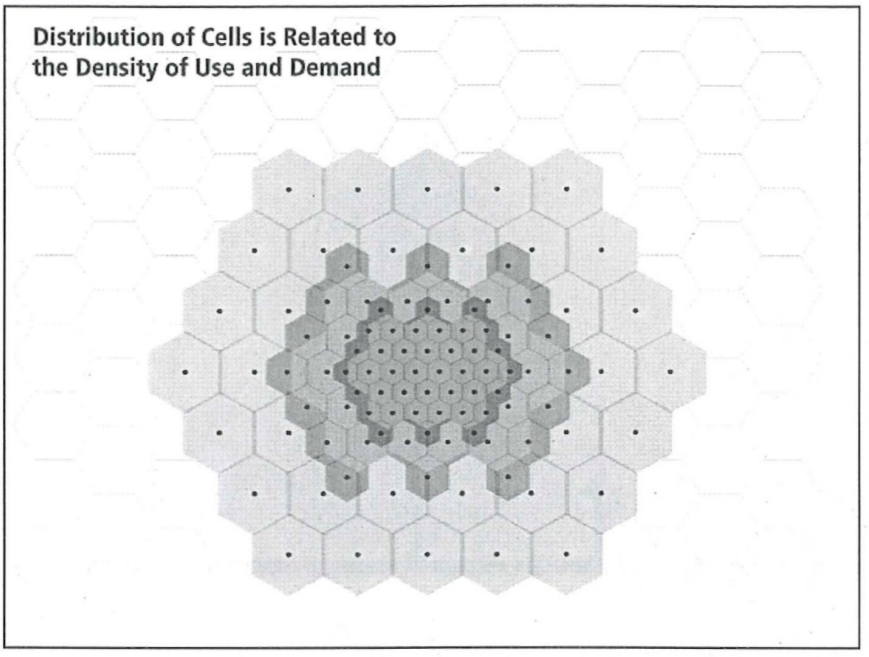
Key Priorities

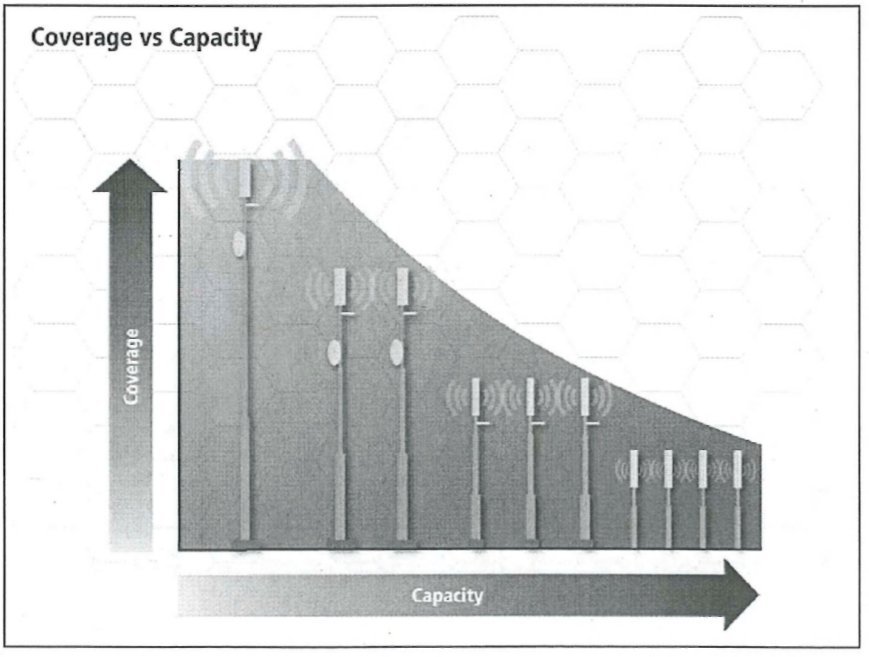
cwta acts

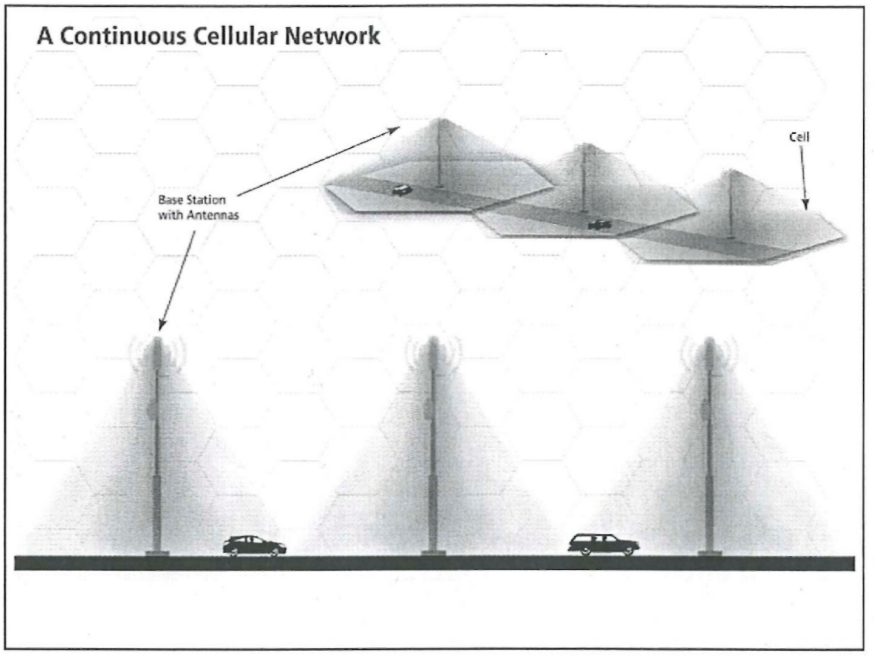
- ❑ More spectrum
- ❑ More antenna sites
- ❑ Enhanced technology
- ❑ Smarter regulations
- ❑ Cooperation - CWTA and municipalities and FCM

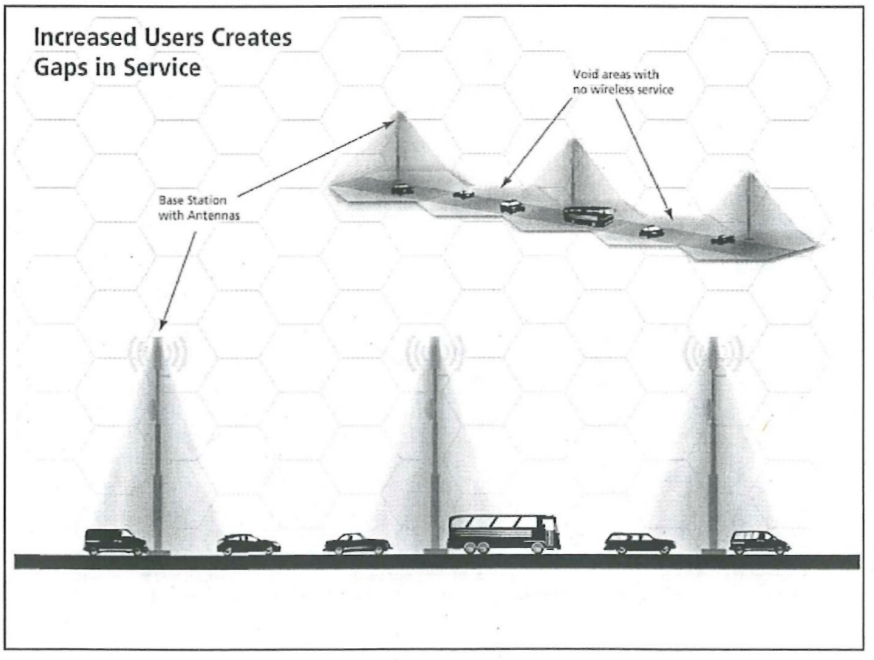

Antenna Sites Allow Us
to Use Mobile Devices
Area covered by an
antenna is called a cell

