

TO:	CHAIR AND MEMBERS CORPORATE SERVICES COMMITTEE MEETING ON JUNE 18, 2019
FROM:	MAT DALEY DIRECTOR, INFORMATION TECHNOLOGY SERVICES, AND JOHN FLEMING MANAGING DIRECTOR, PLANNING AND CITY PLANNER AND KELLY SCHERR MANAGING DIRECTOR, ENVIRONMENTAL AND ENGINEERING SERVICES AND CITY ENGINEER
SUBJECT:	4G+ / 5G SMALL CELL PILOT PROJECT

RECOMMENDATIONS

That, on the recommendation of the Director of Information Technology Services, the Managing Director, Environmental and Engineering Services and City Engineer, the Managing Director, Planning and City Planner, the Manager of Information Technology Services and the Director of Community and Economic Innovation and with the concurrence of the Managing Director, Corporate Services & City Treasurer, Chief Financial Officer, the following actions be taken with respect to the 4G+ / 5G Small Cell Pilot Project:

- a) the attached proposed by-law (Appendix "A") BE INTRODUCED at the Municipal Council meeting to be held on June 25, 2019 to:
 - i) approve the Pilot Municipal Small Cell Licence Agreement between The Corporation of the City of London and Rogers Communications Canada Inc. to facilitate the installation of the small cell telecommunications equipment; and
 - ii) authorize the Mayor and the City Clerk to execute the Agreement noted in part a) i) above;
- b) The Civic Administration BE AUTHORIZED to undertake all administrative acts that are necessary in connection with this Agreement.

PREVIOUS REPORTS PERTINENT TO THIS MATTER
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- None

COUNCIL'S 2019 – 2023 STRATEGIC PLAN

Purpose

The purpose of this report is to seek Council approval to grant Rogers Communications Canada Inc the non-exclusive ability to install 4G+ and 5G small cell telecommunications devices on municipal infrastructure (31 light posts and traffic signals) over a two (2) year pilot term. 4G+ / 5G Small Cell infrastructure will lay the foundation for the next generation of connected technologies (e.g. autonomous vehicles, internet of things (IOT), virtual and augmented reality). Further, the 4G+ / 5G Small Cell Pilot Project is an opportunity to prepare City administrative processes to support the next generation of telecommunications technology. Finally, this pilot will ensure London residents in these areas have access to the most advanced telecommunications technology while positioning London as a technologically modern place to live and do business.

Council Strategic Alignment

The Small Cell Pilot Project supports and delivers on Council's Strategic Area of Focus of "Growing our Economy: London is a leader in Ontario for attracting new jobs and investments" and will result in the desired outcome of an "increase [in] partnerships that promote collaboration, innovation, and investment."

Further, the Council approved Smart Cities Strategy aims to "improve Information Communications Technology (ICT) Infrastructure" in the City by "develop[ing] a telecommunications infrastructure strategy for the adoption of next generation technology – explore, design and integrate new technologies with urban landscapes and pilot and partner to create new opportunities." This Small Cell Pilot Project will act as a low-risk opportunity for early explorations and for the development of best practices for inclusion in any future deployment of small cell telecommunications infrastructure.

The future generation of telecommunications infrastructure will consist of a larger concentration of these small cells, due to the increased bandwidth and therefore decreased effective range of the device. Thus, in response to the increase in small cell installations, these networks require an investigation into how City operational practices can most effectively support telecommunications providers in deploying these networks. A key success factor of this pilot will be the development of best practices regarding how to efficiently administer the permitting and applications processes associated with installation of these next generation networks. The development of these small cell deployment best practices aligns with Council's direction under the "Growing our Economy" Strategic Area of Focus aims to "increase efficiency and consistency for administrative and regulatory processes", by "improv[ing] administrative and regulatory processes and by-law requirements to enhance London's competitiveness."

BACKGROUND




4G + and 5G Small Cell Technology

London's population is becoming increasingly digital, from streaming services continuously running on mobile devices to the new reality of a mobile and wireless workforce, the demands on telecommunications infrastructure are increasing at a rapid pace. Further, future connected technology, IOT enabled devices, autonomous vehicles, virtual reality and augmented reality will sharply increase bandwidth, connectivity and latency demands placed upon telecommunications networks. The increasing digitization and connectivity expectations of our resident and business populations necessitates the deployment of telecommunications technology which can meet these growing demands. 4G+ / 5G "small cells" are deployed to solve these capacity issues in areas where the needs are greatest.

One of the characteristics of small cells is that they operate at a higher "bandwidth," which is the band of frequencies or wavelengths at which data is sent. The higher bandwidth operation means

the signal decays more quickly over a given distance and cannot penetrate materials as effectively (e.g buildings). Therefore, this requires additional small cells to be deployed along with the macrocells common in 4G/LTE and older telecommunications networks. For example, the Ericsson 4G+ / 5G small cells to be deployed in this pilot project provide 100-200m of coverage, whereas the range of common older generation macrocells is between 5 and 25km. This means additional small cells must be deployed in a given area to meet the needs of London residents, build a foundation for future connected technologies and position London as a technologically modern place to live and do business.

4G+ and 5G small cell technology has three main improvements over previous generations: increased speed, decreased latency, and increased connectivity. “Speed” refers to the theoretical maximum amount of data that can be transmitted to the end user, usually measured in Megabits per second (Mbps), or Gigabits per second (Gbps). The maximum speeds between 4G and 5G are an order of magnitude improvement from 150 Mbps with 4G to 2.4 Gbps with 5G.

