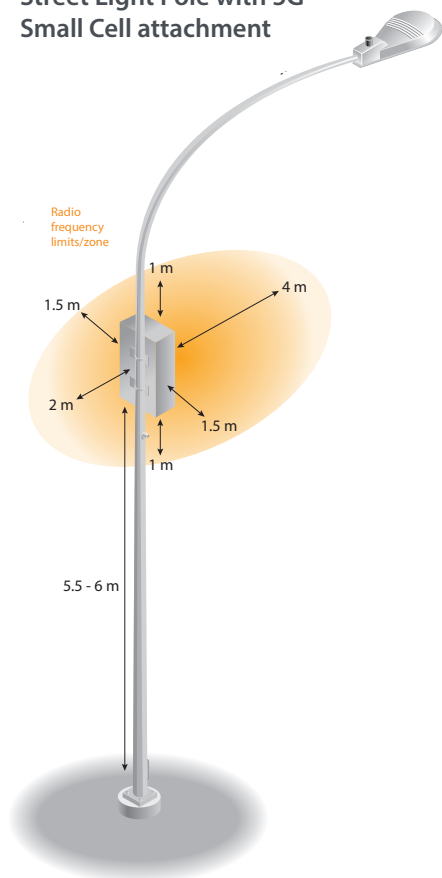


Street Light Poles and 5G Small Cells



Street Light Pole with 5G Small Cell attachment



Overview

Beginning Fall 2021, Wireless Service Providers (WSPs) such as Rogers and TELUS will begin attaching small cell antennas to some City of Calgary street light poles.

The design and engineering of these attachments were reviewed and approved by The City of Calgary's Street Lighting team.

Small cell technology will allow existing 3G and 4G wireless networks to evolve as well as support the fifth-generation mobile network – also known as 5G.



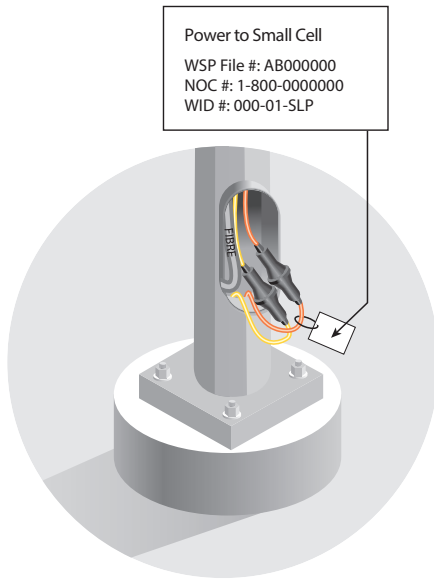
ATTENTION: All street light construction or maintenance activities may be impacted, even if you're working on a street light pole that doesn't contain a small cell.



Treat every single street light pole as if it is live-powered, 24/7.

Street Light Hand Hole

Small cell power and fibre will be labeled as shown:



Disconnect the power to the small cell prior to starting your work.

How does this change how I work?

The most important thing to remember, moving forward, is to...

TREAT EVERY SINGLE STREET LIGHT POLE AS IF IT IS LIVE-POWERED, 24/7

Because small cells need 24/7 power and the ones on City street lights will be sharing the pole's existing power feed, whether there is a small cell on a particular pole or not, treat every pole as if it were live-powered. If a pole on that circuit contains a small cell attachment, all the poles on the circuit will be powered, 24/7, even when the luminaire isn't shining.

What type of work on street light poles will be impacted?

All types of work may be impacted, *even if you're working on a street light pole that doesn't contain a small cell*. It is critically important that you terminate power to the circuit you are working on because it may contain live power regardless of if the light is on.

Anytime you're working on a street light pole containing a small cell, you will also be required to disconnect the power to the small cell, inside the hand hole, before you start your work.