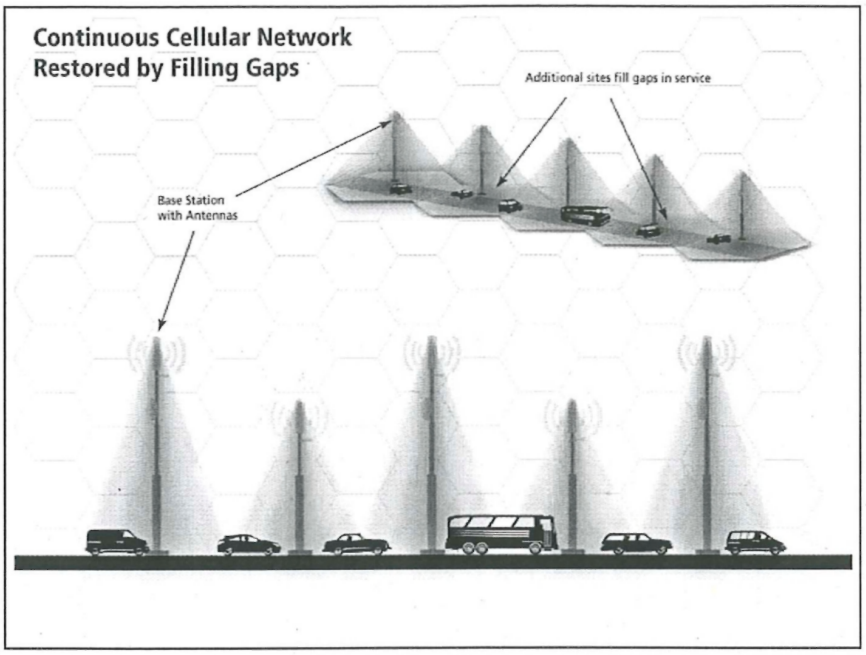

A Network is a Series
of Interconnected Cells
Base Station
with Antennas
Cell

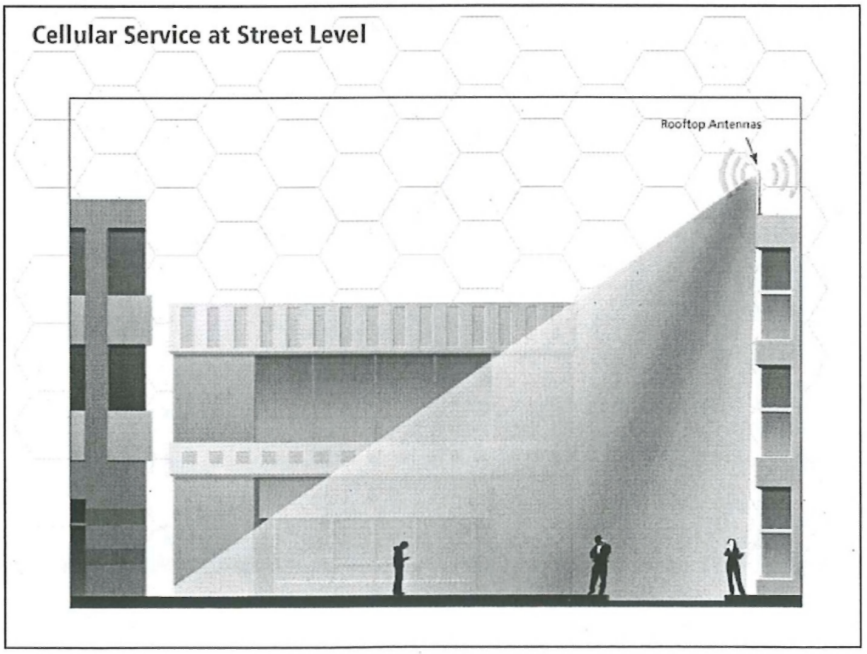

Distribution of Cells is Related to
the Density of Use and Demand


Coverage vs Capacity
Coverage
Capacity

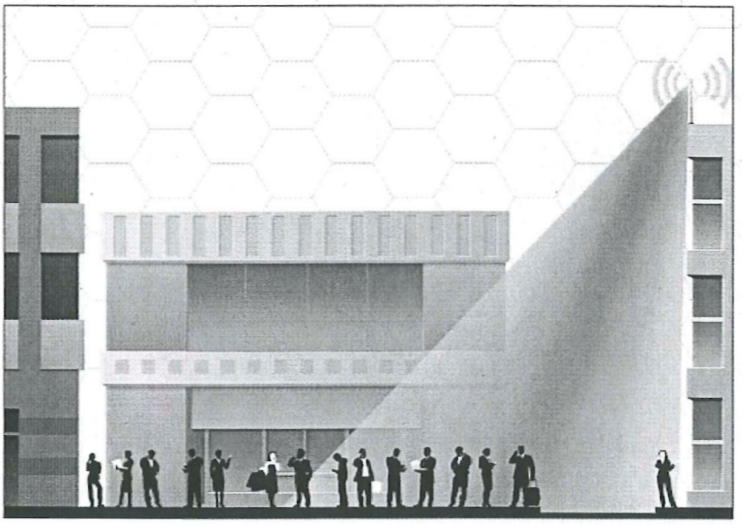

A Continuous Cellular Network
Cell
Base Station
with Antennas


Increased Users Creates
Gaps in Service
Void areas with
no wireless service
Base Station
with Antennas

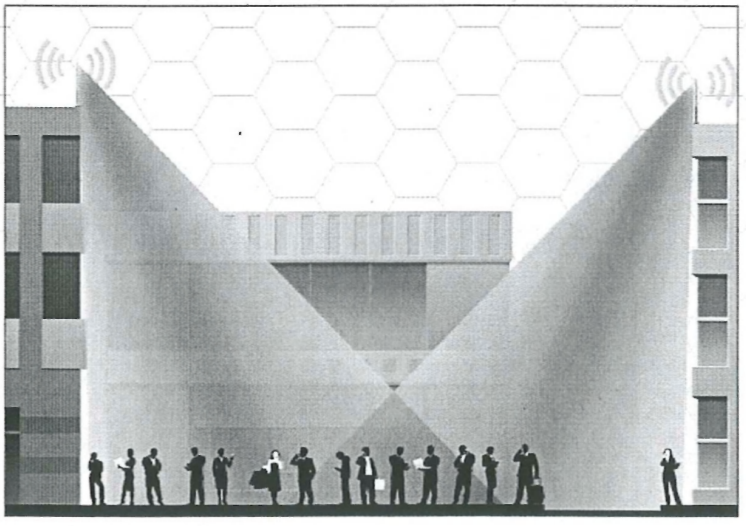

Continuous Cellular Network
Restored by Filling Gaps
Additional sites fill gaps in service
Base Station
with Antennas


Cellular Service at Street Level
Rooftop Antennas

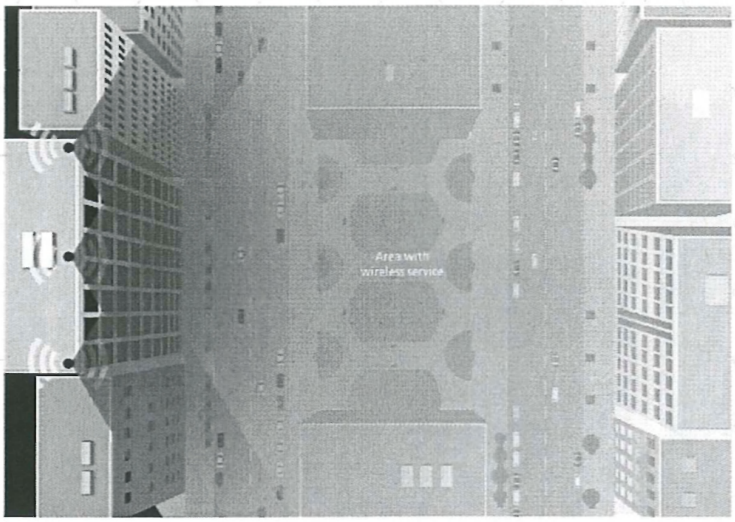
Cellular Service Coverage Reduces with Increased Demand



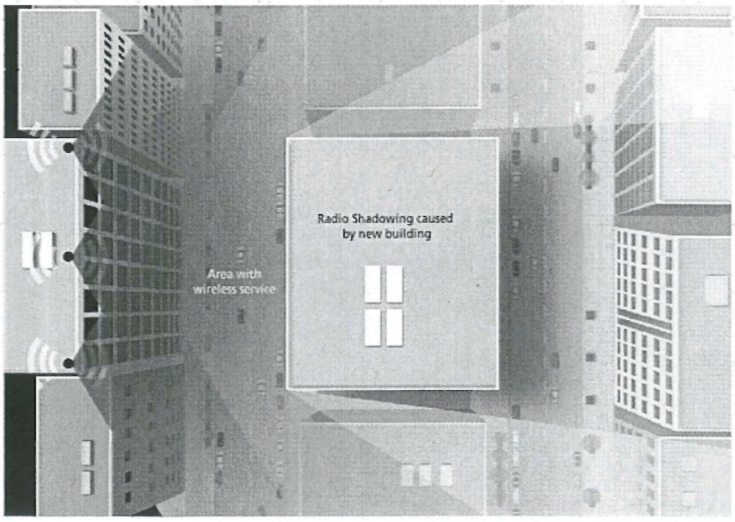
Continuous Cellular Service Restored



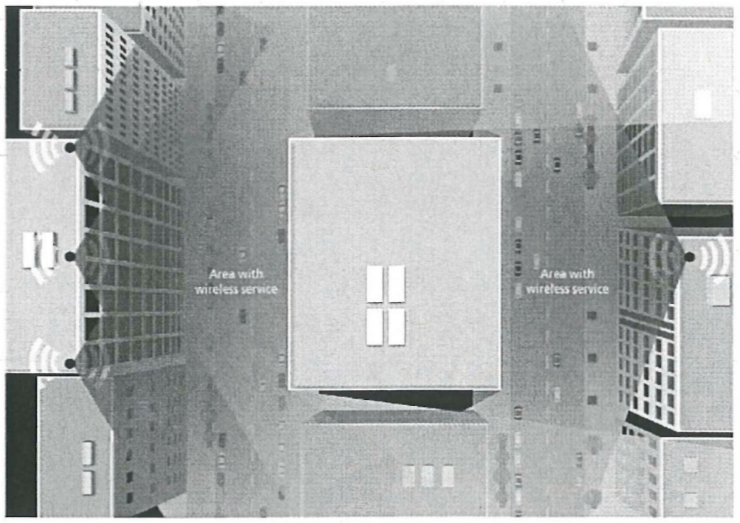
Urban Service Area



Radio Signals are Similar to Light From a Lamp



Continuous Wireless Network Restored by Filling Gaps



Conclusion

- The only way to offer consumers –including public sector and public safety users--the speed, reliability, and capacity they require is to use a large number of small base stations.
- This makes the approval process critical.
- Protocols work to the benefit of the LUA, the carrier and citizens: ensure a predictable environment, timely process, reliable wireless service

cwta | acts

Municipal Best Practices – Antenna and Tower Policies

Cell towers are addressed in different ways in different municipalities. Some information has been gathered on notable examples but this background research is not final….

More and more are establishing policies and design guidelines to guide these structures into more suitable locations ie: industrial zones and requiring consultation with neighbourhood associations in public meetings. It seems to be split re: permitting them in park areas.

Municipality	Date of bylaw or policy	Cell Towers Permitted	Public Consultation
District of North Vancouver	Development Permit 1999 – Council approved Guidelines for wireless telecommunications facilities.	DP required. Must meet setback requirements of the zone. Screening, etc. ADP review	Planning dept may require public info meeting as condition of DP. Notification is to all properties within 350m of the site and to the local neighbourhood association.
City of Vancouver	Development Permit Bylaw 1995 – Updating now.	*	*
City of Richmond	Telecommunication Antenna Consultation and Siting Protocol. Policy adopted by Council February 2012 DVP to vary zoning.	Generally avoid residential areas, parks, riparian and environmental management areas and ALR if neg affect agriculture. Preference to locate within Industry and Business and Airport land use designations.	For towers over 15m, yes. Consultation may be area by area rather than by application (tbc).
Township of Langley	Council approved policy Jan 2011	All zones	Required if 12m or higher and w/n 100m of park, playground, school, or low density residential.
City of Port Moody	Zoning Bylaw Amendment 1998 Looking to update.	In Public Service Use zones (new definition). Not in on public parkland. - 150' max. - Min 200m from residential use zones. - Min 50m from any lot line.	