Characteristic	4G/LTE	4G+	5G
Speed (data transferred per second) 	150 Mb per second	800 Mb per second	2,400 Mb per second
Average time to download a HD movie 	240 Seconds	40 seconds	13 seconds
Latency (time between send and response) 	50 milliseconds	25 milliseconds	1 millisecond

“Latency” refers to the response time between how long it takes to send and receive a packet of information across the network. Small cells have a decreased latency which is essential for technologies such as autonomous vehicles and other IOT technologies where communication between the autonomous vehicle and the traffic signal network needs to be as fast as possible as a matter of safety. For comparison, 4G technology has latencies around 50 milliseconds whereas 5G will reduce latency to approximately 1 millisecond. For context, a blink of an eye takes 400 milliseconds.

“Connectivity” refers to the number of devices that can connect to a telecommunications cell simultaneously. Small cells increase the number of devices that can be simultaneously connected to the network by an order of magnitude. This is essential as more smart IOT devices enter the market and use Canadian telecommunications networks. Further, in highly populated urban areas where there are many residents and businesses using devices simultaneously, small cells will address growing capacity issues in these areas by allowing more users to connect.

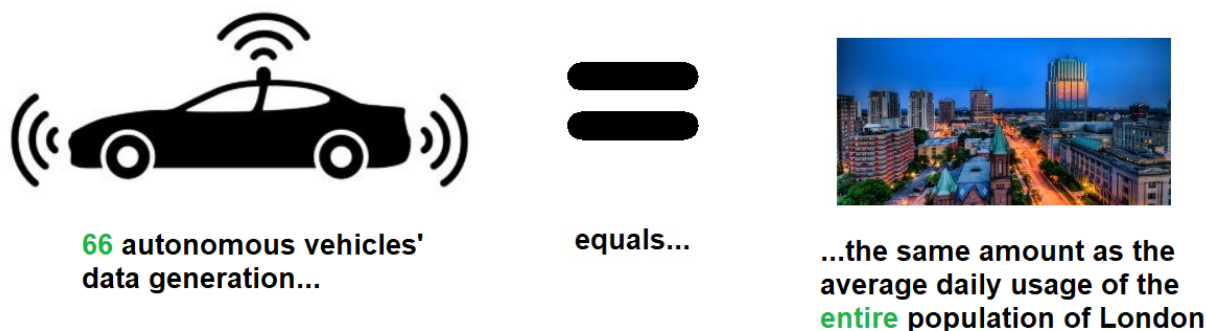
DISCUSSION

Value Proposition

4G+ and 5G small cell telecommunications infrastructure is a Smart Cities enabler. Smart Cities is the process of using innovation, data and technology to improve our residents quality of life. The coming generation of connected technologies requires the high speed, high connectivity and low latency characteristics that small cells can provide. The 2.4 GBps speed of 5G will be essential to meet the future data consumption expectations of the London population.

Autonomous vehicles for example, will require the ability to exchange significant amounts of data. If you aggregate all the data streaming and transmission rates from various radar, sonar, camera and GPS devices installed on autonomous vehicles, they will produce and consume nearly 4,000 GB per 8 hour day of driving. This means, at current data consumption levels, 66 autonomous vehicles running 8 hours a day would produce and consume approximately the same volume of

data as the daily personal data usage for the entire population of the City of London. There is a coming surge of data consumption demand driven by this next generation of connected technologies.



Timelines and Pilot Details

The Small Cell Pilot Project is an opportunity to provide cutting edge telecommunications technology to residents and businesses of London while allowing us to investigate best practices with regards to the impacts that small cell technology will have on our administrative processes and the aesthetics of our built environment. The Pilot Project will consist of first installing 4G+ small cells onto Municipal assets, then swapping those 4G+ small cells out for 5G devices later in the pilot project period. This is due to two factors: First, currently few smart phones in the consumer market have 5G antennae, meaning very few could benefit from a 5G network even if it were in place today. Second, the major cost centre in deploying 5G networks is not the small cell hardware itself, but the fibre backhaul to each small cell. The same fibre backhaul is necessary for 4G+ and 5G, meaning beginning with 4G+ allows Rogers to get the necessary fibre backhaul infrastructure in place to each 4G+ small cell while more 5G capable mobile phones are deployed in the mass consumer market. Once, within the two (2) year pilot period a critical mass of mobile devices have 5G antennae, the 4G+ small cells will be swapped out for 5G small cells.

The small cells will be installed on 31 Municipal lamp posts and traffic signals (see Figure 1 and 2 for technical drawings and photos, and Figures 3 – 5 for deployment locations). The small cells are small suitcase sized devices weighing approximately 5 kg. They will be placed approximately 4.8m or more above the ground on each pole.

