

Response memo: Vancouver Park Board consultation

Consideration of input from the Vancouver Park Board 2019 consultation on our request for rights-of-way in Nelson Park



Issued July 27, 2020

Introduction

It's our job to ensure people in downtown Vancouver continue to have access to reliable power. We're providing the clean, renewable power Vancouver needs, but our electricity system serving downtown is aging and needs upgrades. In 2018, we reached an agreement with the Vancouver School Board to build a new West End Substation at the Lord Roberts Annex property, which will result in an out-of-sight underground substation, topped by a playing field and allow for construction of an adjacent elementary school after the substation is complete.

Underground powerlines are required to connect this future substation to our existing system. Underground transmission powerlines are required to bring power in to the substation, where it can then be stepped-down to the voltage that is used in your homes and businesses. Underground distribution powerlines are required to carry electricity from the substation to where it's used. With the new underground substation planned for the Lord Roberts Annex property, many of these power lines need to be placed underground through Nelson Park.

When we approached the Vancouver Park Board in 2018 about underground power lines in Nelson Park, we were advised that the Vancouver Park Board preferred to wait and see what the Vancouver School Board decision was on our proposal for the Lord Roberts Annex property before becoming involved in the process. If the Vancouver School Board had rejected our proposal in 2018, there would have been no need for underground power lines in Nelson Park. With our proposal for an underground substation going ahead at the Lord Roberts Annex property, the Vancouver Park Board has followed through with their commitment to undertake Vancouver Park Board-led public engagement to further explore impacts of underground power lines in Nelson Park.

This public engagement was completed during 2019. You can find all of the engagement materials as well as the Public Engagement Summary online at www.vancouver.ca/nelsonparkrow.

We're committed to working with the Vancouver Park Board throughout this process, to address their questions and concerns, and come up with a solution that works for all. We were pleased to see the community response of 53% expressing some level of agreement with the Vancouver Park Board accepting our request for rights-of-way through Nelson Park. All results of the Vancouver Park Board-led public engagement will be included as part of our public record on the West End Substation Project and will inform our work as we move forward.

Vancouver Park Board Public Engagement: June and October 2019

We'd like to thank the Vancouver Park Board for leading an independent and productive community engagement on our project, as it relates to our request for rights-of-way through Nelson Park. We'd also like to thank those members of the community who took the time to engage with the Vancouver Park Board on our request and share their input through the following methods:

- 25 attendees at stakeholder workshops in June 2019;
- 200 participants at two public events in October 2019;
- Ten written submissions; and,
- 306 Talk Vancouver surveys.

All of the engagement materials and the Public Engagement Summary of the input received by the Vancouver Park Board on our request can be found online at www.vancouver.ca/nelsonparkrow.

Below is a table outlining our response to some of the key themes that were heard through the Vancouver Park Board’s public engagement:

Interest or idea	Our response
<p>Health and safety related to electric and magnetic fields (EMF)</p>	<ul style="list-style-type: none"> • We recognize that there are questions and concerns about EMF and we take these seriously. With that in mind, we considered EMF very carefully when we developed the West End Substation Project. • Our electrical infrastructure is everywhere in downtown Vancouver, but it’s not always top of mind as the majority of it is underground. For example, our transmission lines are under many city streets as well as David Lam and Charleston parks. Our distribution lines, which bring electricity to your homes and businesses, are located on all city streets, both underground and above. • The transmission lines that lead into our planned substation will be the main source of EMF from the West End Substation. • Levels of EMF directly above our proposed transmission lines within Nelson Park would be very low, at peak times only 5% of the Health Canada and World Health Organization endorsed conservative limit. • Even though our 2017 study and the 2017 Vancouver Coastal Health¹ review concluded that there were no health and safety risks related to these very low levels of EMF, we committed to the following additional mitigation measures to alleviate negative public perception: <ul style="list-style-type: none"> ○ Bury transmission cables deeper underground and implement magnetic field shielding within the boundaries of Nelson Park and Vancouver School Board property, resulting in a minimum 75% reduction in magnetic field levels. <ul style="list-style-type: none"> ▪ This will reduce the levels of EMF such that they are consistent with levels currently found within Nelson Park (25 mG measured January 2017), even at peak times. ○ Commission an independent study of current EMF levels at the existing Lord Roberts Annex property and Nelson Park, and report this publicly. ○ Confirm the EMF levels expected at and around the proposed substation and underground transmission lines, based on final design, and report this publicly. ○ Commission an independent study to verify EMF levels once the substation is in-service and continue to monitor EMF levels and report publicly on an ongoing basis for as long as the substation is in-service. • To further address public perceptions and concerns, we’ll also work with the Vancouver School Board and the Vancouver Park Board to explore the suggestion in the 2017 Vancouver Coastal Health review to strategically locate highly used park features away from the underground transmission lines, as well as use innovative landscape designs and barriers.
<p>Support for BC Hydro’s request for rights-of-way in Nelson Park: upgrading necessary infrastructure, out-of-sight, funding for schools,</p>	<ul style="list-style-type: none"> • We believe that our plan, supported by the Vancouver School Board, to build a new, underground substation at the Lord Roberts Annex property provides the best outcome for the West End and has direct benefits for the Vancouver School community; based on the results of our 2018 community consultation we know that many people in the West End agree.