Municipal Best Practices – Antenna and Tower Policies

City of Edmonton	Policy for Siting Telecommunications Facilities – Adopted by Council May 2006	Discouraged in low density, duplex or row house areas, Environmentally sensitive areas and heritage areas. Design measures to screen.	Yes if proposed tower is within 6 times the height of the facility to a residential area. Must notify & hold public meeting for planning staff, local councillors, community association reps.
City of Winnipeg	Communication Facility Protocol – Adopted by Council April 2010	Development guidelines re: site selection, collocation, location and design standards. Prefer in industrial lands. Special design treatments for strategic location downtown or in parks. Guidance to avoid natural lands or riverbank lands. Letter of Undertaking may be required. Exemptions: facilities less than 15m in height (50')	Yes, notice must be given of a public information session to all owners + tenants of properties **within a radius of 3 times the height of the tower**, any municipality within 500m, local council members and member of parliament, director of planning and industry Canada regional office. Exemptions: proposals outside the radius of 3 times the height of the facility from the nearest residential area. And facilities on top of a building more than 75.5' or 6 stories.
City of Toronto	2007 Council approved protocol	Discouraged in neighbourhoods, apartment neighbourhoods, centres and other sensitive land uses.	Yes. Consultation within a 120m radius. Sign with superimposed image of the tower on it to advertise the community meeting.

Attachment No. 3

Vancouver CoastalHealth
Promoting wellness. Ensuring care.

Statement of the Chief Medical Health Officer

June, 2011

Health Concerns About Cellular Phone Transmission Antennae and Base Stations

In 2005, in response to community concerns and after reviewing the evidence, the Vancouver Coastal Health Chief Medical Health Officer concluded that the installation of cellular antennae in the community did not create health risks for the public, and that Health Canada's Safety Code 6 provided an appropriate level of protection. At that time, the Chief Medical Health Officer also committed to undertake periodic reviews of the evidence and to provide public updates as necessary. The Chief Medical Health Officer provides the following updated evidence review and associated conclusions:

Background on Cellular Transmission Technology

The original cellular (analog) technology uses the radiofrequency part of the electromagnetic spectrum between 800-900 MHz (near the FM/TV, AM Radio bands and cordless telephone frequencies). The newer digital technology uses the frequency bands of 800-900 MHz and 1800-2200 MHz and relies on antennae of significantly less power than the analog system, emitting significantly lower radiofrequency (RF) radiation. Cellular communication operates through a network of base stations that transmits and receives signals. The area covered by a base station is called a cell – giving rise to the name cell phone. The number of base stations (cells) in an area varies, depending on the concentration of cell phone users. For example, compared to smaller communities, the number of base stations is greater in populated urban centres, with many cell phone users. Each base station consists of signal processing equipment, power supply, and one or more antennae. The antennae are the most visible parts of base stations. However, a network of many lower powered based stations may result in lower levels of RF radiation exposure to the public compared to a network that uses a few higher powered base stations covering the same area. This is because the power required to communicate between a cell phone and base station increases as the distance between the cell phone and the base station increases.

Conclusions At A Glance

1. The international scientific consensus remains unchanged: radiation from cellular base stations is far too low to cause adverse health effects in the community.

2. There is no public health benefit from prudent avoidance regarding base stations.

3. Telecommunication regulators and the industry need to be explicitly transparent in engaging communities and providing access to monitoring data to show compliance with expected standards.

To meet the demand for service, increasing numbers of cellular base stations have been installed across the country. However, it is not easy for the public to access information on the number, types, and locations of cellular base stations in their community. This difficulty has contributed to public concerns regarding potential harm from these installations.

Health Risks

The study of RF radiation and its possible effect on health is growing steadily. Since the last report in 2005, reviews from recognized scientific organizations include the International Commission on Non-Ionizing Radiation Protection (ICNIRP) 2009 Review, the European Commission Scientific Committee on Emerging and Newly Identified Health Risks (SCENIHR) 2009 Review, the Swedish Radiation Safety Authority, SSM, Independent Expert Group on Electromagnetic Fields 2009 Report, and the Health Canada Safety Code 6 revised in 2009. The scientific consensus remains unchanged: radiation from cellular base stations is far too low to cause adverse health effects in the community. The current Canadian (Safety Code 6 revised 2009) and international standards such as ICNIRP provide significant safety margins for public exposure to RF.

In Safety Code 6 (2009), Health Canada states:

> *"The scientific literature with respect to possible biological effects of RF energy has been monitored by Health Canada scientists on an ongoing basis since the last version of Safety Code 6 was published in 1999. During this time, a significant number of new studies have evaluated the potential for acute and chronic RF energy exposures to elicit possible effects on a wide range of biological endpoints including: human cancers (epidemiology); rodent lifetime mortality; tumor initiation, promotion and co-promotion; mutagenicity and DNA damage; EEG activity; memory, behaviour and cognitive functions; gene and protein expression; cardiovascular function; immune response; reproductive outcomes; and perceived electromagnetic hypersensitivity (EHS) among others. Numerous authoritative reviews have summarized this literature.*
>
> *Despite the advent of thousands of additional research studies on RF energy and health, the predominant adverse health effects associated with RF energy exposures in the frequency range from 3 kHz to 300 GHz still relate to the occurrence of tissue heating and excitable tissue stimulation from short-term (acute) exposures. At present, there is no scientific basis for the premise of chronic and/or cumulative health risks from RF energy at levels below the limits outlined in Safety Code 6. Proposed effects from RF energy exposures in the frequency range between 100 kHz and 300 GHz, at levels below the threshold to produce thermal effects, have been reviewed. At present, these effects have not been scientifically established, nor are their implications for human health sufficiently well understood. Additionally, a lack of evidence of causality, biological plausibility and reproducibility greatly weaken the support for the hypothesis for such effects. Thus, these proposed outcomes do not provide a credible foundation for making science-based recommendations for limiting human exposures to low-intensity RF energy."*

Critics of Safety Code 6 have challenged the adequacy of the Canadian standard to protect the public from effects other than those resulting from the thermal heating of cells in the body. However, when scientifically sound methods are used to assess the evidence, Health Canada's conclusions are consistent with the conclusions reached by other credible scientific bodies. In its review of evidence in 2009, the ICNIRP states:

> *"It is the opinion of ICNIRP that the scientific literature published since the 1998 guidelines has provided no evidence of any adverse effects below the basic restrictions and does not necessitate an immediate revision of its guidance on limiting exposure to high frequency electromagnetic fields. The biological basis of such guidance remains the avoidance of adverse effects such as "work stoppage" caused by mild wholebody heat stress and/or tissue damage caused by excessive localized heating (D'Andrea et al. 2007). With regard to non-thermal interactions, it is in principle impossible to disprove their possible existence but the plausibility of the various non-thermal mechanisms that have been proposed is very low. In addition, the recent in vitro and animal genotoxicity and carcinogenicity studies are rather consistent overall and indicate that such effects are unlikely at low levels of exposure. Therefore, ICNIRP reconfirms the 1998 basic restrictions in the frequency range 100 kHz–300 GHz until further notice."*

Similarly, SCENIHR of the European Commission in its 2009 review states:

> *"It is concluded from three independent lines of evidence (epidemiological, animal and in vitro studies) that exposure to RF fields is unlikely to lead to an increase in cancer in humans. However, as the widespread duration of exposure of humans to RF fields from mobile phones is shorter than the induction time of some cancers, further studies are required to identify whether considerably longer-term (well beyond ten years) human exposure to such phones might pose some cancer risk.*
>
> *Regarding non-carcinogenic outcomes, several studies were performed on subjects reporting subjective symptoms. In the previous opinion, it was concluded that scientific studies had failed to provide support for a relationship between RF exposure and self reported symptoms. Although an association between RF exposure and single symptoms was indicated in some new studies, taken together, there is a lack of consistency in the findings. Therefore, the conclusion that scientific studies have failed to provide support for an effect of RF fields on self-reported symptoms still holds. Scientific studies have indicated that a nocebo effect (an adverse non-specific effect that is caused by expectation or belief that something is harmful) may play a role in symptom formation. As in the previous opinion, there is no evidence supporting that individuals, including those attributing symptoms to RF exposure, are able to detect RF fields. There is some evidence that RF fields can influence EEG patterns and sleep in humans. However, the health relevance is uncertain and mechanistic explanation is lacking. Further investigation of these effects is needed. Other studies on functions/aspects of the nervous system, such as cognitive functions, sensory functions, structural stability, and cellular responses show no or no consistent effects. Recent studies have not shown effects from RF fields on human or animal reproduction and development. No new data have appeared that indicate any other effects on human health."*

In its 2009 Report, the Independent Expert Group of the Swedish Radiation Safety Authority SSM concludes regarding cancer and transmitters:

> *"The majority of studies on cancer among people who are exposed to RF from radio- or TV-transmitters or from mobile phone base stations have relied on too crude proxies for exposure to provide meaningful results. Indeed, only two studies, both on childhood leukaemia, have used models to assess individual exposure and both of those provide evidence against an association. One cannot conclusively exclude the possibility of an increased cancer risk in people exposed to RF from transmitters based on these results. However, these results in combination with the negative animal data and very low exposure from transmitters make it highly unlikely that living in the vicinity of a transmitter implicates an increased risk of cancer."*
>
> Regarding electromagnetic hypersensitivity, the SSM expert group writes:
>
> *"While the symptoms experienced by patients with perceived electromagnetic hypersensitivity are very real and some subjects suffer severely, there is no evidence that RF exposure is a causal factor. In a number of experimental provocation studies, persons who consider themselves electrically hypersensitive and healthy volunteers have been exposed to either sham or real RF fields, but symptoms have not been more prevalent during RF exposure than during sham in any of the experimental groups. Several studies have indicated a nocebo effect, i.e. an adverse effect caused by an expectation that something is harmful. Associations have been found between self-reported exposure and the outcomes, whereas no associations were seen with measured RF exposure."*

Canadian Exposure Assessments

In 1997, Health Canada conducted a survey of radiofrequency radiation from cellular base stations in and around 5 schools in Vancouver, in response to the concerns raised by nearby residents earlier that year. The measurements revealed that:

- The highest level of electromagnetic radiation from a PCS antenna (across the street) was more than 6,000 times below the Safety Code 6 levels.
- In three of the schools the levels of radiation from all PCS digital antenna were actually lower than the normal AM and FM radio signals that have been in the area for decades.