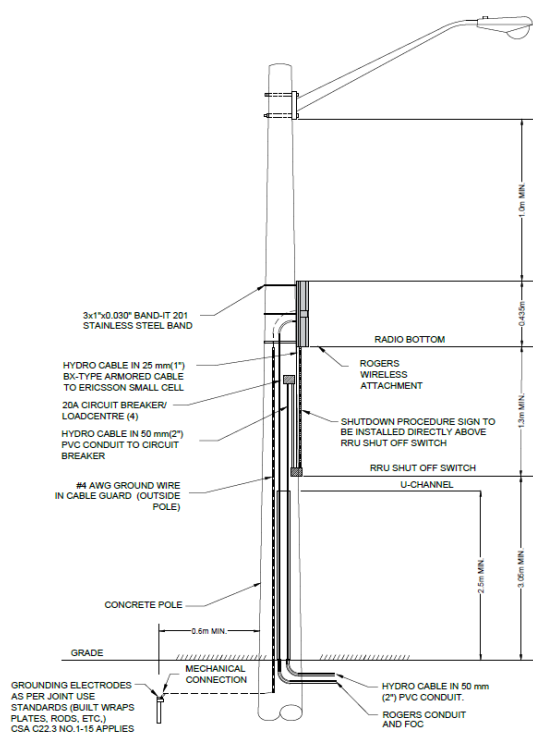


Figure 1: Engineering drawings of Ericsson small cell attachment on concrete streetlight pole.



Figure 2: Photos of Ericsson small cells attached on concrete streetlight pole.

There will be three (3) pilot areas across the City. One in North London around the commercial plaza at Fanshawe Park Road and Hyde Park Road, another along Western Road centred around Western University's campus, and a third in the Downtown core centred around Budweiser Gardens and the Dundas Place flex street. The locations in the Downtown region aim to leverage the investments already made by Council in the Dundas Place project by installing some of the small cells along the already completed portions of the flex street. These proposed target locations were chosen based on density of mobile usage, technical feasibility of supporting the weight of the device and powering it, the strategic value to London residents and the location's proximity to Rogers fibre network assets to provide the necessary fibre backhaul to the small cells.



Figure 3: North London pilot area small cell locations.

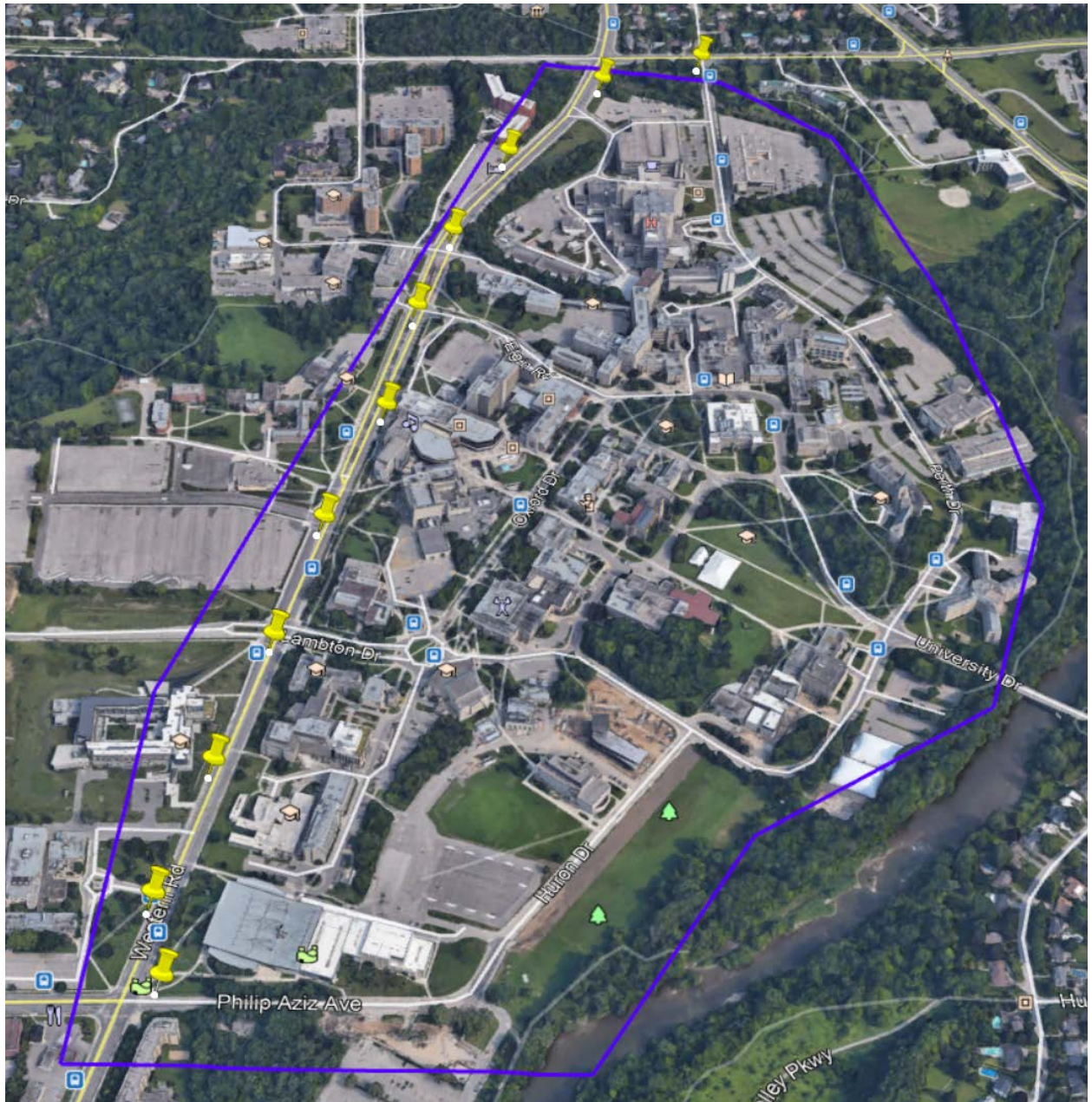


Figure 4: Campus pilot area small cell locations.