For ease, we've bucketed your work into three different categories:

- 1 Non-emergency luminaire replacements/ hand hole troubleshooting work
- 2 Non-emergency pole and base replacements
- 3 Signage installations or removals

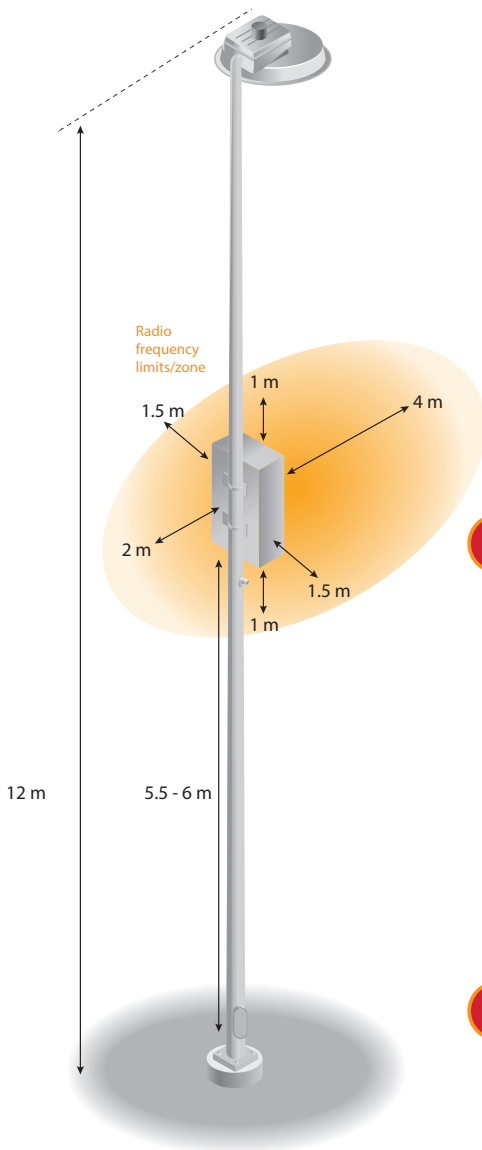
Below we'll break down the work procedures and communications protocols for each of these different non-emergency work categories. For emergency work, a separate protocol document will be provided.

Why do I need to power down the small cell, anyway?

Small cell antennas emit radiofrequency (RF) energy and, although these small cells produce RF waves at least 50 times below the threshold set out in the guidelines established by Health Canada, let's all err on the safe side, always follow these protocols, and turn off the power to the small cell before interacting with the street light pole, okay?

There are multiple types and styles of small cell antennas that may be installed on City of Calgary street light poles, depending on the WSP. **Regardless of the small cell type, any time you are working on a street light pole containing a small cell, whether you're on a ladder, in a bucket truck, or standing on the ground, DISCONNECT THE POWER TO THE SMALL CELL PRIOR TO STARTING YOUR WORK.**

Street Light Pole with 5G Small Cell attachment



1

Overhead wire replacements/luminaire replacements/hand hole troubleshooting work – Non-emergency work protocols

If you're replacing the luminaire or performing troubleshooting work in the hand hole of a street light pole containing a small cell attachment, please follow these steps:

1. Open the hand hole on the street light pole to locate the fuse which powers the small cell. These wires will be tagged to ensure it is clear which wires power the small cell.
2. Disconnect the power to the small cell by disconnecting the fuse boots.
3. Complete work as usual.

ESSENTIALLY: SEE A SMALL CELL. OPEN THE HAND HOLE. FIND THE FUSE POWERING THE SMALL CELL. DISCONNECT THE POWER.

2

Pole and base replacements – Non-emergency work protocols

If you're replacing a street light pole or base, your City of Calgary Street Lighting Quadrant Technician will coordinate with the WSP to have the small cell removed from the pole, before you start your work. If you arrive on-site and the small cell is still attached to the pole, do NOT proceed. You must contact the City Street Lighting Quadrant Technician (see directory below) and ask them to coordinate the removal of the small cell.

If you arrive on-site and there is no small cell present, you can complete your work, as usual.