In 2003, Health Canada released the results of comprehensive ground level RF measurements representative of human exposures near base stations within the Regional Municipality of Ottawa. The highest power density measured was 3000 times below Safety Code 6. Health Canada considers these measurements as likely representative of levels in other Canadian urban areas.

In 2010, the Public Health Department of the Health and Social Services Agency of Montreal was asked to assess two cell phone base station sites located near schools in Outremont, an urban residential neighbourhood. One location has 12 antennae (130 m to 145 m away respectively from two primary schools) and the other has three (50 m from a high school). The investigation team estimated that the level of exposure to students would be over 5000 times below Safety Code 6 inside the school and over 1000 times below Safety Code 6 on school playgrounds and adjacent streets. The team also reviewed the scientific literature on the subject and concluded that:

> *"The results of numerous scientific studies conducted to date do not argue in favour for a causal relation between RF exposure and health impact at exposure commonly encountered, whether cancer or more general symptoms. Moreover, no mechanism of action of RF on cells or human and animal tissues has been shown. However, due to uncertainties still present in this area of research, health agencies recommend further studies in some promising avenues (e.g. for cell phone users). As for cellular antennae, given the very low exposure levels and research results to date, most experts believe it is unlikely that this exposure, well below the limits allowed, can cause effects on the health of the population."*

In May 2011, the International Agency for Research on Cancer (IARC) placed radio frequency electromagnetic fields in its group 2B classification – possibly carcinogenic to humans. IARC defines group 2B as a category used

> *"for agents for which there is limited evidence of carcinogenicity in humans and less than sufficient evidence of carcinogenicity in experimental animals. It may also be used when there is inadequate evidence of carcinogenicity in humans but there is sufficient evidence of carcinogenicity in experimental animals. In some instances, an agent for which there is inadequate evidence of carcinogenicity in humans and less than sufficient evidence of carcinogenicity in experimental animals together with supporting evidence from mechanistic and other relevant data may be placed in this group. An agent may be classified in this category solely on the basis of strong evidence from mechanistic and other relevant data."*

Agents in Group 2B are not proven carcinogens. Details of the IARC review is expected to be published in July 2011. In the meantime, the IARC does make it clear that the primary reason for the Group 2B classification relates to uncertainty regarding long term heavy cell phone use and certain rare brain cancer. The type of radio frequency exposure of concern is associated with using the cell phone close to the ear. As stated above, the energy of radio frequency field from cell phone base stations experienced by the general public is thousands of times lower than from a cell phone near the head. The IARC conclusion therefore does not alter the assessment for radio frequency exposure due to cell phone base stations.

"Prudent Avoidance"

The practice of "prudent avoidance" has been advocated by some in their opposition to specific location of cellular base stations in the vicinity of schools, child care centres or residential buildings. "Prudent avoidance" in these situations does not result in any increased level of protection. It would be difficult, if not impossible, to "prudently avoid" some level of exposure to RF fields in an urban setting, whether it be from AM, FM, TV or cellular phones. The Medical Health Officer concludes that scientific evidence provides no basis for recommending prudent avoidance with respect to cellular base stations. There is no public health benefit. In fact, prudent avoidance ignores the reality that the area immediately below an antenna has the lowest RF levels.

Community Consultation and Public Access to Information

Despite reassuring evidence, some members of the public remain concerned about the presence of cell phone antennae and base stations. Telecommunications regulators and industry can do a better job in providing information (particularly about base station types and locations), as well as providing meaningful opportunities for public consultation when planning base stations. Industry Canada in 2009 established public and local government consultation guidelines for permit applications for mobile phone base stations. The requirement for consultation unfortunately applies only to antennae 15 metres or higher. There are a number of practices the telecommunications regulators and industry can implement to mitigate public concerns. These include:

- Meaningful discussion with communities.
- Clear and publicly accessible supporting documents when deploying base stations.
- Greater consideration for site sharing, where possible.
- Greater consideration for sensitive location and design.
- Improved public access to information on network compliance with Safety Code 6.
- Prompt response to community enquiries about base stations.
- Periodic but systematic and comprehensive measurements of population level exposure to RF to monitor trends.

Conclusion

As has Health Canada, the Chief Medical Health Officer concludes that, in light of the current scientific understanding of the risks of RF exposures to the public, the installation of base stations and cellular antennae in the community do not pose an adverse health risk and Safety Code 6 provides an appropriate level of protection. However, public engagement by telecommunication regulators and industry concerning the installation of base stations and antennae needs improvement.

The Chief Medical Health Officer will continue to monitor new scientific knowledge in this area and will provide updates when necessary.

Chief Medical Health Officer

Attachment No. 4

CITY OF NORTH VANCOUVER

Wireless Communication Design and Consultation Policy

1.0 PURPOSE & BACKGROUND

1.1 Purpose

This policy comprises the City of North Vancouver's application and review process for wireless communication facilities, including expectations for public consultation, antenna siting and form/character considerations, and other details necessary for the review of applications by City staff. The goals of this policy are to:

- Provide a clear and understandable process for the review of wireless communication facilities (including both traditional antennaes and towers and new technology such as Shaw EXO), to the benefit of all parties (residents, staff, Council, and applicants alike).
- Facilitate the orderly, coordinated, and respectful development and design of wireless communication facilities in the City of North Vancouver.
- Encourage the removal, and upgrade as needed, of obsolete technology/equipment from installations in the City of North Vancouver.

1.2 Regulatory Framework and Authority

Under the *Radiocommunication Act*, Industry Canada regulates the location and installation of antenna systems, including masts, towers, and other antenna-supporting structures. Current federal legislation gives local government very little authority regarding the siting of towers and antennae. If the local government has established a consultation process, Industry Canada mandates that it be adhered to.

Industry Canada exempts certain installations from the requirement for public consultation (generally towers under 15 m in height). Despite this exemption, the City encourages all applicants to undertake some level of public consultation for exempted installations voluntarily and in good faith.

In the event that Council passes a resolution of non-support for a given application, the proponent may apply to Industry Canada for an "impasse request," after which Industry Canada would act as an arbiter between parties. Ultimately, Industry Canada may choose to approve an application with or without local government support.

Industry Canada refers to Safety Code 6 as the standard to which wireless facilities are to be held. It is the applicant's responsibility to ensure compliance with Safety Code 6 guidelines for

the protection of the general public. The City of North Vancouver will refer inquiries regarding public health and safety to the applicant for response.

2.0 POLICY

2.1 Types of Wireless Communication Facilities

(a) **Rooftop** (Type 1)
Includes facilities located on the roof or side of buildings.

(b) **Adaptive Re-use** (Type 2)
Means wireless communication facilities that are added to existing structures, such as telephone or hydro poles.

(c) **Towers** (Type 3)
Includes new towers and retrofitted existing towers where they would be lengthened to beyond 15 m in height

(d) **City Streetscape & Public Areas** (Type 4)
Includes facilities located on City infrastructure in public areas such as streetscapes, plazas and parks.

2.2 General Policy

(a) Standard of Design:
The visual impact of wireless communication facilities should be minimized whether small (Shaw EXO) or large (tower). Where unavoidably visible, a high standard of design will be expected (e.g. infrastructure as sculpture).

(b) Location:
Wireless communication facilities (Type 3) should be located outside of established residential neighbourhoods and local roads, and avoid schools, daycares, and similar facilities.

(c) Future Needs:
Wireless carriers are expected to disclose their short- and mid-term needs for antenna sites, and to collaborate with other carriers in order to find sites in common and minimize the overall number of unique antenna sites required.

(d) Co-location:
Co-location of wireless carriers at new and existing antenna sites is expected. Preference will be given to upgrading or replacing existing sites to accommodate additional carriers rather than creating additional unique antenna sites. It is assumed that these common sites may not be the perfect site (from a radio-frequency perspective) for any single wireless carrier.

(e) Approval of Land Owner:
All sites need approval of the land owner, whether public or private. In the case of a strata corporation, a letter from the Strata Council agreeing to the installation is required. In the case of any City-owned property, a separate agreement will be required with the City's Lands and Business Services Division and, in the case of installations involving City infrastructure and public places, must be designed and installed to the satisfaction of the City Engineer.

(f) Emergency Services Communication:
Where possible, applicants are encouraged to permit the opportunity for Emergency services communication (police, fire, emergency management) providers to, in consultation with the applicant, arrange access to and locate equipment free of charge on existing or new installations in support of public safety.

2.3 Rooftop (Type 1) Policy (mixed use, commercial, institutional & multifamily buildings)

(a) Type 1 facilities should:

- Only be located on mixed use, commercial, institutional, or multifamily buildings;
- Include consideration of the removal of any existing obsolete technology or equipment;
- Regard the roof as a visible elevation from the street and other buildings;
- Be designed to minimize the visibility of the antennae above the roofline and against the sky. Eg: recessed from the top edge where possible;
- Be shrouded and not increase the visual bulk of the building;
- Have cable raceways internal to the building, and where external cable raceways cannot be avoided, should be oriented for minimum visibility and be treated with materials and colours similar to the building;
- Be accompanied by equipment cabinets internal to the building or otherwise unobtrusive;
- Be disclosed to prospective rental tenants; and,
- Allow for rental tenants to vacate top floor unit(s) without penalty when antennae are established.

(b) Type 1 facilities shall follow this process:

- Pre-application meeting
- Preliminary revisions
- Application submission
- Staff design review
- Final revisions

- Development Variance Permit (Council) if Zoning Bylaw variance sought for height
- Notification of installation (building owners and occupants)
- Building permit
- Removal (or upgrade replacement) of any technology or equipment from the site when it becomes obsolete.