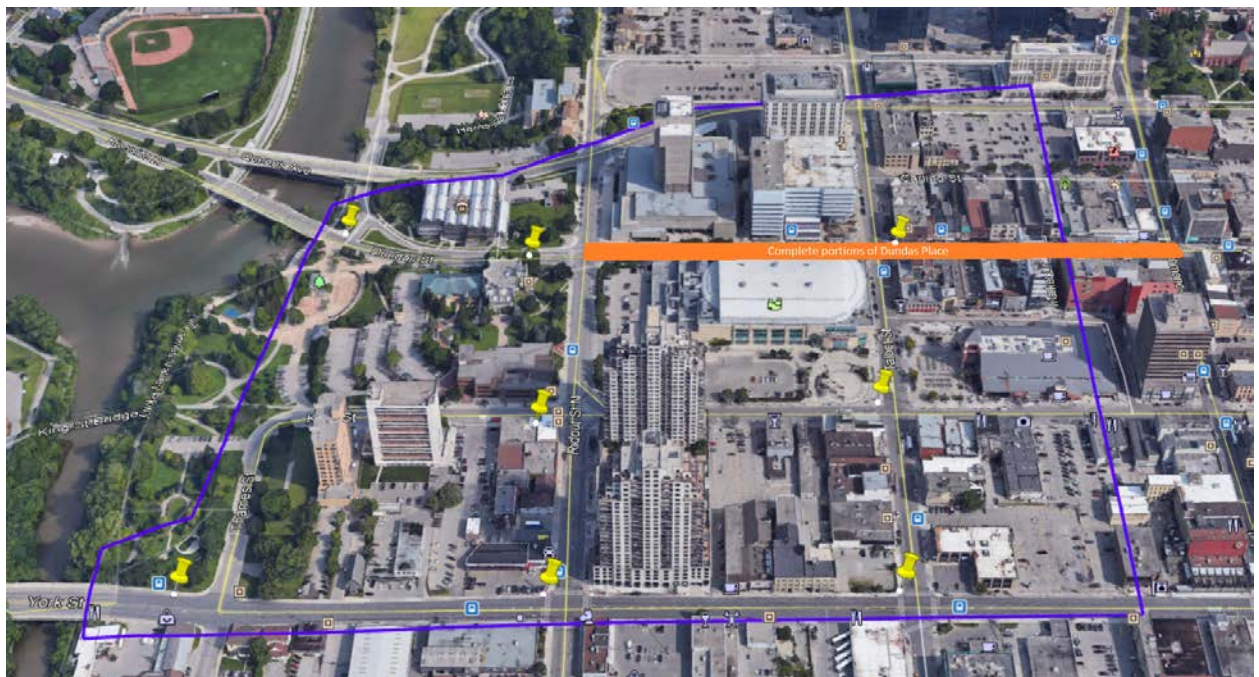


Figure 5: Downtown pilot area small cell locations.

Pilot as Opportunity to Explore Impact of Small Cell Technology

Due to the increased number of lower powered small cells making up these 4G+ / 5G small cell networks, as telecommunications providers seek to deploy 4G+ / 5G small cell technology in London, there will be an increase in the administrative labour required to coordinate and approve these investments in London. Further, policy questions around use, aesthetics impact and coordination of use of Municipal assets will arise and need to be addressed thoughtfully. This Pilot Project granting Rogers non-exclusive access to 31 poles is an opportunity to de-risk and understand the administrative, policy and operational implications of these new networks as early as possible in a low risk environment to maximize London's options to ensure we serve the public interest while best realizing the value of this technology.

Security, Health and Safety of Small Cell Infrastructure

Privacy and cybersecurity concerns are increasingly prevalent. Rogers is working with Ericsson as their 4G+ and 5G small cell hardware implementation partner and attests that this hardware meets all security and privacy requirements of the Canadian Government.

The Health and Safety impacts of these devices has been well studied and regulated by Health Canada who studies and sets thresholds for safe radiofrequency (RF) exposure. The small cell devices used in this pilot are well below the Health Canada Safety Code 6 (SC6) regulations for RF exposure and have been designated as safe by Health Canada (see Appendix B).

Health Canada makes it clear that any 4G+ and 5G hardware operating in Canada will be required to operate within the safe limits of Safety Code 6. "The current Canadian limits already cover the frequency ranges that will be used by 5G devices and antenna installations. Similar to current wireless devices and installations, 5G devices will need to meet RF exposure requirements...[and] systems operators using 5G technology will continue to have the same RF exposure compliance obligations." (Health Canada)

Rogers "confirms that small cell antennas installed on a pole with a minimum height of 4.8m above the ground level and 5m away from any residential building is in compliance with Health Canada's Safety Code 6. The highest power density calculated is below 50% of the allowable SC6 guideline or 2 times lower than the allowable SC6 limit." (Emebet Haile, Sr. RF Systems Design Engineer, Rogers Communications, see Appendix B for full letter).

Other 5G Deployments

Rogers is currently testing 5G technology In Toronto and Ottawa. This Small Cell Pilot Project gives London an opportunity to acquire early low-risk access to 4G+ / 5G technology and prepare City administrative processes and built form policies for the coming generation of telecommunications infrastructure. London's early participation in this pilot will prepare us to capitalize on this technology and position us well in Ontario for 5G deployment. In conversations with Civic Administration, Rogers Executives stated that, "having a small cell agreement in place positions the City of London well to be prioritized for earlier 5G deployment in Ontario." While the non-exclusive nature of the Pilot agreement (see Appendix A) ensures we are exploring small cell technology in a fair and open manner that will incentivize competition and drive the greatest benefit for Londoners.