¹ The 2017 Stantec preliminary technical, environmental and socio-economic study and the 2017 letter from Dr. Patricia Daly, Vice-President, Public Health and Chief Medical Officer, Vancouver Coastal Health can be found online at bchydro.com/westendsub.

<p>good use of land</p>	<ul style="list-style-type: none"> • We’ve diverted our property acquisition dollars to building new schools, will deliver an out-of-sight underground substation, all while avoiding the need to use a property currently used for housing. • In order to achieve the vision of an underground substation and new adjacent school, we need to bury underground power lines in Nelson Park and acquire an easement for driveway access off of Bute Street which will access both the school parking and underground substation. • Based on the results of the Vancouver Park Board-led consultation we know that the majority of those engaged support our request as 53% of participants indicated some level of agreement with our request for rights-of-way in Nelson Park. • While there will be some temporary direct impacts to Nelson Park, our work will allow for Nelson Park to be complemented by a redeveloped Lord Roberts Annex property, to better serve the needs of the West End community.
<p>Indirect construction impacts from substation construction adjacent to Nelson Park</p>	<ul style="list-style-type: none"> • The construction of the substation will have temporary impacts on those who live, work and play in the local area. • For Nelson Park, we expect those temporary impacts to include construction noise and a change to the visual backdrop. • We’re committed to addressing or mitigating the construction impact concerns raised through the consultation process, using best practices and by working collaboratively with stakeholders. • We’ve proposed a five-year construction period for our substation, with approximately three of those years involving excavation and visible active construction, similar to the construction of any large condo tower. • The remaining two years, after we have the substation “roof” installed will be less noticeable by the community as the majority of activities will take place underground, inside the substation, namely the installation of all the substation equipment. • We’ll work with the City of Vancouver to ensure we’re meeting their standards for mitigating construction impacts. • We’ll meet with stakeholders regularly, including the formation of a Community Construction Liaison Committee well in advance of construction, to ensure meaningful dialogue and to evaluate and adjust mitigation measures. • One suggestion we’ve heard is the idea of installing construction fencing around the future work site, to either help blend into the park setting or add an artistic element. This is an example of something that can be developed in consultation with a Community Construction Liaison Committee and the Vancouver Park Board. • We’ll mitigate noise impacts as much as practical, using measures such as adjusting construction hours and activities to minimize disruptions, implementing noise barriers and linking noise mitigation to construction permits and contractor remuneration. • Based on the March 2017 Addendum², in the worst case scenario of temporary jack hammering during substation construction, we predict that noise levels will be below the City of Vancouver Construction Noise by-law limits (85dBA). • The 2017 Stantec Study, indicated a temporary increase in air contaminants, specifically from fuel combustion construction equipment, like excavators. During construction, emissions from construction equipment are expected

² Addendum 1 – BC Hydro Seed: Technical, Environmental and Socio-Economic Study can be found online at bchydro.com/westendsub.

