TO: Chair and Members  
Economic Development and Planning Committee

WARD(S) AFFECTED: CITY WIDE

COMMITTEE DATE: February 16, 2010

SUBJECT/REPORT NO:  
Telecommunication Tower and Antenna Protocol Follow-Up Report (PED09206(a)) / (PW10016) / (BOH08013(a)) (City Wide)  
(Outstanding Business List Item)

SUBMITTED BY:  
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VISION:
To be the best place in Canada to raise a child, promote innovation, engage citizens and provide diverse economic opportunities.

VALUES: Honesty, Accountability, Innovation, Leadership, Respect, Excellence, Teamwork
RECOMMENDATION:

That the item “Consultation process for wireless telecommunication facilities” be identified as completed and removed from the Economic Development and Planning Committee Outstanding Business List, as per Report PED09206(a) / PW10016 / BOH08013(a).

EXECUTIVE SUMMARY

The Telecommunication Tower and Antenna Protocol was approved by Economic Development and Planning Committee on August 10, 2009, and Council on August 13, 2009. At the Committee meeting on August 10, staff was directed to report back to Committee and Council on the following four issues: increasing the separation distance between new towers and residential zones/schools from 120 metres to 400 metres; prohibiting the installation of new lattice-type towers; exploring the revenue that could be generated through the installation of telecommunication antenna on water towers and how water security could be maintained; and, researching the health effects of telecommunication antenna on water towers. Planning staff was directed to report back on the first two issues, while staff from Public Works and Public Health Services were directed to report back on the third and fourth issues, respectively. This report summarizes the staff response to the issues identified above.

Alternatives for Consideration - See Pages 10 and 11

FINANCIAL / STAFFING / LEGAL IMPLICATIONS (for Recommendation(s) only)

Financial: If Alternative 2(c) is approved (under the Alternatives for Consideration on Page 10) and antenna are permitted on City water towers, the estimated potential revenue could range from $1,000 to $1,200 per tower per month, based on research of agreements in other municipalities.

Staffing: If Alternative 2(c) is approved (under the Alternatives for Consideration on Page 10) and antenna are permitted on City water towers, there would be staff time required from Public Works, Legal, and Real Estate to address issues such as security, access, maintenance, and lease agreements. This could likely be accommodated under current staffing levels and, therefore, no increase in staffing would be required.

Legal: If Alternative 2(c) is approved (under the Alternatives for Consideration on Page 10) and antenna are permitted on City water towers, the City would be required to enter into a leasing agreement with the telecommunication providers.
HISTORICAL BACKGROUND (Chronology of events)

On August 10, 2009, Report PED09206, “Telecommunication Tower and Antenna Protocol”, was approved by the Economic Development and Planning Committee. The report included a Protocol for the design and siting of new telecommunication facilities within the City of Hamilton, attached as Appendix “A” to this Report. The Protocol was approved by Committee, and is now in effect, and provides guidance on the location and siting of new telecommunication proposals.

At the August 10 meeting, Committee requested that staff report back on four identified issues of concern, as follows:

On a Motion (Ferguson/Bratina), appropriate staff as outlined below, were directed to report back to the Economic Development and Planning Committee on the following issues:

(i) Change separation for new towers from 120 metres to 400 metres from residential areas and schools (Planning staff);

(ii) All new towers should be monopoles and not lattice towers with multiple antennae; (Planning staff);

(iii) The revenue that could be generated, and how water security can be protected if wireless telecommunication devices are installed on City owned water towers (Public Works staff);

(iv) The health effects on water towers by wireless telecommunication devices (Medical Officer of Health).

This report will address the issues identified above, with input from Planning, Public Works, and Public Health Services staff.

POLICY IMPLICATIONS

Community Services Committee Report CS01097

Report CS01097 Broadcasting Communications Facilities - Policy and Procedure, presented to Committee of the Whole on December 5, 2001, proposed a procedure for dealing with requests to install broadcasting communication facilities on City-owned lands. The report outlines the benefits versus risks of allowing private communication facilities on City-owned lands. The benefits include a source of revenue to the City and an opportunity for improved wireless communication coverage. The risks include the need for staff time to review proposals, City liability issues, restriction on the use of City-owned lands for City purposes, security issues, and difficulty in terminating agreements.
A Procedure for the Installation of Broadcasting Communication Facilities on City of Hamilton Properties was included as an Appendix to the report. The Procedure requires all requests for the installation of broadcasting equipment on City lands to be submitted to the Economic Development and Real Estate Division. The Economic Development and Real Estate Division then circulates the request to the ‘Host’ department, as well as to Trunking Radio, Emergency Services, and Planning. The Host department reviews the proposal for acceptability. Once the technical review is complete, Real Estate coordinates the approval of a License Agreement. It is noted that this Procedure indicates that at no time shall the City accept requests for the installation of telecommunication facilities on City water towers. The Procedure is included as Appendix “A” to the approved Protocol.

Public Works, Infrastructure, and Environment Committee Report PW05074

Report PW05074, presented at Committee of the Whole on July 13, 2005, discusses the issue of installation of wireless telecommunication devices on City-owned water towers. The report was prepared in response to a request from Bell Mobility to install a telecommunication device at the Dundas water tower. The report recommended that the General Manager of the Public Works Department be authorized and directed to decline the request made by Bell Mobility, and any similar future requests to install communication equipment on City water towers. The rationale for the recommendation to decline access to City water towers was twofold. First, the City did not want to preclude the use of its property for its own radio transmission equipment, and providing access to the wireless telecommunication providers could interfere with the City’s use of its own facility. Second, the City had concerns over security of its water system, and as such, every effort should be made to restrict access to its water reservoirs and towers to only appropriate City staff.