FINANCIAL IMPACT

There is no capital or operating cost on the City of London. Rogers is funding the purchase and installation of the 4G+ and 5G small cells. This is approximately a \$2 Million investment from Rogers. Further, there are cost recovery provisions included in the agreement to offset the additional costs of the City of London administering the small cell licenses and providing power to the sites. As part of this non-exclusive pilot, Rogers will pay a \$50 one time Application Fee per pole. They will also pay an annual \$200 per pole licence fee and a \$250 per pole hydro fee (where applicable) every year the small cells are deployed on City of London infrastructure. All fees will be reevaluated as part of this pilot to ensure adequate cost recoveries are in place for future deployments.

CONCLUSION

The 4G+ / 5G Small Cell Pilot Project is an opportunity to realize immediate value for London residents, develop best practices in administering next generation telecommunications networks, and to lay the foundational infrastructure for the future of connected technologies. Drawing on the best practices recommended by Health Canada, Innovation Science and Economic Development Canada, and Planning, as well as the extensive support of Roadway Lighting and Traffic Control and Zoning and Public Property Compliance, Civic Administration is recommending that The Corporation of the City of London enter into a non-exclusive agreement with Rogers Communications Canada Inc for the pilot period of two (2) years.

Acknowledgements

Special thanks to:

Shane Maguire, Division Manager, Roadway Lighting and Traffic Control, City of London;
Barry Card, Managing Director & City Solicitor, Legal and Corporate Services, City of London;
Grace Smith, Solicitor I, Legal and Corporate Services, City of London;
Adam Salton, Manager, Zoning and Public Property Compliance, City of London;
Jelena Kosarac, Director, Information Technology, London Hydro;
Darin Arcolino, Manager, Information Technology, City of Sacramento California.

PREPARED BY:	RECOMMENDED BY:
MATT ROSS MANAGER, INFORMATION TECHNOLOGY SERVICES	MAT DALEY DIRECTOR, INFORMATION TECHNOLOGY SERVICES
RECOMMENDED BY:	RECOMMENDED BY:
KELLY SCHERR MANAGING DIRECTOR, ENVIRONMENTAL AND ENGINEERING SERVICES AND CITY ENGINEER	JOHN FLEMING MANAGING DIRECTOR, PLANNING AND CITY PLANNER
CONCURRED BY:	CONCURRED BY:
ANNA LISA BARBON MANAGING DIRECTOR, CORPORATE SERVICES AND CITY TREASURER, CHIEF FINANCIAL OFFICER	ROSANNA WILCOX DIRECTOR, COMMUNITY AND ECONOMIC INNOVATION

Attach: **Appendix A** – By-law to authorize Agreement
Schedule A – Agreement between The Corporation of the City of London and Rogers Communications Canada Inc
Appendix B – Letter re: Rogers compliance with Safety Code 6

Cc:

Barry Card - Managing Director & City Solicitor, Legal and Corporate Services
Adam Salton - Manager, Zoning and Public Property Compliance

APPENDIX A

Bill No.
2019
By-law No.

A By-law to approve the “Pilot Municipal Small Cell Licence Agreement” with Rogers Communications Canada Inc.; and to authorize the Mayor and the City Clerk to execute the Agreement.

WHEREAS subsection 5(3) of the Municipal Act, 2001 provides that a municipal power shall be exercised by by-law;

AND WHEREAS section 9 of the Municipal Act, 2001 provides that a municipality has the capacity, rights, powers and privileges of a natural person for the purpose of exercising its authority under this or any other Act;

NOW THEREFORE the Municipal Council of The Corporation of the City of London enacts as follows:

1. The “Pilot Municipal Small Cell License Agreement” to be entered into between The Corporation of the City of London and Rogers Communications Canada Inc., attached as Schedule “A” to this By-law, is approved.
2. The Mayor and the City Clerk are authorized to execute the agreement approved under section 1 above.
3. This by-law shall come into force and effect on the day it is passed.

PASSED in Open Council on _____, 2019.

Ed Holder
Mayor

Catharine Saunders
City Clerk

First Reading –
Second Reading –
Third Reading –

Schedule A

PILOT MUNICIPAL SMALL CELL LICENCE AGREEMENT

This Agreement (the “**Agreement**”) is made effective as of July 9, 2019 (the “**Effective Date**”).

B E T W E E N:

THE CORPORATION OF THE CITY OF LONDON

Hereinafter called the “**Municipality**”

- and -

ROGERS COMMUNICATIONS CANADA INC.

Hereinafter called “**Rogers**”

WHEREAS the Municipality is the owner and operator of various properties, structures and facilities, including but not limited to: buildings, utility poles, street light poles, traffic control poles, towers and other structures (the “**Structures**”) which are identified in Schedule “A” to this Agreement;

AND WHEREAS the Municipality and Rogers have agreed to enter into a fixed term agreement to allow Rogers to attach certain Equipment to, in, at or on the Structures in order to provide small cell wireless telecommunications services (the “**Services**”) within the area outlined in red on Schedule “B” to this agreement (the “**Defined Area**”);

AND WHEREAS the Municipality and Rogers have agreed that this “Pilot Project” will run for a period up to twenty-four (24) months, during which time Rogers may attach Equipment to, in, at or on the Structures, within the Defined Area, in accordance with Schedule “A”.