	<p>to remain within the ambient air quality objectives if construction best management practices are used.</p> <ul style="list-style-type: none"> • We have an excellent history of mitigating construction impacts, as demonstrated most recently with our Mount Pleasant Substation project which included building an above-ground substation and burying high voltage power lines in city streets along the Fairview Slopes, the west side, the downtown core, as well as through David Lam Park, where we used community-based construction consultation and communications practices.
<p>Direct construction impacts from construction of underground powerlines within Nelson Park</p>	<ul style="list-style-type: none"> • Construction within Nelson Park for our underground powerlines, to connect the substation to the power system, would be completed in one to two months during the winter time when the park is not heavily used, and then restored. • Otherwise the park would be open for use during substation construction. • We understand that should the Vancouver Park Board accept our request for rights-of-way in Nelson Park, they'll undertake a Park Master Planning process. The length of time for restoration will depend on the scale of change the Vancouver Park Board decides to make in Nelson Park. • If needed, we'll restore Nelson Park (grass, pathways, etc.) temporarily so that it can be used by the public, if there is a time lag between installing underground power lines and the Vancouver Park Board implementing their Park Master Plan.
<p>Increased traffic impacts</p>	<ul style="list-style-type: none"> • The construction of a substation in the West End, adjacent to Nelson Park, will have some temporary impacts on traffic and parking in the local area. • When our plans for the underground substation are further along, we'll develop best practice traffic management plans, in consultation with the local community and all other stakeholders, to minimize the impacts on traffic during construction. A traffic management plan would be created to reflect this input, prior to a contractor being hired, and shared with the community. • The traffic management plan would be reviewed and updated throughout construction, in collaboration with the Community Construction Liaison Committee. • In typical condo or residential tower construction, the whole property is being built upon, often resulting in lane closures or traffic impacts to accommodate construction staging. We'll have the benefit of using the area reserved for the new school as our lay-down area during construction. This will allow us space for our trucks and equipment, and provide a staging area into the construction site, helping to minimize impact on adjacent streets. • Once construction of the West End Substation is complete there will be no further traffic impact, as only one to two service vehicles will need to enter the substation two to three times per week.
<p>Loss of or impacts to mature trees, negatively affecting overall park experience</p>	<ul style="list-style-type: none"> • In 2018, we proposed routing of underground powerlines through Nelson Park to minimize the total number of trees impacted. • We now understand from the Vancouver Park Board that some trees have more value than others, for example based on their location in the park, type and age. • We're working with the Vancouver Park Board to identify routing more in-line with Vancouver Park Board values, avoiding mature trees and consolidating the area required while still meeting our technical requirements. • Any trees removed, from within Nelson Park and on the Lord Roberts Annex property, will be replaced with a ratio of at least 1:1 within Vancouver, in consultation with the City of Vancouver, Vancouver Park Board and the

	<p>Vancouver School Board.</p> <ul style="list-style-type: none"> • We understand that should the Vancouver Park Board accept our request for rights-of-way in Nelson Park, they'll undertake a Park Master Planning process. Replanting of trees within Nelson Park will be determined through that process.
<p>Consider alternative location for the underground substation so Nelson Park will not be impacted/provide more information about alternative locations investigated and why they won't work</p>	<ul style="list-style-type: none"> • On June 25, 2018, the Vancouver School Board, a publicly elected body of nine Trustees, voted in favour of accepting our proposal for the Lord Roberts Annex property. • We have since finalized the purchase of property rights at the Lord Roberts Annex property and are no longer looking at alternative properties for a West End Substation. • If the Vancouver School Board had said no to our request, we would have moved forward with the purchase of a private property in the West End to build an above-ground substation. • In our 2018 public consultation, we asked people if they supported the idea of an underground substation at the Lord Roberts Annex property or an above-ground substation located elsewhere in the West End. • The lower cost of acquiring underground property rights combined with the higher cost of building a substation underground made the two options cost neutral (compared to a relative higher cost of purchasing property outright combined with a relative lower cost of building a substation above-ground). • The largest number of respondents (49.5 %) in our 2018 consultation indicated some level of agreement with the statement "BC Hydro should continue to explore its proposal to build a new West End Substation that is underground;" understanding the idea that an underground substation in the West End would be less impactful to the community than an above-ground substation, which would have taken up a half-city block at a height of 3-6 stories.
<p>Consider alternative locations for the underground powerlines from the future substation, so that Nelson Park will not be impacted</p>	<ul style="list-style-type: none"> • We explored a number of possibilities for routing the underground powerlines to avoid impacts to Nelson Park, none of which are feasible: <ul style="list-style-type: none"> ○ Route some of the powerlines underneath the future school. <ul style="list-style-type: none"> ▪ We haven't explored this idea as we've committed to keeping the transmission powerlines at least 70 metres from the future school. ○ Route all eight powerlines (distribution and transmission) onto Nelson Street. <ul style="list-style-type: none"> ▪ We haven't explored this idea further than to confirm there is not enough room within Nelson Street for this amount of underground infrastructure. ○ Tunnel under Nelson Park into the substation to avoid disturbing the surface of the park. <ul style="list-style-type: none"> ▪ If a tunnel boring machine is used, large entrance and exit shafts are required for machinery, requiring longer (12-18 months) and more disruptive construction in other public areas, like streets and sidewalks, than what is currently proposed. ▪ If horizontal directional drilling is used, the drill could be operated from within the substation excavation but would add a significant amount of time (6-18 months) to the overall construction timeline for the substation. Exit sites would be required for the drilled tunnels, within city streets, for a number of months.