2.4 Adaptive Re-use (Type 2) Policy (telephone or hydro poles)

(a) Type 2 facilities should:

- Include consideration of the removal of any existing obsolete technology or equipment;
- Not be located on local roads;
- Have antennae located at or below 15 m in height;
- Not lengthen existing poles (they may be removed and replaced for structural reasons);
- Utilize shrouded antennas, if appropriate (should not unduly increase visual bulk);
- Have cable raceways oriented for minimum visibility and shrouded with appropriate materials and colours;
- Design equipment cabinets to be as unobtrusive as possible;
- Consider ground level impact (landscaping, physical and visual obstruction); and,
- Consider road access.

(b) Type 2 facilities shall follow this process:

- Pre-application meeting
- Preliminary revisions
- Application submission
- Staff design review
- Final revisions
- Notification of installation (owners and occupants within 100 m)
- Permit or letter of approval
- Removal (or upgrade replacement) of any technology or equipment from the site when it becomes obsolete.

2.5 Towers (Type 3) Policy (towers, new and existing that extend beyond 15m)

(a) In order to least impact established residential neighbourhoods, new freestanding towers should be directed to the Upper Levels Highway corridor or industrial areas not immediately adjacent to residential properties.

(b) Type 3 facilities should:

- Not detrimentally affect the scenic quality of the corridor;
- Take advantage of opportunities to sensitively locate sites, such as densely treed areas or highway cloverleafs where possible;
- Not detrimentally impact the foreground views of residents uphill;
- Feature innovative design to a high standard and embrace infrastructure as art;
- Include shrouded or internal antennae;
- Include internal cabling;
- Design equipment cabinets to be internal or otherwise unobtrusive;
- Consider ground level impact (landscaping , physical and visual obstruction); and,
- Consider road access.

(c)Type 3 facilities shall follow this process:

- Pre-application meeting
- Preliminary revisions
- Application submission
- Review readiness for public consultation
- Notification of meeting (see Section 2.8)
- Public meeting
- Staff design review
- Final revisions
- Council
- Works Permit
- Removal (or upgrade replacement) of any technology or equipment from the site when it becomes obsolete.

2.6 City Streetscape & Public Areas (Type 4) Policy (wireless facilities located on City infrastructure in public areas such as streetscapes, plazas and parks).

Design will be to the City Engineer's approval and subject to a formalized agreement as outlined in Section 3.0.

(a) To ensure compatibility with the streetscape Type 4 facilities should:

- Be designed to minimize the visibility of antennae against the sky and where possible utilize shrouded antennas, if appropriate (should not unduly increase visual bulk);
- Ensure battery packs and cable raceways are oriented for minimum visibility and shrouded with appropriate materials and colours;
- Design equipment cabinets to be as unobtrusive as possible;
- Consider ground level impact (landscaping, physical and visual obstruction);

(b) Type 4 facilities shall follow this process:

- Pre-application meeting
- Preliminary revisions
- Application submission
- Staff design review
- Final revisions
- Notification of installation (building owners and occupants)
- Works Permit
- Removal (or upgrade replacement) of any technology or equipment from the site when it becomes obsolete.

2.7 Advisory Design Panel

Projects identified by staff as requiring particular attention can be referred to the Advisory Design Panel as needed. It is the expectation that most projects will not need to appear before the Panel, provided that reasonable design requests are considered and accommodated where possible by the applicant.

2.8 Standards

Applicants shall conduct the public consultation aspects of their application in conjunction with the City of North Vancouver's standards.

(a) Submission requirements:

Will vary by circumstances and will be determined by staff during the pre-application meeting.

(b) Scheduling a public information meeting:

The date of the public information meeting is to be approved in advance by City staff. Tuesday through Thursday scheduling is preferred, as Friday through Sunday meetings interfere with residents' weekend plans and Monday night conflicts with Council meetings. In addition, seasonal timing considerations must be taken into account (holidays, school professional development days, spring break, etc.). It is important that scheduling issues not alienate or exclude those whom the applicant is trying to reach. City staff will work with the applicant to confirm progress is being made on the necessary materials for the public information meeting.

(c) Preparing notification for a public information meeting

Notification of the public information meeting is required by newspaper advertisement and targeted owner/occupier notices, by postal mail or hand-delivery.

City staff will identify the notification radius (minimum 100 m) for owner/occupier notices, taking into account context, topography, views, adjacent land uses, right of way width, etc. Newspaper advertisements are generally expected to be a minimum one-quarter page in size and with forward placement (first half of the newspaper). The format and content of newspaper and owner/occupier notices must be reviewed for sufficiency by City staff prior to their use. Samples may be available; enquire with staff for details.

(d) Public information meeting notification timing and delivery

Owner/occupier notifications must be received by residents between 10 and 14 days in advance of the public information meeting, subject to adjustment by the City under special circumstances.

Newspaper advertisements should be published in two consecutive issues of the North Shore Outlook or North Shore News, generally 10 and 5 days before the public information meeting is to occur.

(e) Public meeting content and conduct.

The applicant is responsible for making all arrangements for the meeting, conducting the meeting, and paying all costs related to the meeting. The meeting is to be held in a convenient, accessible location such as a local school, community centre, church, or meeting room. City staff may attend as observers and are available to answer questions from the public with respect to the City's policy and specific role in the process, but will not present on behalf of the applicant.

Presentation materials produced by the applicant for use during the public meeting should be reviewed by City staff to ensure accuracy, and should generally include:

- An explanation of why the installation is needed,
- How the installation fits into the applicant's network,
- Details of the proposed structures,
- An analysis of view impacts,
- Photoshop or rendered visuals,

Public information meetings are generally run as open houses, allowing for residents to arrive at a time convenient to them, circulate, view display boards or other materials, and interact with the applicant's representatives and consultants. The applicant may choose to deliver a presentation, but this is not required.

Forms should be provided for residents to provide written feedback. These submissions will be collected by City staff, scanned to PDF, and returned to the applicant for production of a summary report.

2.9 Concurrence

The City will provide a letter of concurrence or non-concurrence to Industry Canada and the applicant, and will include any conditions of concurrence, if required, as well as comments suggesting improvements, in the case of non-concurrence.

3.0 City-Owned Properties

(a) A wireless communication facility will only be considered appropriate for City land or buildings if it can meet the necessary conditions for locating an installation in the City as outlined in this policy.

(b) Prior to approving the rental agreement for City Land, the City will contact the properties that fall within 50 metres of any portion of the wireless communications facility. When the facility is located on a tower or roof-top, the 50 metres is measured horizontally from the structure to the lot line. The City reserves the right to notify additional properties, if the siting or size of the proposal is likely to impact properties outside the 50 metre notification area. All concerns raised by neighbours in the area will be passed on to the Applicant to provide the Applicant with an opportunity to address the concerns. Any concerns that continue to be outstanding will be passed along to Council for Council's consideration when reviewing the application to rent.

(c) If no public notification is required (because there are no private properties located within the notification zone) or, if public notification is required but no concerns have been expressed within the 3 week notification period, the Manager of Lands, Business Services may approve the rental agreement.

(d) The City will retain the right to end the rental agreement at 180 days' notice for the following reasons:
- should any valid safety concerns arise in the future;
- should the site be redeveloped; and

- should new improved technology become available, that, in the opinion of the City, acting reasonably, is economically viable to use.

(e) The applicant must enter into a signed agreement with the City which will include payment of rent or, by agreement between the City and the telecommunication company, equivalent benefits in terms of provision of communications equipment or service to the City. As well, the agreement shall include clauses relating to indemnification and proof of comprehensive general public liability insurance coverage, termination and removal of equipment.

(f) There may be a separate contracting protocol for antenna installations on City-owned poles and other streetscape and park infrastructure.

(g) The applicant must pay all costs of documentation, improvements, occupancy and eventual termination and removal.

December 2012

Attachment No. 5

Industry Canada Industrie Canada

CPC-2-0-03
Issue 4
Released: June 2007
Effective: January 1, 2008

Spectrum Management and Telecommunications

Client Procedures Circular

Radiocommunication and Broadcasting Antenna Systems

(Formerly CPC-2-0-03 - Environmental Process, Radiofrequency Fields and Land-Use Consultation)

Aussi disponible en français - CPC-2-0-03

Canada

Comments and suggestions may be directed to the following address:

Industry Canada
Radiocommunications and
Broadcasting Regulatory Branch
300 Slater Street
Ottawa, Ontario
K1A 0C8

Attention: DOSP

Via e-mail: spectrum_pubs@ic.gc.ca

All Spectrum Managem ent and Te lecommunications publications are available on the following website at: http://strategis.gc.ca/spectrum.

Contents

1. Introduction

Radiocommunication and broadcasting services are important for all Canadians and are used daily by the public, safety and security organizations, government, wireless service providers, broadcasters, utilities and businesses. In order for radiocommunication and broadcasting services to work, antenna systems including masts, towers, and other supporting structures are required. There is a certain measure of flexibility in the placement of antenna systems which is constrained to some degree by: the need to achieve acceptable coverage for the service area; the availability of sites; technical limitations; and safety. In exercising its mandate, Industry Canada believes that it is important that antenna systems be deployed in a manner that considers the local surroundings.

1.1 Mandate

Section 5 of the *Radiocommunication Act* states that the Minister may, taking into account all matters the Minister considers relevant for ensuring the orderly development and efficient operation of radiocommunication in Canada, issue radio authorizations and approve each site on which radio apparatus, including antenna systems, may be located. Further, the Minister may approve the erection of all masts, towers and other antenna-supporting structures. Accordingly, proponents must follow the process outlined in this document when installing or modifying an antenna system. Also, the installation of an antenna system or the operation of a currently existing antenna system that is not in accordance with this process may result in its alteration or removal and other sanctions against the operator in accordance with the *Radiocommunication Act.*

1.2 Application

The requirements of this document apply to anyone (referred to in this document as the proponent) who is planning to install or modify an antenna system regardless of the type of installation or service. This includes, amongst others, Personal Communications Services (PCS) and cellular, fixed wireless, broadcasting, land-mobile, licence-exempt and amateur radio operators. As well, parts of this process contain obligations that apply to existing antenna system operators.

1.3 Process Overview

This document outlines the process that must be followed by proponents seeking to install or modify antenna systems. The broad elements of the process are as follows:

1. Investigating sharing or using existing infrastructure before proposing new antenna-supporting structures.

2. Contacting the land-use authority (LUA) to determine local requirements regarding antenna systems.

3. Undertaking public notification and addressing relevant concerns, whether by following local LUA requirements or Industry Canada's default process, as is required and appropriate.