Board of Health Report BOH08013

Report BOH08013 Health Risk Associated with Cell Phone Towers was presented at the July 9, 2008, Board of Health meeting. This report discusses possible human health impacts from cell phone towers and wireless communication devices. Health Canada has developed a guideline called Safety Code 6 - Limits of Human Exposure to Radiofrequency Electromagnetic Fields in the Frequency Range from 3 KHZ to 300 GHZ. Safety Code 6 applies to mobile phones and cell towers. It establishes exposure limits which are based on the lowest exposure level at which potential harmful effects to humans could occur. Wireless communication devices use radio frequency (RF) energy to transmit data. Recent surveys have found that RF exposure from cell towers and wireless technologies in publicly accessible areas are normally thousands of times below the Safety Code 6 limits.

Report BOH08013 also discusses current debates on whether or not long term low level exposure to RF energy can have any health impacts. Current findings suggest that levels of RF exposure from cell towers and wireless networks are so low that there is no
human health impact. Likewise, concern over cancer clusters surrounding cell towers has not been proven. The report summarizes that from all evidence accumulated to date, there are no adverse short or long term health effects from RF signals produced by cell towers.

**Urban Hamilton Official Plan**

The New Urban Hamilton Official Plan was adopted by City Council on July 9, 2009. While the Plan is not yet in force and effect, it is noted that the attached Protocol conforms with the Council-adopted Plan. Policy 3.2.1(b) states that telecommunication facilities shall be permitted in all land use designations. In addition, Policy 3.4.10 states that the City of Hamilton shall prepare a telecommunications antenna siting protocol to ensure effective local participation in decisions respecting the siting of proposed antennas and their supporting structure. Therefore, the Telecommunication Tower and Antenna Protocol is implementing the policies of the Urban Hamilton Official Plan.

**Rural Hamilton Official Plan**

The New Rural Hamilton Official Plan has been approved by the Province of Ontario, but is not yet in force and effect due to appeals. Policy 3.4.2 states that only major utility facilities such as compressor stations, major easements, waste management facilities, and commercial wind farms shall be designated as Utilities. All other utility uses, which would include telecommunication facilities, shall be permitted in all designations. The Plan also states that utilities shall be developed to integrate with the general character of the surrounding uses through the provision of landscaping, screening and buffering, siting of structures, height control, and any other measures as may be deemed appropriate by the City. These issues have been addressed in the Protocol and, therefore, the Protocol is consistent with the policies of the Rural Hamilton Official Plan.

**RELEVANT CONSULTATION**

*Industry Canada* was contacted to discuss the issues addressed in this report, specifically regarding an increased separation distance from sensitive uses, and a restriction on the type of towers permitted for construction. Industry Canada provided the following input:

- Regarding an increased separation distance from 120 metres to 400 metres from sensitive uses: Industry Canada commented that this would have the effect of eliminating a large amount of land from consideration for new telecommunication facilities. As such, the concern is that telecommunication carriers may view the Protocol as being overly restrictive. The carriers may then ignore this provision of the Protocol and appeal to Industry Canada that it is too restrictive, and choose locations for new towers that do not comply with the Protocol.
• Regarding a prohibition on construction of lattice-type towers: Most carriers are starting to move away from the construction of new lattice type towers. Tripole towers (as seen in Appendix “D”) are becoming more common as they can easily accommodate multiple carriers. Some monopole towers are also designed to accommodate multiple carriers, with a larger tower width. New large lattice towers would likely only be required in the Rural Area, as towers of this height are not required to fill coverage gaps in urban areas. Industry Canada suggests that the City may wish to encourage unobtrusive design in the Protocol rather than specifically eliminating one type of tower from being constructed. Staff notes that the Protocol already encourages unobtrusive design under Section 1.2.2 - Design and Landscaping.

Thomson Rogers, the law firm representing Bell, Rogers and Telus, was contacted to discuss the possibility of amending the Protocol to restrict the type of towers permitted for construction. Thomson Rogers confirmed many of the comments of Industry Canada above, in that it is rare for the carriers to construct large lattice type towers. Instead, in urban areas, smaller monopole towers are the most common. These are most efficient at providing the required coverage, and may still accommodate multiple carriers. Large coverage lattice towers are generally constructed only in rural areas.

In addition, staff from Public Works met with a representative from Thomson Rogers to discuss the issue of telecommunication antenna on water towers, and whether or not the telecommunication providers would be interested in a proposal which would require one leasing agreement to cover all 6 City water towers. The rationale behind this proposal is that a leasing agreement which covered all water towers may be able to generate sufficient revenue to allow the City to appropriately address potential water security and Health and Safety concerns. It is unlikely that individual agreements on a per-tower basis would generate sufficient revenue to make the endeavour cost efficient for the City. Should a telecommunication provider approach the City in the future with a proposal for a long term lease agreement that provides adequate compensation for the inherent security and Health and Safety risks associated with such an agreement, staff would review the proposal at that time to determine if there is a sufficient business case for this type of agreement.