	<ul style="list-style-type: none"> ▪ Depending on the tunneling method, it may not be possible to add the shielding we have committed to install, to reduce magnetic field levels. ▪ Underground rights-of-way would still be required to tunnel under Nelson Park, similar to those we have underneath Charleston Park. ▪ The cost to install powerlines by tunneling is significantly higher than using the cut-and-cover method proposed, while substantially increasing the overall construction impact to the local community.
<p>Ongoing maintenance and operation of the underground substation impacting park user experience</p>	<ul style="list-style-type: none"> • Once the underground substation is in-service, park use will not be impacted by the maintenance of the underground substation as it is not located within the park. • Operation of the underground substation requires only one to two service vehicles entering the substation two to three times per week. • The underground power lines which we’ve proposed in Nelson Park are encased in concrete ducts. Each duct will connect to an underground cable vault, or manhole, which will be located nearby Nelson Park, within city streets. The power lines themselves are threaded into the concrete ducts via the manholes. Should the need arise to replace a power line, this would be done via the manhole, with no disturbance to Nelson Park. Power lines generally have a life span of 50-70 years.
<p>Limitation on future park configuration and development</p>	<ul style="list-style-type: none"> • Our underground power lines are located throughout the City of Vancouver, including under David Lam and Charleston parks. • When we acquire rights-of-way, there are some limitations as to what can be placed above, for example permanent structures like a new community centre, washroom buildings or trees with large root structures. • Underground power lines have a compatible use with many existing park features like green space, fields, playgrounds, community gardens, flower beds and shrubs, pathways, dog parks and apiaries (beehives). • We understand that should the Vancouver Park Board accept our request for rights-of-way in Nelson Park, they’ll undertake a Park Master Planning process, which will determine which park features would be located above the underground power lines.
<p>Disruption of park resulting in impacts to quality of life</p>	<ul style="list-style-type: none"> • The construction of the substation on the Lord Roberts Annex property, adjacent to Nelson Park, will have temporary impacts on those who live, work and play in the area. • Direct impacts to Nelson Park for construction of underground powerlines would be completed in one to two months during the winter when the park is not as heavily used and the West End Farmers Market is not being held. Otherwise the park would be open for use during substation construction. • We understand that should the Vancouver Park Board accept our request for rights-of-way in Nelson Park, they’ll undertake a Park Master Planning process. The length of time for restoration will depend on the scale of change the Vancouver Park Board decides to make in Nelson Park. • We’re committed to doing this work during the winter months while the park is not so heavily used and the West End Farmers Market is not being held³, to minimize the impacts on those who use the park.

³ The West End Farmers Market is currently being held from May 23, 2020 – October 24, 2020.