4. Satisfying Industry Canada's general and technical requirements.

It is Industry Canada's expectation that steps (2) to (4) will normally be completed within ***120 days***. Some proposals may be excluded from certain elements of the process (see Section 6). It is Industry Canada's expectation that all parties will carry out their roles and responsibilities in good faith and in a manner that respects the spirit of this document.

2. Industry Canada Engagement

There are a number of points in the processes outlined in this document where parties must contact Industry Canada to proceed. Further, anyone with any question regarding the process may contact the local Industry Canada office[1] for guidance. Based on a query by an interested party, Industry Canada may request parties to provide relevant records and/or may provide direction to one or more parties to undertake certain actions to help move the process forward.

3. Use of Existing Infrastructure (Sharing)

This section outlines the roles of proponents and owners/operators of existing antenna systems. In all cases, parties should retain records (such as analyses, correspondence and engineering reports) relating to this section.

Before building a new antenna-supporting structure, Industry Canada requires that proponents first explore the following options:

- consider sharing an existing antenna system, modifying or replacing a structure if necessary;
- locate, analyze and attempt to use any feasible existing infrastructure such as rooftops, water towers etc.

Proponents are not normally expected to build new antenna-supporting structures where it is feasible to locate their antenna on an existing structure, unless a new structure is preferred by land-use authorities.

Owners and operators of existing antenna systems are to respond to a request to share in a timely fashion and to negotiate in good faith to facilitate sharing where feasible. It is anticipated that 30 days is reasonable time for existing antenna system owners/operators to reply to a request by a proponent in writing with either:

- a proposed set of reasonable terms to govern the sharing of the antenna system; or
- a detailed explanation of why sharing is not possible.

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[1] Please refer to Radiocommunication Information Circular 66 (RIC-66) for a list of addresses and telephone numbers for Industry Canada's regional and district offices. RIC-66 is available via the Internet at: http://strategis.ic.gc.ca/epic/internet/insmt-gst.nsf/en/sf01742e.html.

4. Land-use Authority and Public Consultation

Contacting the Land-use Authority

Proponents must always contact the applicable land-use authorities to determine the local consultation requirements unless their proposal falls within the exclusion criteria outlined in Section 6. If the land-use authority has designated an official to deal with antenna systems, then proponents are to engage the authority through that person. If not, proponents must submit their plans directly to the council, elected local official or executive. Proponents are expected to establish initial formal contact with the land-use authority in writing in order to mark the official commencement of the ***120-day*** consultation process.

Proponents should note that there may be more than one land-use authority with an interest in the proposal. Where no established agreement exists between such land-use authorities, proponents must, as a minimum, contact the land-use authority(ies) and/or neighbouring land-use authorities located within a radius of three times the tower height, measured from the tower base or the outside perimeter of the supporting structure, whichever is greater. As well, in cases where proponents are aware that a potential Aboriginal or treaty right or land claim may be affected by the proposed installation, they must contact Industry Canada in order to ensure that the requirements for consultation are met.

Following the Land-use Authority Process

Proponents must follow the land-use consultation process for the siting of antenna systems, established by the land-use authority, where one exists. In the event that a land-use authority's existing process has no public consultation requirement, proponents must then fulfill the public consultation requirements contained in Industry Canada's Default Public Consultation Process (see Section 4.2). Proponents are not required to follow this requirement if the LUA's established process explicitly excludes their type of proposal from consultation or it is excluded by Industry Canada's criteria. Where proponents believe the local consultation requirements are unreasonable, they may contact the local Industry Canada office in writing for guidance.

Broadcasting Undertakings

Applicants for broadcasting undertakings are subject to Canadian Radio-television and Telecommunications (CRTC) licensing processes in addition to Industry Canada requirements. Although Industry Canada encourages applicants to consult as early as practical in the application process, in some cases it may not be prudent for the applicants to initiate public and municipal/land-use consultation before receiving CRTC approval, as application denial by the CRTC would result in unnecessary work for all parties involved. Therefore, assuming that the proposal is not otherwise excluded, broadcasting applicants may opt to commence land-use consultation after having received CRTC approval. However, broadcasting applicants choosing this option are required, at the time of the CRTC application, to notify the land-use authority with a Letter of Intent outlining a commitment to conduct consultation after receiving CRTC approval. If the land-use authority raises concerns with the proposal as described in the Letter of Intent, applicants are encouraged to engage in discussions with the land-use authority regarding their concerns and attempt to resolve any issues. See Broadcasting Procedures and Rules, Part 1 (BPR-1), for further details.

4.1 Land-use Authority Consultation

Industry Canada believes that any concerns or suggestions expressed by land-use authorities are important elements to be considered by proponents regarding proposals to install, or make changes to, antenna systems. As part of their community planning processes, land-use authorities should facilitate the implementation of local radiocommunication services by establishing consultation processes for the siting of antenna systems.

Unless the proposal meets the exclusion criteria outlined in Section 6, proponents must consult with the local land-use authority(ies) on any proposed antenna system prior to any construction with the aim of:

- discussing site options;
- ensuring that local processes related to antenna systems are respected;
- addressing reasonable and relevant concerns (see Section 4.2) from both the land-use authority and the community they represent; and
- obtaining land-use authority concurrence in writing.

Land-use authorities are encouraged to establish reasonable, relevant, and predictable consultation processes[2] specific to antenna systems that consider such things as:

- the designation of suitable contacts or responsible officials;
- proposal submission requirements;
- public consultation;
- documentation of the concurrence process; and
- the establishment of milestones to ensure consultation process completion within ***120 days***.

Where they have specific concerns regarding a proposed antenna system, land-use authorities are expected to discuss reasonable alternatives and/or mitigation measures with proponents.

Under their processes, land-use authorities may exclude from consultation any antenna system installation in addition to those identified by Industry Canada's own consultation exclusion criteria (Section 6). For example, an authority may wish to exclude from public consultation those installations located within industrial areas removed from residential areas, low visual impact installations, or certain types of structures located within residential areas.

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[2] Industry Canada is available to assist land-use authorities in the development of local processes. In addition, land-use authorities may wish to consult Industry Canada's guide for the development of local consultation processes.

4.2 Industry Canada's Default Public Consultation Process

Proponents must follow Industry Canada's Default Public Consultation Process where the local land-use authority does not have an established and documented public consultation process applicable to antenna siting. Proponents are not required to follow Industry Canada's Default Public Consultation Process if the land-use authority's established process explicitly excludes their type of proposal from public consultation or it is excluded by Industry Canada's criteria (see Section 6). Industry Canada's default process has three steps whereby the proponent:

1. provides written notification to the public, the land-use authority and Industry Canada of the proposed antenna system installation or modification (i.e. *public notification*);

2. engages the public and the land-use authority in order to address relevant questions, comments and concerns regarding the proposal (i.e. *responding to the public*); and

3. provides an opportunity to the public and the land-use authority to formally respond in writing to the proponent regarding measures taken to address reasonable and relevant concerns (i.e. *public reply comment*).

Public Notification

1. Proponents must ensure that the local public, the land-use authority and Industry Canada are notified of the proposed antenna system. As a minimum, proponents must provide a notification package (see Appendix 2) to the local public (including nearby residences, community gathering areas, public institutions, schools, etc.), neighbouring land-use authorities, businesses, and property owners, etc. located within a radius of three times the tower height, measured from the tower base or the outside perimeter of the supporting structure, whichever is greater. For the purpose of this requirement, the outside perimeter begins at the furthest point of the supporting mechanism, be it the outermost guy line, building edge, face of the self-supporting tower, etc.

2. It is the proponent's responsibility to ensure that the notification provides at least ***30 days*** for written public comment.

3. In addition to the minimum notification distance noted above, in areas of seasonal residence, the proponent, in consultation with the land-use authority, is responsible for determining the best manner to notify such residents to ensure their engagement.

4. In addition to the public notification requirements noted above, proponents of antenna-supporting structures that are proposed to be 30 metres or more in height must place a notice in a local community newspaper circulating in the proposed area.[3]

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[3] The notice must be synchronized with the distribution of the public notification package. It must be legible and placed in the public notice section of the newspaper. The notice must include: a description of the proposed installation; its location and street address; proponent contact information and mailing address; and an invitation to provide public comments to the proponent within ***30 days*** of the notice. In areas without a local newspaper, other effective means of public notification must be implemented. Proponents may contact the local Industry Canada office for guidance.

Responding to the Public

Proponents are to address all reasonable and relevant concerns, make all reasonable efforts to resolve them in a mutually acceptable manner and must keep a record of all associated communications. If the local public or land-use authority raises a question, comment or concern relating to the antenna system as a result of the public notification process, then the proponent is required to:

1. respond to the party in writing within ***14 days*** acknowledging receipt of the question, comment or concern and keep a record of the communication;

2. address in writing all reasonable and relevant concerns within ***60 days*** of receipt or explain why the question, comment or concern is not, in the view of the proponent, reasonable or relevant; and

3. in the written communication referred to in the preceding point, clearly indicate that the party has ***21 days*** from the date of the correspondence to reply to the proponent's response. The proponent must provide a copy of all public reply comments to the local Industry Canada office.

Responding to reasonable and relevant concerns may include contacting a party by telephone, engaging in a community meeting or having an informal, personal discussion. Between steps 1 and 2 above, the proponent is expected to engage the public in a manner it deems most appropriate. Therefore, the letter at step 2 above may be a record of how the proponent and the other party addressed the concern at hand.

Public Reply Comments

As indicated in step 3 above, the proponent must clearly indicate that the party has ***21 days*** from the date of the correspondence to reply to the response. The proponent must also keep a record of all correspondence/discussions that occurred within the ***21-day*** public reply comment period. This includes records of any agreements that may have been reached and/or any concerns that remain outstanding.

The factors that will determine whether a concern is reasonable or relevant according to this process will vary but will generally be considered if they relate to the requirements of this document and to the particular amenities or important characteristics of the area surrounding the proposed antenna system. Examples of concerns that proponents are to address may include:

- Why is the use of an existing antenna system or structure not possible?

- Why is an alternate site not possible?

- What is the proponent doing to ensure that the antenna system is not accessible to the general public?