**ANALYSIS / RATIONALE FOR RECOMMENDATION**

(include Performance Measurement/Benchmarking Data, if applicable)

Economic Development and Planning Committee asked staff to report back on the following four issues:

1. **Change separation for new towers from 120 metres to 400 metres from residential areas and schools.**
Section 1.2.1.2 of the Protocol, attached as Appendix “A”, states that “new towers are strongly discouraged within 120 metres of any Residential Zone or elementary or secondary school, unless required for reasons of engineering or network objectives.” Committee has asked staff to consider increasing this proposed separation distance between new towers and sensitive uses (residential zones or schools) from 120 metres to 400 metres.

The 120 metre separation distance was suggested by staff and included in the Protocol because staff considers this distance to represent a balance between protecting sensitive uses, while at the same time recognizing that there is a need for new towers to locate in proximity to users. In order to provide service and coverage to users in their homes within residential zones, there is a need for towers to be located in proximity to residential areas.

Staff has prepared two maps, attached as Appendices “B” and “C” to Report PED09206a, which illustrate the impact of a 120 metre separation from residential zones and schools versus a 400 metre separation from residential zones and schools. Appendix “B” shows a 120 metre buffer around all the residentially zoned lands and schools across the City. Appendix “C” provides the same information, with a 400 metre buffer. It is apparent, on comparing the two maps, that a 400 metre buffer would effectively eliminate any further cell towers from locating within large portions of the Urban Area, most notably the area below the escarpment, including a significant portion of lands located in the interior of the industrial areas. While this may be desirable from a compatibility perspective, it is not desirable from the perspective of providing service to Hamilton residents. The 120 metre buffer shown on Appendix “B” will also have the impact of limiting future cell tower locations across the Urban Area, but the impact will be less severe than that of the 400 metre buffer, and will still offer opportunity for future expansion in the Urban Area.

Staff is concerned that by imposing the larger 400 metre separation distance cell providers may consider this requirement to be overly restrictive and may ignore this provision in the Protocol in favour of a site that is closer to a sensitive use. Staff has discussed this issue of a 120 metre versus a 400 metre separation distance with Industry Canada. Industry Canada has confirmed that if a provider can prove that they must locate closer to a sensitive use, and that the local municipal protocol is too restrictive, Industry Canada may support the carrier’s location choice regardless of the fact that it is not consistent with the Protocol. Therefore, staff is of the opinion that a less restrictive separation distance should be maintained in the Protocol, as it is more likely to maintain buy-in from carriers, provides a buffer between the tower and the sensitive use, and recognizes that towers are required in close proximity to users in order to provide adequate coverage. Staff is, therefore, recommending that the 120 metre separation distance be maintained.
2. Amend Protocol to state that all new towers should be monopoles and not lattice towers with multiple antenna.

Committee has asked staff to report back on the issue of amending the Protocol to include a provision stating that all new towers must be monopole type towers rather than the lattice type of tower. In order to provide some background information on the different types of towers, staff has provided pictures of some of the tower types, as shown in Appendix “D”. Photo 1 is a Self-Support lattice type tower. These typically range in height from 45 metres (150 feet) to 75 metres (250 feet). Photo 2 shows a Tripole lattice tower, which can range in height from 18 metres (60 feet) to 45 metres (150 feet). Photos 3 and 4 are Monopole towers, which range in height from 18 metres (60 feet) to 45 metres (150 feet). Monopole towers may be either Single-Carrier towers (Photo 4) or Co-location towers (Photo 3).

It is agreed that cell towers can be visually obtrusive when sited in close proximity to a sensitive land use. However, staff is of the opinion that the issue of greater concern than the type of tower constructed (lattice versus monopole) is the issue of co-location and multiple antenna on a single tower. The photos in Appendix “D”, particularly Photos 3 and 4, illustrate the difference between a single carrier monopole tower and a co-location monopole tower, with the co-location tower being clearly more visually obtrusive than the single antenna tower. Therefore, staff is of the opinion that restricting the type of tower that can be constructed may not have the desired effect of reducing the visual obtrusiveness of towers. Rather, the focus should be on where it is or is not appropriate to encourage co-location and multiple antennae on a tower.

Staff has addressed this issue through Section 1.2.2.2 of the approved Protocol (Appendix “A”). Section 1.2.2.2 states that a new telecommunication tower, which must be located within 120 metres of a Residential Zone or school, is not required to be designed for future co-location capacity. In this situation, a monopole tower without the capacity to support multiple antennae may be considered. In all other situations, new towers should be designed to accommodate co-location capacity. This is in keeping with the direction of Industry Canada, which stresses the importance of co-location on existing and new infrastructure. In addition, staff is of the opinion that co-location is important because it provides for a more efficient use of the land as it results in fewer towers being constructed. However, to protect sensitive land uses, co-location towers should not be located in proximity to residential uses and schools, as per Section 1.2.2.2.
If it is the opinion of Council that the type of tower should be regulated in the Protocol, staff is of the opinion that this limitation should apply to the Urban Area only. In discussions with Industry Canada and the telecommunications providers, it is evident that, within the Urban Area, new towers that are constructed are generally of a lesser height as they are being constructed to provide coverage to “holes” in the network. The towers do not need to be as tall and, are therefore, normally constructed as monopole type towers. However, in the Rural Area, it is conceivable that a larger tower may be required in order to provide coverage to a larger area. Larger towers generally need to be the lattice type of tower. From an efficiency standpoint, one larger lattice tower is preferable to several smaller towers being constructed to achieve the same objective. Therefore, should Council choose to restrict the type of towers being constructed, staff would suggest the following amendment to the Protocol, within Section 1.2.2.5:

Efforts should be made to decrease the size and visibility of telecommunication towers so that they blend in with the surroundings to the greatest extent possible. To reduce the scale and visual impact of towers, mitigation measures should include consideration of design features, structure type, colour, materials, landscaping, screening, and decorative fencing. **Lattice-type towers should be avoided within the Urban Area.** Neutral colours that blend the structure with its surroundings are encouraged (though it is recognized that new towers must comply with the requirements of Transport Canada and NAV Canada). Where equipment shelters are located on the ground, the visual impact of the built form shall be mitigated through the use of colour, decorative fencing, screening, and/or landscaping.