<p>Consider strategic routes to protect mature trees, community gardens, greens space and other park features</p>	<ul style="list-style-type: none"> • In 2018, we proposed routing of underground powerlines through Nelson Park to minimize the total number of trees impacted. • We now understand from the Vancouver Park Board that some trees have more value than others, for example based on their location within the park, type and age. • We’re working with the Vancouver Park Board to identify routing that would be more in-line with Vancouver Park Board values, avoiding mature trees and consolidating the area required while still meeting our technical requirements.
<p>Ideas for improving Nelson Park</p>	<ul style="list-style-type: none"> • We understand that should the Vancouver Park Board accept our request for rights-of-way through Nelson Park, they’ll undertake a Park Master Planning process. This will be done in consultation with the community as an opportunity to improve Nelson Park. • We’ll work with the Vancouver Park Board and Vancouver School Board, to help integrate the redeveloped Lord Roberts Annex property with an improved Nelson Park.
<p>Work with the Vancouver Park Board to provide accessible, temporary park space before construction begins</p>	<ul style="list-style-type: none"> • We’re committed to working with the Vancouver Park Board to identify opportunities on their properties in the West End, where we could contribute to increasing playground capacity temporarily during construction. • It has also been suggested that the Lord Roberts Annex memorial playground be relocated elsewhere during construction. We have committed to removing the playground equipment, storing it and reinstalling it at a new school, but would work with the Lord Roberts Annex Parent Advisory Committee, Vancouver School Board and Vancouver Park Board to look at temporarily relocating it to another school or park location if there is interest.
<p>Work with the Vancouver Park Board and Vancouver School Board to maintain, replace or relocate the community gardens and apiary (beehive)</p>	<ul style="list-style-type: none"> • We’ve confirmed that some of the existing garden plots in Nelson Park bridge the property line between Nelson Park and the Lord Roberts Annex property, which will be redeveloped with a new substation and school. • We’ll work with the Nelson Park Community Gardens, Vancouver Park Board and Vancouver School Board to support temporary or permanent relocation of those garden plots. • We understand that should the Vancouver Park Board accept our request for rights-of-way in Nelson Park, they’ll undertake a Park Master Planning process which may include replacing or increasing community garden plots and confirming if the apiary should be relocated.
<p>Vancouver Park Board and BC Hydro work together to optimize construction schedule and phasing</p>	<ul style="list-style-type: none"> • The new West End Substation will be built entirely on the Lord Roberts Annex property, not in Nelson Park. • Construction in Nelson Park for underground powerlines would be completed in one to two months during the winter when the park is not as heavily used and the West End Farmers Market is not being held. Otherwise the park would be open for use during substation construction. • It is our understanding that if the Vancouver Park Board accepts our request for rights-of-way through Nelson Park, they’ll undertake a Park Master Planning process. Depending on the changes proposed for Nelson Park after this planning process, restoration of disturbed areas would take additional time to complete. • If there is a delay between when power line installation is completed and the Park Master Planning process is implemented, we would restore Nelson Park to the condition in which it was found (grass, pathways, etc.) to minimize impact to park users.
<p>Maintain open and transparent communication with park users</p>	<ul style="list-style-type: none"> • The West End is a unique community and we need to continue providing meaningful engagement opportunities, with room for flexibility to meet the needs of the community.

<p>through all phases of planning, construction and post-construction</p>	<ul style="list-style-type: none"> • Once a decision is made by the Vancouver Park Board on our request for rights-of-way in Nelson Park, we'll be able to continue our engagement with the community – consultation will be ongoing for the life of the project and include many opportunities for public engagement and input on all phases of the project, through a variety of methods. • Park users are one of the important groups that we need to include in our engagement and communications, and we'll work with the Vancouver Park Board to ensure we provide opportunities for park users to be heard. • We'll look for ways to work with the Vancouver Park Board and the Vancouver School Board to engage the community through consultation on the design of the substation, school and any needed park restoration, for example, but not limited to, the substation vents, substation entrance structure and the playing field. • We're also committed to forming a Community Construction Liaison Committee well in advance of construction, a group which we would invite interested park users to join, to ensure meaningful dialogue. • Construction communications will be important once work begins on site, and our goal is to ensure the community, including park users, knows what construction is happening, including any potential impacts in a timely manner and on an ongoing basis. • Ideas to keep the community involved as construction progresses and increase transparency include providing "eyes on the work" through viewing areas at the construction site, time-lapse cameras and community tours at construction milestones.
<p>Ensure that construction management protocols are strictly followed to minimize impacts to park users</p>	<ul style="list-style-type: none"> • We anticipate that the installation of underground power lines in Nelson Park can be completed over one to two months during the winter. • We'll minimize and mitigate impacts to Nelson Park as much as practical, by working closely with the Vancouver Park Board and through direct active management of our contractors working within Nelson Park. • If the Vancouver Park Board accepts our request for underground rights-of-way in Nelson Park, we'll have clear instruction on what portion of Nelson Park we can work in, and which parts we cannot enter for construction. • We'll also work with City of Vancouver to ensure that we're meeting their standards for mitigating construction impacts. • We have an excellent history of mitigating construction impacts, as demonstrated most recently with our Mount Pleasant Substation project which included using David Lam Park as a staging ground for drilling and installing a transmission line underneath False Creek.
<p>Ensure fair and adequate compensation is provided to the Park Board to offset potential park impacts and inconvenience park users</p>	<ul style="list-style-type: none"> • We're currently in discussion with both the City of Vancouver (property owner) and the Vancouver Park Board (property operator) around fair compensation for the requested rights-of-way in Nelson Park, should the Vancouver Park Board accept our request. • Similar to the process in 2018 with the Vancouver School Board, compensation information will be shared with the Vancouver Park Board Commissioners prior to their decision.