3

Signage installations or removals – Protocol

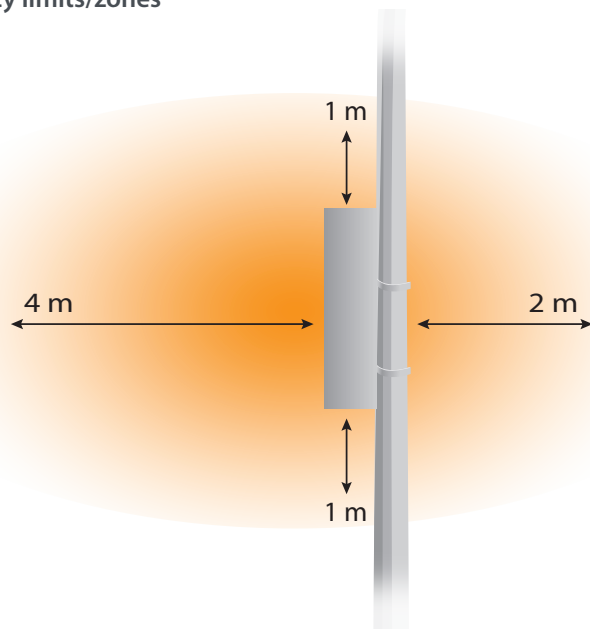
If you're installing or removing City signs on a street light pole containing a small cell attachment, please follow these steps:

1. Locate the 'WSP small cell information sticker' which is located near the base of the pole.
2. On the sticker you will find a telephone number for the WSP's Network Outage Centre (NOC). Call the phone number and provide them with your location, scope of work and estimated duration. The NOC will power down the small cell, remotely, and provide you with a service request number that you must document.
3. Once you have completed this step you can complete your work, as usual.
4. Upon completion of the work, contact the NOC to advise the work has been completed. The NOC will power up the equipment.

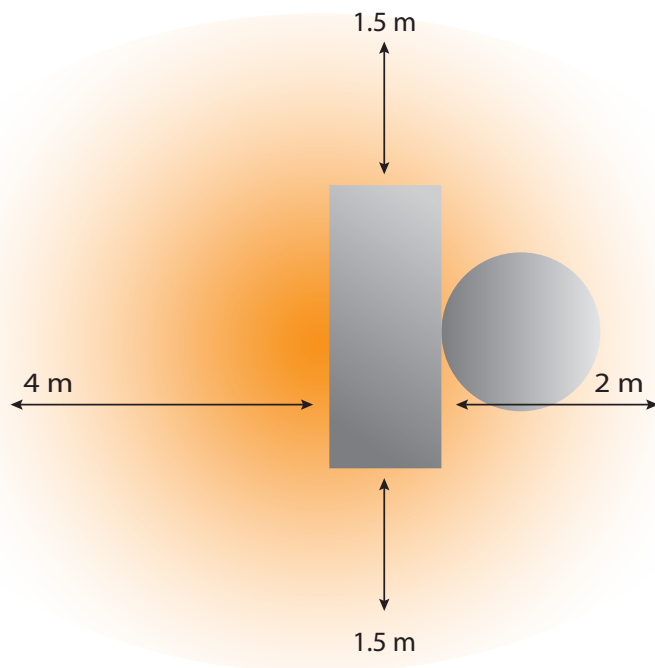
Additional information

To eliminate guesswork and ensure safety for staff and contractors, The City of Calgary uses the maximum exposure limits for all small cell types when determining the RF zone.

Radio Frequency limits/zones
Side View



Radio Frequency limits/zones
Top View



Contact information

For more information about The City of Calgary's Wireless Infrastructure Deployment program, visit Calgary.ca/WirelessInfrastructure, call 311 or email WID@calgary.ca.

For questions specific to small cell deployment on street light poles, contact michael.green@calgary.ca or 403-809-4741.

City of Calgary – Street Lighting Quadrant Technician Directory

Quadrant	Email	Phone
SW	sunny.sidhu@calgary.ca	403.801.4636
SE	martin.seggewiss@calgary.ca	403.268.2807
NW	hansel.decastro@calgary.ca	403.813.0450
NE	mesfin.kassahun@calgary.ca	403.268.4575

Health Canada safety information –

For more information on radiofrequency, health and safety, contact Health Canada at hcinfo@canada.ca or visit:

- Radiofrequency Energy and Safety
<https://bit.ly/30QasTZ>
- Health Canada, Radiofrequency Exposure Guidelines
<https://bit.ly/2Z7S9bW>
- Radiofrequency FAQ
<https://bit.ly/3GjRsgW>