3. **The revenue that could be generated and how water security can be protected if wireless telecommunication devices are installed on City owned water towers.**

Staff maintains the concerns cited in Report PW05074, which addressed the issue of telecommunication antenna on water towers. The identified concerns were as follows: security of the City’s water system and a desire to limit access to water towers by outsiders; the City’s liability as it relates to the health and safety of all persons on City property; and, a need to maintain space on water towers for the City’s own radiocommunication needs. Staff is of the opinion that the potential revenue generated from leasing space on City water towers would not be sufficient to allow the City to adequately address these concerns. A review of some leasing agreements from other municipalities indicates that the potential revenue would likely be in the range of $1,000 to $1,200 per month per tower. Therefore, staff recommends that the prohibition on the installation of telecommunication antenna on water towers be maintained.
4. **The health effects on water towers by wireless telecommunication devices.**

Wireless communication devices use radio frequency (RF) energy to transmit data. RF energy is a form of non-ionizing energy, meaning that it is below visible light on the electromagnetic energy spectrum, and is generally considered to be not harmful to humans.

Health Canada has developed a series of standards and guidelines regarding the operation and use of devices that emit electromagnetic fields. The guideline that applies to mobile phones, cell towers, and all other RF transmitters is Safety Code 6 - *Limits of Human Exposure to Radiofrequency Electromagnetic Fields in the Frequency Range from 3 KHZ to 300 GHZ.*

There is no evidence in peer reviewed scientific literature that indicates that water towers hosting RF transmitting equipment are associated with adverse health outcomes in humans. Information about health risks associated with cell phone towers was presented to the Hamilton Board of Health in July, 2008 (see Report BOH08013).

**ALTERNATIVES FOR CONSIDERATION:**

(include Financial, Staffing, Legal and Policy Implications and pros and cons for each alternative)

1. Not revise the Protocol approved on August 10, 2009. This would retain the following provisions: the suggested separation distance between sensitive uses and new towers would remain at 120 metres; there would be no restriction on the type of tower developed, although through the site plan process, staff would encourage designs which minimize visual obtrusiveness; and antenna would not be permitted on water towers.

2. Committee may choose one or more of the following alternatives (a, b, c, or all three of the following alternatives):

   (a) Amend Section 1.2.1.2 of the Protocol to increase the separation distance between new towers and sensitive uses from 120 metres to 400 metres. Section 1.2.1.2 would, therefore, read as follows: “New telecommunication towers are strongly discouraged within 400 metres of any Residential Zone or elementary or secondary school, unless required for reasons of engineering or network objectives.” Staff is not in support of this option for the reasons outlined in the Analysis/Rationale section above.
(b) Amend the Protocol to prohibit the construction of lattice-type towers. While staff is not in support of this option for the reasons outlined above in the Analysis/Rationale section, should Committee choose to include this prohibition in the Protocol, staff would recommend that it be applicable to the Urban Area only through the addition of the following sentence into Section 1.2.2.5 of the Protocol: “Lattice-type towers should be avoided within the Urban Area.”

(c) Revise the 2001 Procedure for the Installation of Broadcasting Communication Facilities on City of Hamilton Properties, attached as Appendix “A” to the approved Protocol and referenced in Section 1.2.1.7 of the Protocol, to remove the prohibition on the placement of telecommunication antenna on water towers. Staff is not in support of this option due to concerns over water security, City liability issues, and the need to maintain space on water towers for the City’s own needs.

If any changes are made to the approved Protocol, a copy of the updated Protocol should be forwarded to Industry Canada and the Federation of Canadian Municipalities for information.

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<th>CORPORATE STRATEGIC PLAN  (Linkage to Desired End Results)</th>
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**Skilled, Innovative & Respectful Organization**
- More innovation, greater teamwork, better client focus.

**Financial Sustainability**
- Generate assessment growth/non-tax revenues.

**Growing Our Economy**
- An improved customer service.

**Environmental Stewardship**
- Natural resources are protected and enhanced.

**Healthy Community**
- An engaged Citizenry.
APPENDICES / SCHEDULES

Appendix “A” to Report PED09206(a) / PW10016 / BOH08013(a) - City of Hamilton Telecommunication Tower and Antenna Protocol.

Appendix “B” to Report PED09206(a) / PW10016 / BOH08013(a) - Map of 120 metre Buffer from Sensitive Land Uses.

Appendix “C” to Report PED09206(a) / PW10016 / BOH08013(a) - Map of 400 metre Buffer from Sensitive Land Uses.

Appendix “D” to Report PED09206(a) / PW10016 / BOH08013(a) - Types of Telecommunication Towers.