THEREFORE, in consideration of the mutual covenants and agreements herein expressed, the parties agree as follows:

1.0 GRANT

1.1 The Municipality hereby grants to Rogers a non-exclusive right, by way of a licence (the “**Licence**”) to install, construct, place, remove, replace, relocate, inspect, maintain, repair, supplement and operate equipment necessary to provide the Services (the “**Equipment**”) in, at or on Structures owned by the Municipality within the Defined Area. In the event Rogers requires additional utilities by way of cables, including but not limited to, fibre optic cables (the “**Cables**”), to connect and power the Equipment, the Municipality agrees to grant Rogers the right to install such Cables on, over and/or under the property and to the Structures as necessary, provided the location and nature of such Cables are satisfactory to the Municipality.

2.0 FEES AND CHARGES

2.1 **Application Fee.** Rogers shall pay to the Municipality a one-time application fee of fifty dollars (\$50.00) per Structure, plus any applicable sales taxes, for the review, processing and approval by the Municipality of Rogers’ proposed Equipment installation within the Defined Area.

2.2 **Annual Fee.** The annual Licence fee for Equipment installations within the Defined Area is two hundred dollars (\$200) per Structure. This amount is due on January 2 of each year and is not proratable or refundable.

2.3 **Hydro Fees.** Rogers shall pay to the Municipality, an annual hydro consumption

surcharge of two hundred and fifty dollars (\$250) per Structure. This amount is due on January 2 of each year and is not proratable or refundable.

3.0 TERM

3.1 The Term of the Agreement is twenty-four (24) months, commencing on the Effective Date.

4.0 INSTALLATION, RELOCATION, ALTERATIONS AND/OR IMPROVEMENTS TO THE EQUIPMENT BY ROGERS

4.1 Before installing or relocating any Equipment (save and except for swap-outs, routine repairs and replacement components as identified below), Rogers shall request the written consent of the Municipality.. Rogers' request for such consent shall be in writing and accompanied by any applicable payment and a complete description of the contemplated Work, Equipment and specifications. Working drawings may be required at the discretion of the Municipality.

4.2 All installations, relocations and removal of Equipment carried out by Rogers ("**Work**") shall be done at the sole cost and expense of Rogers, provided that Work undertaken by Rogers in response to a third-party request shall be performed at the expense of that third party, where applicable.

4.3 Prior to the commencement of any Work, other than routine repairs and replacements, Rogers shall:

- (a) provide plans, specifications, list of materials, construction schedule and any related information reasonably requested by the Municipality;
- (b) appoint a specific individual to act as a contact person with the Municipality for all matters relating to the planned Work;
- (c) contact the Municipality's staff to discuss and review the plans for the installation and relocation Work, including but not limited to, the placement of Equipment and methods of attaching same to the Structures; and
- (d) ensure that all Work is carried out at times approved by the Municipality, so that Work does not unduly interrupt or interfere with the use of roads by the Municipality, its tenants or the public.

4.4 The parties agree that the term "routine repairs and replacements" shall include the repair of existing approved Equipment or its replacement with Equipment that is not materially different from the approved Equipment.

4.5 Rogers represents that the Work it conducts and the Equipment it installs or uses will comply with all applicable federal, provincial and municipal laws.

4.6 Upon the expiration or termination of this Agreement, Rogers shall remove its Equipment and repair and restore the Structures to their original condition, save for normal wear and tear, to the satisfaction of the Municipality, acting reasonably.

4.7 Save for normal wear and tear, the repair of damage to the Structures caused by the installation, maintenance, operation or removal of the Equipment shall be at Rogers' sole cost and expense.

5.0 MUNICIPALITY'S COVENANTS

5.1 The Municipality agrees:

- (a) that Equipment installed by Rogers remains the property of Rogers, notwithstanding its attachment to a Structure,

- (b) that if it plans to renovate, repair or provide for construction in, on or at a Structure, which involves displacing or moving Rogers' Equipment, the Municipality shall, in the absence of emergent need, provide Rogers with a minimum of thirty (30) days' advance written notice, and Rogers shall during the notice period, relocate the Equipment to a mutually acceptable location, at no expense to the Municipality;
- (c) to provide Rogers and its authorized representatives and agents, direct next day access to each Structure that is not a building for installations, repairs or replacements, provided that any work on arterial roads that would occupy a travelled lane should be outside the following hours: 7:00 am to 9:30 am & 3:30 pm to 6:30 pm, Monday to Friday;
- (d) that in the event of an Emergency, defined as an unforeseen situation where immediate action must be taken to preserve the environment, public health, safety or an essential service (telecommunications service) of Rogers, the Municipality shall provide Rogers and its authorized representatives and agents, direct access to each Structure that is not a building, 24 hours a day, 7 days a week.

6.0 NOTICE

6.1 Any demand, notice or communication to be provided hereunder by a party shall be in writing and may be given:

- (a) by personal delivery, or
- (b) by prepaid registered mail, addressed to the respective parties as follows:

In the case of Rogers, to:

Rogers Communications Canada Inc.
 333 Bloor Street East
 Toronto, Ontario M4W 1G9
 Attention: SVP, Regulatory
 Tel: 416.935.3515
 Email: regulatory.access@rci.rogers.com

With a copy to:

Rogers Communications Canada Inc.
 333 Bloor Street East,
 Toronto, Ontario M4W 1G9
 Attention: Chief Legal and Regulatory Officer
 Tel: 416.935.2505
 Email: legal.notices@rci.rogers.com

and, in the case of the Municipality, to:

The Corporation of the City of London
 City Clerk
 300 Dufferin Avenue, P.O. Box 5035
 London, ON, N6A 4L9

or to such other address as a party may from time to time, designate.