- How is the proponent trying to integrate the antenna into the local surroundings?

- What options are available to satisfy aeronautical obstruction marking requirements at this site?

- What are the steps the proponent took to ensure compliance with the general requirements of this document including the *Canadian Environmental Assessment Act* (CEAA), Safety Code 6, etc.?

Concerns that are not relevant include:

- disputes with members of the public relating to the proponent's service, but unrelated to antenna installations;
- potential effects that a proposed antenna system will have on property values or municipal taxes;
- questions whether the *Radiocommunication Act*, this document, Safety Code 6, locally established by-laws, other legislation, procedures or processes are valid or should be reformed in some manner.

4.3 Concluding Consultation

The proponent may only commence installation/modification of an antenna system after the consultation process has been completed by the land-use authority, or Industry Canada confirms concurrence with the consultation portion of this process, and after all other requirements under this process have been met. Consultation responsibilities will normally be considered complete when the proponent has:

1. concluded consultation requirements (Section 4.1) with the land-use authority;
2. carried out public consultation either through the process established by the land-use authority or the Industry Canada's Default Public Consultation Process where required; and
3. addressed all reasonable and relevant concerns.

Concluding Land-use Authority Consultation

Industry Canada expects that land-use consultation will be completed within ***120 days*** from the proponent's initial formal contact with the local land-use authority. Where unavoidable delays may be encountered, the land-use authority is expected to indicate when the proponent can expect a response to the proposal. If the authority is not responsive, the proponent may contact Industry Canada. Depending on individual circumstances, Industry Canada may support additional time or consider the land-use authority consultation process concluded.

Depending on the land-use authority's own process, conclusion of local consultation may include such steps as obtaining final concurrence for the proposal via the relevant committee, a letter or report acknowledging that the relevant municipal process or other requirements have been satisfied, or other valid indication, such as the minutes of a town council meeting indicating LUA approval. Compliance with informal city staff procedures, or grants of approval strictly related to zoning, construction, etc. will not normally be sufficient.

Industry Canada recognizes that approvals for construction (e.g. building permits) are used by some land-use authorities as evidence of consultation being concluded. Proponents should note that Industry Canada does not consider the fact a permit was issued as confirmation of concurrence, as different land-use authorities have different approaches. As such, Industry Canada will only consider such approvals as valid when the proponent can demonstrate that the LUA's process was followed and that the LUA's preferred method of concluding LUA consultation is through such an approval.

Concluding Industry Canada's Default Public Consultation Process

Industry Canada's Default Public Consultation Process will be considered concluded when the proponent has either:

- received no written questions, comments or concerns to the formal notification within the ***30-day*** public comment period; or
- if written questions, comments or concerns were received, the proponent has addressed and resolved all reasonable and relevant concerns and the public has not provided further comment within the ***21-day*** reply comment period.

In the case where the public responds within the ***21-day*** reply comment period, the proponent has the option of making further attempts to address the concern on its own, or can request Industry Canada engagement. If a request for engagement is made at this stage, Industry Canada will review the relevant material, request any further information it deems pertinent from any party and may then decide that:

- the proponent has met the consultation requirements of this process and that Industry Canada concurs that installation or modification may proceed; or
- the parties should participate in further attempts to mitigate or resolve any outstanding concern.

5. Dispute Resolution Process

The dispute resolution process is a formal process intended to bring about the timely resolution where the parties have reached an impasse.

Upon receipt of a written request, from a stakeholder other than the general public, asking for Departmental intervention concerning a reasonable and relevant concern, the Department may request that all involved parties provide and share all relevant information. The Department may also gather or obtain other relevant information and request that parties provide any further submissions if applicable. The Department will, based on the information provided, either:

- make a final decision on the issue(s) in question, and advise the parties of its decision; or
- suggest the parties enter into an alternate dispute resolution process in order to come to a final decision. Should the parties be unable to reach a mutually agreeable solution, either party may request that the Department make a final decision.

Upon resolution of the issue under dispute, the proponent is to continue with the process contained within this document as required.

6. Exclusions

For the following types of installations, proponents are excluded from the requirement to consult with the LUA and the public, but must still fulfill the General Requirements outlined in Section 7:

- maintenance of existing radio apparatus including the antenna system, transmission line, mast, tower or other antenna-supporting structure;
- addition or modification of an antenna system (including improving the structural integrity of its integral mast to facilitate sharing), the transmission line, antenna-supporting structure or other radio apparatus to existing infrastructure, a building, water tower, etc. provided the addition or modification does not result in an overall height increase above the existing structure of 25% of the original structure's height;
- maintenance of an antenna system's painting or lighting in order to comply with Transport Canada's requirements;
- installation, for a limited duration (typically not more than 3 months), of an antenna system that is used for a special event, or one that is used to support local, provincial, territorial or national emergency operations during the emergency, and is removed within 3 months after the emergency or special event; and
- new antenna systems, including masts, towers or other antenna-supporting structure, with a height of less than 15 metres above ground level.

Individual circumstances vary with each antenna system installation and modification, and the exclusion criteria above should be applied in consideration of local circumstances. Consequently, it may be prudent for the proponents to consult the LUA and the public even though the proposal meets an exclusion noted above. Therefore, when applying the criteria for exclusion, proponents should consider such things as:

- the antenna system's physical dimensions, including the antenna, mast, and tower, compared to the local surroundings;
- the location of the proposed antenna system on the property and its proximity to neighbouring residents;
- the likelihood of an area being a community-sensitive location; and
- Transport Canada marking and lighting requirements for the proposed structure.

Proponents who are not certain if their proposed structure is excluded, or whether consultation may still be prudent, are advised to contact the land-use authority and/or Industry Canada for guidance.

7. General Requirements

In addition to roles and responsibilities for site sharing, land-use consultation and public consultation, proponents must also fulfill other important obligations including: compliance with Health Canada's Safety Code 6 guideline for the protection of the general public; compliance with radio frequency immunity criteria; notification of nearby broadcasting stations; environmental considerations; and Transport Canada/NAV CANADA aeronautical safety responsibilities.

7.1 Radio Frequency Exposure Limits

Health Canada has established safety guidelines for exposure to radio frequency fields, in its Safety Code 6 publication, entitled: *Limits of Human Exposure to Radiofrequency Electromagnetic fields in the Frequency Range from 3 kHz to 300 GHz.*[4] While the responsibility for developing Safety Code 6 rests with Health Canada, Industry Canada has adopted this guideline for the purpose of protecting the general public. Current biomedical studies in Canada and other countries indicate that there is no scientific or medical evidence that a person will experience adverse health effects from exposure to radio frequency fields, provided that the installation complies with Safety Code 6.

It is the responsibility of proponents and operators of installations to ensure that all radiocommunication and broadcasting installations comply with Safety Code 6 at all times, including the consideration of combined effects of nearby installations within the local radio environment.

For all proponents following Industry Canada's Default Public Consultation Process, the proponent's notification package must provide a written attestation that there will be compliance with Safety Code 6 for the protection of the general public, including consideration of nearby radiocommunication systems. The notification package must also indicate any Safety Code 6 related signage and access control mechanisms that may be used.

Compliance with Safety Code 6 is an ongoing obligation. At any time, antenna system operators may be required, as directed by Industry Canada, to demonstrate compliance with Safety Code 6 by (i) providing detailed calculations, and/or (ii) conducting site surveys and, where necessary, by implementing corrective measures. Proponents and operators of existing antenna systems must retain copies of all information related to Safety Code 6 compliance such as analyses and measurements.

7.2 Radio Frequency Immunity

All radiocommunication and broadcasting proponents and existing spectrum users are to ensure that their installations are designed and operated in accordance with Industry Canada's immunity criteria as outlined in EMCAB-2[5] in order to minimize the malfunctioning of electronic equipment in the local surroundings. Broadcasting proponents and existing undertakings should refer to Broadcasting

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[4] Safety Code 6 can be found on Health Canada's website at http://www.hc-sc.gc.ca/ewh-semt/pubs/radiation/radio_guide-lignes_direct-eng.php

[5] For more information see EMCAB-2, entitled: *Criteria for Resolution of Immunity Complaints Involving Fundamental Emissions of Radiocommunications Transmitters* available on Industry Canada's Spectrum Management and Telecommunications website at: http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf01005.html.

Procedures and Rules - Part 1, *General Rules* (BPR-1) for additional information and requirements[6] on this matter.

Proponents are advised to consider the potential effect that their proposal may have on nearby electronic equipment. In this way, they will be better prepared to respond to any questions that may arise during the public and land-use consultation processes, or after the system has been installed.

Land-use authorities should be prepared to advise proponents and owners of broadcasting undertakings of plans for the expansion or development of nearby residential and/or industrial areas. Such expansion or development generally results in the introduction of more electronic equipment in the area and therefore an increased potential for electronic equipment to malfunction. By keeping broadcasters aware of planned developments and changes to adjacent land-use, they will be better able to work with the community. Equally, land-use authorities have a responsibility to ensure that those moving into these areas, whether prospective residents or industry, are aware of the potential for their electronic equipment to malfunction when located in proximity to an existing broadcasting installation. For example, the LUA could ensure that clear notification be provided to future prospective purchasers.

7.3 Proximity of Proposed Structure to Broadcasting Undertakings

Where the proposal would result in a structure that exceeds 30 metres above ground level, the proponent is to notify operators of AM, FM and TV undertakings within 2 kilometres, due to the potential impact the physical structure may have on these broadcasting undertakings. Metallic structures close to an AM directional antenna array may change the antenna pattern of the AM broadcasting undertaking. These proposed structures can also reflect nearby FM and TV signals, causing 'ghosting' interference to FM/TV receivers used by the general public.

7.4 Canadian Environmental Assessment Act

Industry Canada requires that the installation and modification of antenna systems be done in a manner that complies with appropriate environmental legislation. This includes the CEAA and local environmental assessment requirements where required by the CEAA.

Proponents will ensure that the environmental assessment process is applied as early as is practical in the planning stages. This will enable proponents and other stakeholders to consider environmental factors in any decisions that may be made. As part of their environmental assessment, proponents are to give due consideration to potential environmental impacts including cumulative effects.

Proponents are advised to view the current CEAA exclusion list[7] to see if their proposed installation meets the requirements to be excluded from assessment under the CEAA.