:HT
Attachs. (4)
City of Hamilton
Telecommunication Tower and Antenna Protocol

Section 1 - Goals and Guidelines

1.1 - Protocol Goals

1. To provide a consistent and timely process for the review of telecommunication facilities and installations within the City of Hamilton;

2. To encourage consultation by telecommunication providers with the municipality as early in the location process as practical and feasible;

3. To encourage the location and siting of telecommunication facilities in a manner which minimizes the effects on residents, lessens visual impact, and respects natural and human heritage features and sensitive land uses to the greatest extent possible;

4. To afford an appropriate and effective opportunity for public consultation with respect to mitigating concerns over the siting of wireless telecommunication facilities; and,

5. To recognize the jurisdiction of Industry Canada with respect to the implementation of appropriate health, safety, and environmental standards in exercising its authority to approve the location of telecommunications facilities.

1.2 - Guidelines

1.2.1 - Site Selection

In determining an appropriate site for a new tower or antenna, the Proponent shall adhere to the following principles:

1. Sites should be selected to minimize the total number of telecommunication tower sites required. Locations on existing structures or buildings, or co-locations on existing tower sites, are strongly encouraged. Opportunities to incorporate an antenna into the design of a new building or structure should be explored by the Proponent. The construction of a new telecommunication tower is discouraged, and will be accepted only when all other options to accommodate the telecommunication antenna are not viable.

2. New telecommunication towers are strongly discouraged within 120 metres of any Residential Zone or elementary or secondary school, unless required for reasons of engineering or network objectives. If a new tower is proposed to be located within 120 metres of a Residential Zone or a school, a detailed rationale for the necessity of this location must be provided in the Site Selection/Justification Report (see Section 3.3.1).

3. The Proponent shall make every effort to locate new telecommunication towers within lands zoned for primarily Industrial, Commercial, or Utility uses, whenever possible, where technically feasible.
4. When selecting sites for telecommunication towers, the following shall be considered:

a) Maximizing distance from residential uses, schools, and active park space;

b) Maximizing distance from properties designated under Parts IV or V of the *Ontario Heritage Act*;

c) Maximizing distance from natural features, Environmentally Sensitive Areas, Hazard Lands, and Key Natural Heritage Features and Key Hydrologic Features, as defined by the Urban and Rural Hamilton Official Plans (completion of an Environmental Impact Statement may be required should the telecommunication tower be located on lands adjacent to a Key Natural Heritage Feature);

d) Avoiding sites that would obscure public views, vistas, and significant Cultural Heritage Landscapes; and,

e) Compatibility with adjacent uses.

5. Proponents shall be encouraged to locate telecommunication towers with a minimum setback to all property lines and to all existing buildings of a distance equivalent to the height of the tower (measured from grade), whenever possible.

6. New telecommunication facilities should comply with all Zoning By-law regulations.

7. Any request to install a telecommunication facility on City-owned lands shall be reviewed in accordance with the Procedure for the Installation of Broadcasting Communication Facilities on City of Hamilton Properties (2001), attached as Appendix “A” to this Protocol.

8. Any proposed telecommunication facility located within the Development Control Area of the Niagara Escarpment Plan (NEP) shall be in accordance with the current Niagara Escarpment Commission (NEC) Radio and Telecommunications Protocol. Any proposed telecommunication facility that is located within the NEP, but outside of the Development Control Area, shall be in accordance with this Protocol. The City of Hamilton will circulate the NEC on any proposals for new telecommunication facilities that are within the NEP but outside of Development Control, in accordance with Section 3.2, Minor Site Plan Application Process.

**1.2.2 - Design and Landscaping**

The use of design features, colour, and landscaping can be used to screen telecommunication facilities from view, and should be encouraged, whenever possible. The following design guidelines should be taken into consideration when designing a new tower or antenna:

1. New telecommunication towers, which are located greater than 120 metres from a Residential Zone or elementary or secondary school, shall be designed with co-location capacity.
2. A new telecommunication tower, which must be located within 120 metres of a Residential Zone or elementary or secondary school for reasons of engineering or network objectives, is not required to be designed for future co-location capacity. In this situation, a monopole design or other stealth design technique, as described in 1.2.2.3 below, may be considered.

3. Where appropriate, stealth design techniques, including, but not limited to, camouflaging towers within church steeples, clock towers, or flagpoles, should be used in the design of a new telecommunication tower. If stealth design techniques are employed in the design of a new tower, co-location capacity will not be required in accordance with Section 1.2.2.2 above.

4. The design of the tower or antenna should be sympathetic to the surrounding architecture and built form.

5. Efforts should be made to decrease the size and visibility of telecommunication towers so that they blend in with the surroundings to the greatest extent possible. To reduce the scale and visual impact of towers, mitigation measures should include consideration of design features, structure type, colour, materials, landscaping, screening, and decorative fencing. Neutral colours that blend the structure with its surroundings are encouraged (though it is recognized that new towers must comply with the requirements of Transport Canada and NAV Canada). Where equipment shelters are located on the ground, the visual impact of the built form shall be mitigated through the use of colour, decorative fencing, screening, and/or landscaping.

6. Where appropriate, the planting of trees and shrubs at the tower site is encouraged to enhance the character of the surroundings.

7. Telecommunication towers will only accommodate telecommunication antennas. Only signage directly related to the equipment or required by Industry Canada shall be permitted on the site. A small plaque must be placed at the base of the structure identifying the owner/operator and contact information. No third party advertising or promotion shall be permitted. All signage shall comply with the City of Hamilton Sign By-law 06-243.