- 6.2 Any demand, notice or other communication given by personal delivery shall be conclusively deemed to have been received by the party to which it is addressed on the day of actual delivery thereof.
- 6.3 Any notice sent by prepaid registered mail shall be deemed to have been

delivered on the fifth (5th) business day (excluding Saturdays, Sundays and statutory holidays) following the date of mailing thereof provided that postal services have not been interrupted, in which case notice shall only be given by personal delivery as aforesaid.

7.0 ASSIGNMENT

- 7.1 Except for an assignment to a corporate affiliate of Rogers or a purchaser of all of Rogers' assets and operations, no assignment by a party is permitted without the other party's prior written consent.
- 7.2 Rogers shall not permit use of all or any portion of a Structure or the exercise of any rights of Rogers hereunder, unless the Municipality gives its prior written consent.
- 7.3 Assignment shall not relieve a party of its obligations under this Agreement.

8.0 TERMINATION

- 8.1 Rogers may terminate the Agreement, in its entirety or as it relates to any one or more Structures, by written notice to the Municipality of not less than sixty (60) days,
- 8.2 The Municipality may terminate the Agreement, in its entirety or as it relates to any one or more Structures, by written notice to Rogers of not less than one hundred and twenty (120) days.
- 8.3 In the event of a termination permitted under the Agreement, both parties are released from further obligations under the Agreement, other than those obligations which pertain to payment, reinstatement and liability.

9.0 RELEASE AND INDEMNITY

- 9.1 Other than if caused by the Municipality or those for whom the Municipality is at law responsible, Rogers shall release the Municipality or the Municipality's officers, employees, agents or contractors ("**Municipality's Personnel**") from any and all liability for any losses, injuries, damages or expenses suffered or incurred by Rogers or Rogers' officers, employees, agents or contractors ("**Rogers' Personnel**") in connection with:
- (a) the use of Municipal property or any Structures by Rogers or Rogers' Personnel;
 - (b) the performance of Work on or near Municipal property;
 - (c) the presence of Equipment or other items, or of Rogers' Personnel, on or near Municipality property; or
 - (d) any damage to Equipment.
- 9.2 Other than if caused by or contributed to by the Municipality or those for whom the Municipality is at law responsible, Rogers shall indemnify, defend and hold harmless the Municipality and the Municipality's Personnel for, from and against any and all losses, injuries, damages and expenses, including all legal expenses, suffered, incurred or experienced by them or any of them, and shall indemnify and defend them and hold them harmless for, from and against all complaints, demands, claims, actions, suits, fines, judgments and orders in respect of any and all losses, injuries, damages and expenses suffered by them or any of them, arising out of, connected with or attributable in whole or in part to Equipment or to the acts or omissions of Rogers or Rogers' Personnel, including:

- (a) any breach, violation or non-performance by Rogers or Rogers' Personnel of any terms, conditions, covenants or obligations under this Agreement;
- (b) any damage to, or loss or destruction of, or loss of use of, any of the Municipality's property, or any other real or personal property, including Equipment, occasioned by the use of Municipality property or any Structures by Rogers or Rogers' Personnel or the use or existence of any Equipment thereon;
- (c) injury to or death to any person resulting from the use of any Structure, Municipal property, or any portion thereof, by Rogers or Rogers' Personnel or relating to any Equipment installed or placed by Rogers;
- (d) the performance of any Work on any Municipal property by Rogers or Rogers' Personnel pursuant to the Agreement;
- (e) a failure on the part of Rogers to comply with health and safety laws or regulations;
- (f) the failure or malfunction of Rogers Equipment or services, for whatever reason or cause; or
- (g) Rogers' or Rogers' Personnel's installation, operation, maintenance, relocation, replacement, repair or removal of any Equipment or the use of any Structure.

9.3 Notwithstanding any other provision, in no event will either party be liable for any indirect, consequential or economic losses of the other party (but without prejudice to the obligation of Rogers, to indemnify, defend and hold harmless the Municipality and the Municipality's Personnel for, from and against losses, injuries, damages and expenses arising from the indirect, consequential or economic losses of third parties).

10.0 INSURANCE

10.1 Rogers shall obtain and maintain during the Term, and thereafter as advised, the following policies of insurance:

- (a) Commercial general liability insurance with a limit of not less than \$5,000,000 per occurrence, protecting Rogers against third-party claims or losses, for bodily injury, death, property damage or loss of use of property occurring within or about any Municipal Property or Structures and arising from Rogers's operations, Equipment or its occupation or use of any Structure. The policy shall contain a cross-liability or severability of interests clause and shall add the Municipality and the Municipality's Personnel as additional insureds. The policy shall contain the following extensions of coverage:
 - (i) broad-form property damage and completed operations
 - (ii) personal injury;
 - (iii) blanket contractual liability;
 - (iv) contingent employer's liability; and
 - (v) non-owned automobile liability.
- (b) All-risks property insurance, including earthquake and flood insurance, with coverage up to full replacement costs, for loss of, or damage to, property of description owned by Rogers, as well as property of others of which Rogers has care, custody, liability or control.