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[6] BPR-1 - Part I: General Rules can be found on the Spectrum Management and Telecommunications website at: http://strategis.ic.gc.ca/epic/internet/insmt-gst.nsf/en/sf01326e.html.

[7] The CEAA exclusion list can be found at http://laws.justice.gc.ca/en/C-15.2/SOR-94-639/index.html.

If not excluded, the proponent must first notify the local Industry Canada office which will direct the proponent on how to proceed with an environmental assessment. At this point, the proponent must not proceed with any construction related to the proposal.

Where the proposal requires assessment under the CEAA, the proponent must either:

- abandon the proposal; or
- participate in the environmental assessment process as established under the CEAA.

Should the environmental assessment identify that there is the potential for an adverse environmental effect, the proponent will be required to describe the effect and propose mitigation measures. Through an environmental assessment, careful consideration may be given to potential adverse environmental effects during the planning stages. This makes it possible to introduce measures which permit the project to proceed while protecting the environment.

Should any significant adverse environmental effect become apparent at any time during the installation, all construction must be stopped, regardless of whether the installation was excluded from environmental assessment.

For all proponents following Industry Canada's Default Public Consultation Process, the proponent's notification package must provide written confirmation of the project's status under the *Canadian Environmental Assessment Act*.

In those situations where an environmental assessment is required, Industry Canada will post a notification of the commencement of the assessment on the Canadian Environmental Assessment Registry website.[8] This will help to ensure that all interested parties, including the general public, are aware of an assessment from the outset. The notification will include the name, location and a summary description of the project, and identify the project proponent(s) and federal department(s) directly involved in the assessment. Other pertinent documents will be placed on the Internet site as the assessment proceeds, including all public notices, decisions and information about follow-up programs. Should mitigation measures be identified further to the assessment, Industry Canada will ensure that the project does not proceed unless these measures are adequately addressed.

In addition, proponents are responsible to ensure that antenna systems are installed and operated in a manner that respects the local environment and complies with other statutory requirements such as the *Canadian Environmental Protection Act*, the *Migratory Birds Convention Act* and the *Species at Risk Act*, where applicable.

[8] The Canadian Environmental Assessment Registry website can be found at: http://www.ceaa-acee.gc.ca/050/index_e.cfm.

7.5 Aeronautical Safety

Proponents must ensure their proposals for any antenna system are first reviewed by Transport Canada and NAV CANADA.

Transport Canada will perform an assessment of the proposal with respect to the potential hazard to air navigation and will notify proponents of any painting and/or lighting requirements for the antenna system. NAV CANADA will comment on whether the proposal has an impact on the provision of their national air navigation system, facilities and other services located off-airport.

As required, the proponent must:

1. submit an Aeronautical Obstruction Clearance form to Transport Canada;
2. submit a Land-use Proposal Submission form to NAV CANADA;
3. include Transport Canada marking requirements in the public notification package;
4. install and maintain the antenna system in a manner that is not a hazard to aeronautical safety; and
5. retain all correspondence.

For those antenna systems subject to Industry Canada's Default Public Consultation Process, the proponent will inform the community of any marking requirements. Where options are possible, proponents are expected to work with the local community and Transport Canada to implement the best and safest marking options. Proponents should be aware that Transport Canada does not advise Industry Canada of marking requirements for proposed structures. Proponents are reminded that the addition of, or modification to, obstruction markings may result in community concern and so any change is to be done in consultation with the local public, land-use authority and/or Transport Canada, as appropriate.

References and Details

Aeronautical Obstruction Clearance forms are available from any Transport Canada Aviation Group Office. Both the Aeronautical Obstruction Clearance form (#26-0427) and a list of Transport Canada Aviation Group regional offices are available on the Transport Canada website.[9] Completed forms are to be submitted directly to the nearest Transport Canada Aviation Group office. (Refer to Canadian Aviation Regulations, Standard 621.19, Standards Obstruction Markings).

Land-use Proposal Submission forms are available from NAV CANADA[10] and completed forms are to be sent to the appropriate NAV CANADA General Manager Airport Operations (GMAO) office, East or West.

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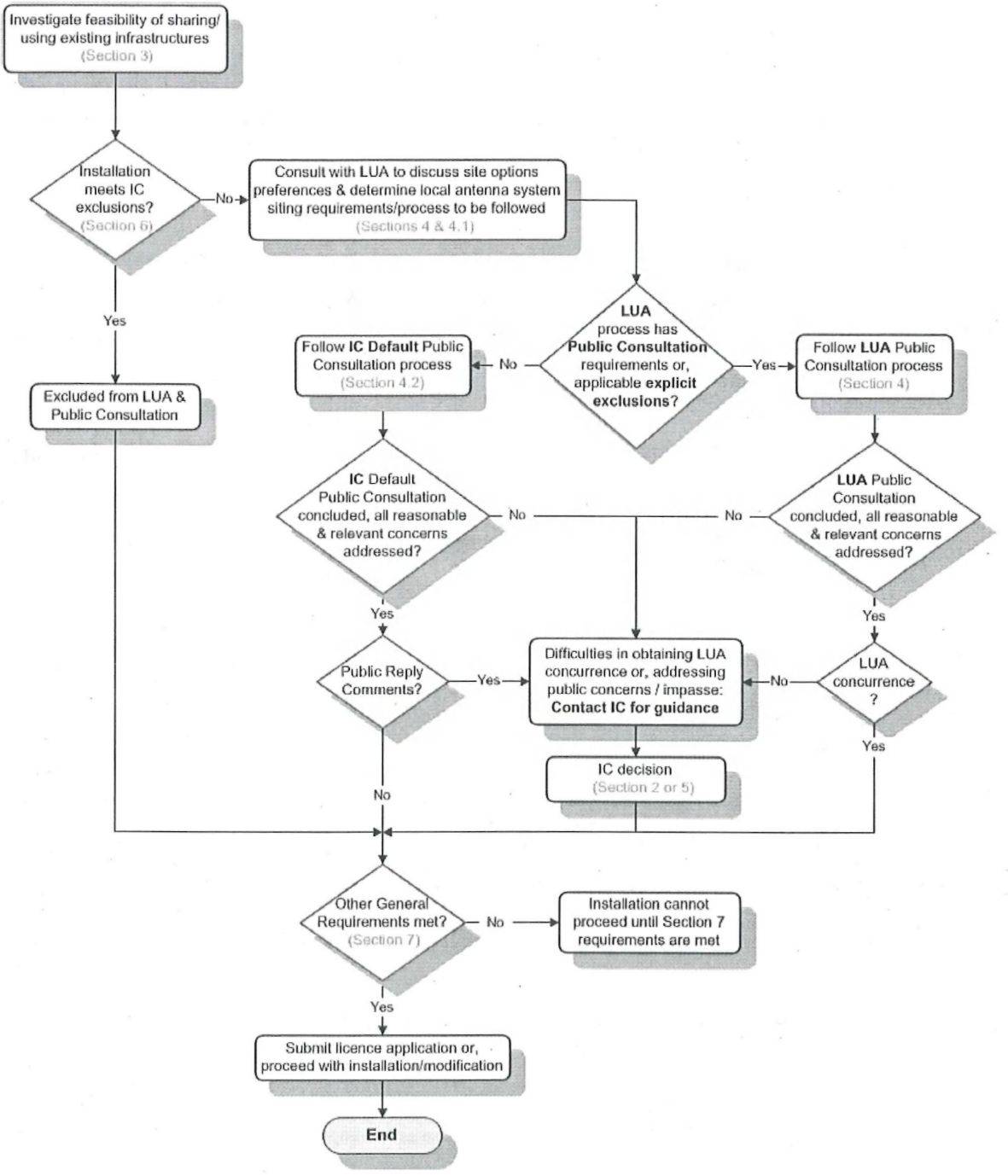
[9] The Transport Canada website can be found at: http://www.tc.gc.ca.

[10] Search keywords "Land-use Proposal" on the NAV CANADA website at: http://www.navcanada.ca.

Appendix 1 - Consultation Flow Chart



Appendix 2 - Industry Canada's Default Public Consultation Process - Public Notification Package (See Section 4.2)

The proponent must ensure that at least ***30 days*** are provided for public comment. Notification must provide all information on how to submit comments to the proponent in writing. The proponent must also provide a copy of the notification package to the land-use authority and the local Industry Canada office at the same time as the package is provided to the public.

Notification must include, but need not be limited to:

(1) the proposed antenna system's purpose, the reasons why existing antenna systems or other infrastructure cannot be used, a list of other structures that were considered unsuitable and future sharing possibilities for the proposal;

(2) the proposed location within the community, the geographic co-ordinates and the specific property or rooftop;

(3) an attestation[1] that the general public will be protected in compliance with Health Canada's Safety Code 6 including combined effects within the local radio environment at all times;

(4) identification of areas accessible to the general public and the access/demarcation measures to control public access;

(5) the project's status under the *Canadian Environmental Assessment Act*[2];

(6) a description of the proposed antenna system including its height and dimensions, a description of any antenna that may be mounted on the supporting structure and simulated images of the proposal;

(7) Transport Canada's aeronautical obstruction marking requirements (whether painting, lighting or both) if available; if not available, the proponent's expectation of Transport Canada's requirements together with an undertaking to provide Transport Canada's requirements once they become available;

(8) an attestation that the installation will respect good engineering practices including structural adequacy;

(9) reference to any applicable local land-use requirements such as local processes, protocols, etc.;

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[1] Example: I, (*name of individual or representative of company*) attest that the radio installation described in this notification package will be installed and operated on an ongoing basis so as to comply with Health Canada's Safety Code 6, as may be amended from time to time, for the protection of the general public including any combined effects of nearby installations within the local radio environment.

[2] Example: I, (*name of individual or representative of company*) attest that the radio antenna system described in this notification package is excluded from environmental assessment under the *Canadian Environmental Assessment Act*.

(10) notice that general information relating to antenna systems is available on Industry Canada's Spectrum Management and Telecommunications website (http://strategis.ic.gc.ca/antenna);

(11) contact information for the proponent, land-use authorities and the local Industry Canada office; and

(12) closing date for submission of written public comments (not less than ***30 days*** from receipt of notification).