8. Lighting of telecommunication antennas and towers is prohibited unless required by Transport Canada. Proof of this requirement should be provided by the Proponent to the City of Hamilton with the Minor Site Plan application.

Section 2 - Exemptions from Requirement for Municipal Review

Proposed telecommunication towers and antennas which are exempted from the requirement to consult with the City of Hamilton under the provision of Industry Canada’s CPC-2-0-03 (“Radiocommunication and Broadcasting Antenna Systems”, June 2007) will be exempt from the requirement to submit a Minor Site Plan application. The exemptions are listed as follows:

1. Maintenance of existing radio apparatus, including the antenna system, transmission line, mast, tower, or other antenna-supporting structure.
2. 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, 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.

3. Maintenance of an antenna system’s painting or lighting in order to comply with Transport Canada’s requirements.

4. 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.

5. New antenna systems, including masts, towers, or other antenna-supporting structure, with a height of less than 15 metres above ground level.

In addition to the above exemptions mandated by Industry Canada, the City of Hamilton will also exempt the following installations from the requirement to submit a Minor Site Plan application:

6. Any new telecommunication tower or antenna proposed within an Industrial Zone, provided that the following criteria are met:

   (a) The proposed tower is located a minimum of three times the tower height away from a road that forms the boundary to an Industrial Area or an Industrial Business Park, as defined by the Urban and Rural Hamilton Official Plans, measured from the tower base or the outside perimeter of the supporting structure, whichever is greater;

   (b) The proposed tower is not located within the Airport Employment Growth District, or any other such designation for these lands as amended from time to time, and as defined in the Rural Hamilton Official Plan; and,

   (c) The proposed tower is located a minimum of three times the tower height away from a Residential Zone, elementary or secondary school, or existing dwelling, measured from the tower base or the outside perimeter of the supporting structure, whichever is greater.

7. Any new telecommunication tower or antenna proposed within a Rural or Agricultural Zone, provided that the following criteria are met.

   (a) The proposed tower is located a minimum of three times the tower height away from a Residential Zone, elementary or secondary school, or existing dwelling, measured from the tower base or the outside perimeter of the supporting structure, whichever is greater; and,
(b) The proposed tower is not located within or adjacent to an Environmentally Sensitive Area or a Key Natural Heritage Feature or Key Hydrologic Feature, as defined in the Urban and Rural Hamilton Official Plans.

If a new telecommunication tower is exempt from municipal review, the City of Hamilton requests that the Proponent still provide the City with information on their proposed installation for information purposes. This information will be provided to the local Ward Councillor so that they may respond to any questions from constituents, should they arise.

Section 3 - Minor Site Plan Review

All proposals for a new telecommunication tower which are not exempt from the requirement for municipal consultation, as specified in Section 2, are required to submit a Minor Site Plan application to the City of Hamilton for review. Applications are to be submitted to the attention of the Director of Planning. While the City of Hamilton recognizes that Industry Canada is the final approval authority for telecommunication facilities, it is also recognized that Industry Canada directs telecommunication providers to consult with the local municipality prior to erecting any non-exempt telecommunication towers. Although new telecommunication facilities are not required to obtain site plan approval under The Planning Act, the City’s Minor Site Plan application process is an existing process which affords the City an opportunity to review and comment on new telecommunication towers. There will be no requirement for the Proponent to enter into a Site Plan Agreement as part of this process.

3.1 - Formal Consultation

Prior to submitting a Minor Site Plan application, the Proponent is required to attend a Formal Consultation meeting with City staff for any proposed telecommunication towers which are not exempt from the requirement for municipal consultation, as specified in Section 2. Proponents may obtain a Formal Consultation Request Form from the Planning and Economic Development Department or at www.hamilton.ca/planning. The purpose of a Formal Consultation meeting is to:

- Determine if the proposal meets any of the criteria specified in Section 2 for exemption from local municipality consultation;

- Determine if the proposal will require public consultation, as per Section 4;

- Provide an opportunity for discussion of site selection and design guidelines to ensure that all siting options are considered prior to a Minor Site Plan application being submitted;

- Identify any preliminary concerns or constraints on potential telecommunication tower sites; and,

- Review submission requirements for the Minor Site Plan application and identify any additional studies that may be required to be submitted with the application (including, for example, an archaeological assessment or an Environmental Impact Statement).
Following the Formal Consultation meeting, the applicant will be provided with a Formal Consultation Document, which must be included when the Minor Site Plan application is submitted.

3.2 - Minor Site Plan Application Process

Following the Formal Consultation meeting, and upon submission of a completed Minor Site Plan application and fee, the following process shall be undertaken:

1. City of Hamilton Planning staff shall circulate the application to the Ward Councillor, the Hamilton Utility Co-ordinating Committee, and relevant departments/agencies for information and comment.

2. All comments received as a result of the internal circulation of the Minor Site Plan application shall be provided to the Proponent.

3. If public consultation is required, as per Section 4.1, the City can forward to the Proponent a list of all property owners within a radius of three times the tower height. An additional fee is required for this service. The Proponent is responsible for providing the required public notice and following the public consultation process, as outlined in Section 4.2.

4. The Proponent shall respond to the comments received, make the required modifications to the plans, and submit revised plans and drawings, where required.

5. The City of Hamilton shall provide a formal letter to Industry Canada and the Proponent with comments on the proposed tower, indicating concurrence or non-concurrence with the proposal, as outlined in Section 5.