10.2 Each of the policies of insurance required by Subsection 10.1 shall:

- (a) be obtained from and issued by an insurance company that is duly licensed or authorized to conduct business in Ontario;
- (b) contain a provision that the coverage afforded will not be cancelled without the insurance company providing at least (30) days' prior written notice to the Municipality; and
- (c) be primary with respect to claims or losses arising out of Rogers's operations and activities, such that any insurance or self-insurance maintained by the Municipality shall be in excess of such insurance and shall not be obligated to contribute.

10.3 Upon the execution of the Agreement, Rogers shall provide a certificate of insurance satisfactory to the Municipality of each policy of insurance required.

11.0 MISCELLANEOUS

- 11.1 No interest in land: No leasehold interest shall pass to or be vested in Rogers by virtue of the Agreement.
- 11.2 No Derogation: Nothing contained or implied in this Agreement shall derogate from the obligations of Rogers under any other agreement with the Municipality or prejudice or affect the Municipality's rights, powers, duties or obligations in the exercise of its functions, and the rights, powers, duties and obligations of the Municipality under all public and private statutes, by-laws, orders and regulations, which may be as fully and effectively exercised in relation to any Municipal property as if this Agreement had not been executed.
- 11.3 Priority: Notwithstanding any other provision, the rights of Rogers hereunder shall be limited or shall not apply to the extent they are inconsistent with the full exercise of the rights granted by statute or previously granted by the Municipality to another person, and Rogers shall comply with all reasonable requests of any such other licensee in relation to the use of the relevant Structure.
- 11.4 Overholding: If Rogers is using a Structure after the end of the Term with the written consent of the Municipality, the Agreement shall be deemed to continue with respect to that Structure on a monthly basis, for a monthly licence fee equal to one twelfth of the annual Licence Fee, until termination by either party with 30 days' written notice.
- 11.5 Authority: Each party represents and warrants that it has full authority to enter into and sign the Agreement and bind itself accordingly.
- 11.6 Schedules: The schedules attached to this Agreement form part of this Agreement. Any obligation imposed on Rogers in a schedule shall be deemed to be a covenant of Rogers in the Agreement. To the extent that there is an inconsistency between the terms and conditions of the Agreement and anything in a schedule, the terms and conditions of the Agreement shall prevail to the extent of the conflict.
- 11.7 Entire Agreement: This Agreement contains all agreements, promises and understandings between the Municipality and Rogers in relation to the subject matter, and supersedes all previous agreements or arrangements, whether oral or in writing between the parties or their respective representatives. No subsequent alteration, amendment, change or addition shall be binding on the parties unless in writing and executed by the parties.
- 11.8 Enurement: The terms and conditions of this Agreement shall enure and bind the successors and assigns of the parties.
- 11.9 Severability: Invalid provisions are severable and do not impair the validity of the balance of the Agreement.

- 11.10 Payment: Rogers’s obligations to pay money under this Agreement are additional to, and not in substitution for, all other amounts payable by Rogers to the Municipality by separate agreement or by law.
- 11.11 Governing Law: This Agreement shall be governed by the laws of the Province of Ontario and the laws of Canada applicable therein, and the parties hereby submit to the jurisdiction of the courts of Ontario. The Municipality and Rogers acknowledge that laws may come into force during the Term which affect the Agreement and the rights and obligations of the parties hereunder. Notwithstanding anything contained in the Agreement, if the Agreement or any right or obligation provided under the Agreement becomes invalid or illegal, or if any law comes into force which, as determined by either party acting reasonably, requires changes to this Agreement or any right or obligation under this Agreement, the parties shall restructure the Agreement or any rights or obligations hereunder to ensure that it is in compliance with all such laws.
- 11.12 Time is of the Essence: Time shall be of the essence of this Agreement.
- 11.13 Counterparts: This Agreement may be executed in one or more counterparts each of which shall constitute an original and together shall constitute one and the same Agreement. This Agreement may be executed by the parties and transmitted electronically or by facsimile and if so executed and transmitted, the Agreement shall be for all purposes as effective as if the parties had delivered an executed original Agreement

DATED this 9th day of, July 2019.

THE CORPORATION OF THE CITY OF LONDON

by its authorized signatories:

Signature

Print Name and Title

Signature

Print Name and Title

ROGERS COMMUNICATIONS CANADA INC.

by its authorized signatory:

Signature

Print Name and Title

I have authority to bind the corporation.

Appendix B – Letter re: Rogers compliance with Safety Code 6



Rogers Communications
Radio Engineering
8200 Dixie Road,
Brampton, Ontario,
L6T 0C1

April 17, 2019

Re: Small cell antenna installation compliance with Health Canada's Safety Code 6

The maximum power density as a fraction of the Health Canada's Safety Code 6 limit was calculated for the proposed Rogers' small cell antenna configurations. Calculations were performed for the cumulative power density using EMF Visual, the radio-frequency power density calculation tool also used by Innovation, Science and Economic Development Canada (ISED).

Based on this analysis, Rogers Communication confirms that small cell antennas installed on a pole with a minimum height of 4.8m above ground level and 5m away from any residential building is in compliance with Health Canada's Safety Code 6. The highest power density calculated is below 50% of the allowable SC6 guideline or 2 times lower than the allowable SC6 limit with respect to the uncontrolled Environment.

Sincerely,

A handwritten signature in blue ink that reads 'Emebet Haile'.

Emebet Haile, P.Eng.

**Sr. RF Systems Design Engineer
Rogers Communication**