6. The entire process shall take no more than 120 days to complete, as outlined in Industry Canada’s publication CPC-2-0-03 (“Radiocommunication and Broadcasting Antenna Systems”, June 2007). Proposals that do not require public consultation are expected to take less than 60 days to complete.

3.3 - Submission Requirements

The following information shall be submitted with the Minor Site Plan application:

1. Site Selection/Justification Report - this report shall outline the steps taken by the Proponent to investigate all non-tower and co-location options, and why a new tower option is the preferred alternative. The report shall identify the location of all existing telecommunication towers within the proponent’s search area, and identify the reasons why these towers are not suitable for co-location. The location of these towers shall be illustrated on a map to be included in the Report. In addition, the report shall also identify any alternate sites for the location of the new tower that were investigated by the proponent, and the rationale for eliminating these sites as the preferred alternative. The report shall confirm the need for a new tower at the proposed location, and will also confirm the need for the proposed height of the tower. Future sharing possibilities with other providers shall also be reviewed. Finally, the report shall outline the design
elements proposed in order to minimize the visual impact of the proposed structure, and address any lighting requirements that may be required by Transport Canada;

2. Site Plan with Key Map - the Site Plan shall be for the entire property and not only the leased portion, showing the relationship between the proposed telecommunication facility and existing features on the property such as buildings, parking, pedestrian and vehicular movement, natural features, site grading, property lines, fencing, and landscaping;

3. Elevation Drawings;

4. Minor Site Plan Application Form and Fee (available at www.hamilton.ca/planning);

5. A map indicating the horizontal distance between the proposed tower installation and the nearest residentially zoned property, dwelling, and/or elementary or secondary school;

6. A colour photograph of the subject property with a superimposed image of the proposed tower; and,

7. Any other information or studies identified in the Formal Consultation Meeting (see Section 3.1).

Section 4 - Public Consultation

4.1 - Exclusions from Requirement for Public Consultation

Where a proposed telecommunication tower is located a distance of three times the tower height or greater from a Residential Zone or elementary or secondary school, measured from the tower base or the outside perimeter of the supporting structure, no public consultation is required. In addition, all telecommunication towers that are exempt from the requirement for municipal review, as per Section 2, are also exempt from the requirement for public consultation.

4.2 - Notice Requirements

1. For all applications that are not exempt from the requirement for public consultation, the Proponent will be required to send notice of the proposal by regular mail to all property owners 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. The City of Hamilton can provide the Proponent with the list of property owners, for an additional fee.

2. The notification shall include the following information in plain language:

a) The address of the proposed tower site;
b) A Location Map identifying the site of the proposed tower;
c) A plan indicating the proposed location of the tower on the subject site;
d) Physical details of the tower including height, colour, type, and design;
e) Colour photograph of the property with a picture of the tower superimposed;
f) The last day of the 21 day comment period; and,
g) Contact information (name and telephone number) for both the Proponent and the City of Hamilton.

The City of Hamilton (Planning staff and the Ward Councillor) must be provided with a complete notification package.

3. The public shall have a minimum 21 day comment period to provide comments in writing to the Proponent.

4. The Proponent shall provide a copy of all written comments received from the public to the City of Hamilton.

5. Upon receiving comments from the public, the Proponent shall respond, in writing, to all reasonable and relevant concerns, or explain why the question, comment, or concern is not, in the view of the Proponent, reasonable or relevant. The Proponent shall copy the City of Hamilton (Planning staff and the Ward Councillor) on all responses provided.

6. If any modifications to the proposal are agreed upon as a result of the public comments, revised drawings and plans must be submitted to the City of Hamilton.

Section 5 - Concluding Consultation

1. The City of Hamilton’s response to the Proponent and Industry Canada will take into consideration all division and agency responses from the Minor Site Plan review and from the public consultation.

2. The Director of Planning, or his or her designate, on behalf of the City of Hamilton, will provide the Proponent and Industry Canada with a letter stating whether the local land-use consultation process has been completed in accordance with the City’s Protocol, and will include recommendations regarding the proposal as follows:

   a) Concurrence, if the proposal conforms with the City’s requirements, as set out within this Protocol, and will include conditions of concurrence, if required; or,

   b) Non-concurrence, if the proposal does not conform with the City’s requirements, as set out in this Protocol.

3. The City will provide a copy of this letter to all interested parties and the Ward Councillor.

Definitions

Adjacent Lands - those lands contiguous to a specific natural heritage feature or area where it is likely that development or site alteration would have a negative impact on the feature or area. The extent of the adjacent lands may be recommended by the Province or based on municipal approaches which achieve the same objectives. (PPS, 2005)
Antenna - an exterior transmitting device used in telecommunications designed for various uses such as telephonic, radio, or television communications by sending and/or receiving radio signals.

Areas of Archaeological Potential - a defined geographical area with the potential to contain archaeological resources. Criteria for determining archaeological potential are established by the Province and the City’s Archaeological Management Plan. Archaeological potential is confirmed through archaeological fieldwork undertaken in accordance with the Ontario Heritage Act. (PPS, 2005, amended)

Co-location - the installation of multiple telecommunication antenna systems on a building or tower structure by two or more Proponents.

Cultural Heritage Landscape - a defined geographical area of heritage significance, which has been modified by human activities and is valued by a community. It involves a grouping(s) of individual heritage features such as structures, spaces, archaeological sites, and natural elements, which together form a significant type of heritage form, distinctive from that of its constituent elements or parts. Examples may include, but are not limited to, heritage conservation districts designated under the Ontario Heritage Act; and villages, parks, gardens, battlefields, mainstreets and neighbourhoods, cemeteries, trailways, and industrial complexes of cultural heritage value. (PPS, 2005)

Industry Canada - the Federal Department which is responsible for radio frequency spectrum management. Information detailing federal procedures relating to the siting of radiocommunication and broadcasting antenna systems is available at: www.ic.gc.ca/antenna

Proponent - shall include the following: AM, FM, TV Broadcast Undertakings; Cable Television Distribution Undertakings; Radiocommunication Service Providers; and Radiocommunication Users (business or government use only).

Radiocommunication Carrier - a person who operates an interconnected radio-based transmission facility used by that person or another person to provide Radiocommunication services for compensation. (Radiocommunication Regulations, 1996)

Radiocommunication Service Provider - a person, including a Radiocommunication Carrier, who operates radio apparatus used by that person or another person to provide radiocommunication services for compensation. (Radiocommunication Regulations, 1996)

Radiocommunication User - a person who operates radio apparatus for government use or for a business other than the business of a Radio Communication Service Provider. (Radiocommunication Regulations, 1996)

Significant - in regard to cultural heritage and archaeology, means cultural heritage resources that are valued for the important contribution they make to our understanding of the history of a place, an event, or a people. (PPS, 2005)
Telecommunication Facility - the components required for the operation of a wireless communication network, which includes cell sites, transmitters, receivers (antennae), and an unoccupied equipment shelter.

Telecommunication Tower - a structure used to support one or more antenna systems for the purpose of radio telecommunications, and which may include, but is not limited to, a guyed tower, a self-support tower or monopole tower, and which may be located at ground level or on the roof of a building.
Appendix “A” to the City of Hamilton Telecommunication Tower and Antenna Protocol:

Procedure for the installation of Broadcasting Communication Facilities on City of Hamilton Properties

1. That all requests for permission by a telecommunications company to locate its electronic wireless broadcast, receiving equipment and accessory structure on City property, shall be submitted to the Corporate Buildings and Real Estate Division of the Community Services Department. A generalized description and site location of the proponent’s plans will be submitted at this stage. **Note: The City will not accept requests for the installation of telecommunication facilities on any of its existing or future Water Towers.**

2. The Corporate Buildings and Real Estate Division will circulate the proposal to the City Councillor for the Ward in question for information, the department under who’s jurisdiction the site falls under (the “Host” department), along with the System Administrator of Trunking Radio, the Fire and Emergency Services Department, the Police Department and the Planning and Building Departments for comments.

3. If the proposed installation is acceptable in principle, to the ‘Host’ department and System Administration of Trunking Radio Corporate Buildings and Real Estate will contact the proponent to request detailed plans and specifications of the proposal for review. These detailed plans once received will be forwarded to the ‘Host’ department with copies also to be submitted to the System Administrator, Trunking Radio. The ‘Host’ department’s staff or its consultants will subsequently undertake a technical review to determine the acceptability of the proposal. Additional information and more detailed documentation may be requested to complete the technical review. The ‘Host’ department would communicate to the proponent any required adjustments to its proposed installation to meet City requirements and conditions. (Conditions would include reserving space that may be required in the future by the City on the given structure for its own communications equipment; annual inspections and the requirement for the proponent to provide a survey of the subject location, if it is to be a free standing tower).

4. Once the technical review is complete, the results including the plans and specifications, as amended, would be reported to Corporate Buildings and Real Estate by the ‘Host’ department. Upon receipt of the departmental acceptance Corporate Buildings and Real Estate will prepare a report to obtain approval of a Licence Agreement. Once approval is received Real Estate in conjunction with Legal Services will then prepare the Licence Agreement to be forwarded to the proponent for their review and execution. The Licence Agreement to include all specific conditions set out by the ‘Host’ department, an annual fee to be based on a value established by Real Estate and a one time administration fee of $750.00 (the annual fee and administrative fee to be credited to the “Host” department).

5. Once the executed Licence Agreement is returned the ‘Host’ department will coordinate with the proponent the supervision of the equipment installation.
Although the information displayed in this map has been captured as accurately as possible, some errors may be present due to insufficient or outdated information. For further information, please contact the GIS - Planning and Analysis Section at 905-546-2424 or by email: GIS-Planning&Analysis@hamilton.ca

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Telecommunication Towers
120m Buffer from Sensitive Land Use

Legend

TELECOMMUNICATION TOWER
Transmission Line
Highway
Major Road
Escarpment
Rural Settlement Area
Municipal Boundary
Residential Zoning & Schools
Lake
120m from Sensitive Uses
Urban
Rural

Appendix "B" to Report PED09206(a) / PW10016 / BOH08013(a) (Page 1 of 1)
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Legend
- TELECOMMUNICATION TOWER
- Transmission Line
- Highway
- Major Road
- Escarpment
- Rural Settlement Area
- Municipal Boundary
- Residential Zoning & Schools
- Lake
- 400m from Sensitive Uses
- Urban
- Rural

Appendix "C" to Report PED09206(a) / PW10016 / BOH08013(a) (Page 1 of 1)
Self Support
45 metres (150 ft) to 75 metres (250 ft)

Tripole
18 metres (60 ft) to 45 metres (150 ft)

Monopole (Co-location)
18 metres (60 ft) to 45 metres (150 ft)

Monopole (Single-Carrier)
18 metres (60 ft) to 45 metres (150 ft)