

Welcome to the BC Hydro open house



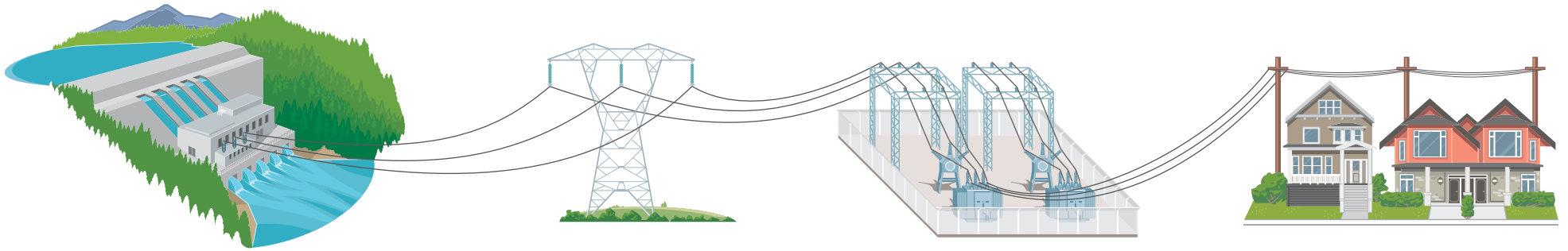
West Kelowna Transmission Project

We're planning to strengthen and reinforce the transmission network delivering clean, reliable electricity to West Kelowna and Peachland. The project is part of BC Hydro's capital plan and continues to move forward.

Westbank Substation Project

The Westbank Substation Upgrade Project will ensure we continue to provide clean, reliable electricity to the communities of West Kelowna and Peachland. The substation on Shannon Lake Road, near Kinsmen Park will receive upgrades that will increase capacity, replace end-of-life equipment and accommodate a connection for a new transmission line.

Our electricity system



Generation

Electricity is generated by BC Hydro and independent power producers.

Transmission

Electricity is moved from where it's produced to where it's used.

Substations

Voltage is reduced at substations to provide power suitable for use in your home or business.

Distribution

Low voltage electricity is provided to neighbourhoods and businesses.

West Kelowna Transmission Project



Collaborating with First Nations



We place a high value on our relationship with First Nations; the input and participation of First Nations is crucial to all of our projects.

We're collaborating with the Okanagan Nation Alliance and member communities as well as other First Nations to understand and address their interests throughout the life of the project.

During this stage of the project, we're working in collaboration with the Okanagan Nation Alliance and member communities to develop and execute the field studies. Additionally, the Okanagan Nation Alliance and member communities and other First Nations are delivering Traditional Use studies to inform this stage of the project.

West Kelowna Transmission Project



Project timeline

- In February 2015, the project was announced to construct a new, secondary transmission line.
- Spring 2015 to fall 2016, we studied three alternatives.
- Fall 2016, Alternative 2: Westbank Substation to Nicola Substation was identified as the leading alternative for further study.
- **Spring 2019, work started on the new Resiliency Alternative.**
- Confirm preferred alternative in early 2020 at the earliest.

West Kelowna Transmission Project

Project status: moving forward

The West Kelowna Transmission Project is in our Capital Plan and continues to move forward.

Fall 2018, estimated costs to build the leading alternative are higher than expected due to:

- the longer line (up to 100 km from 72 km),
- the increased number and type of poles, and,
- the amount of time and approach needed to construct the line.

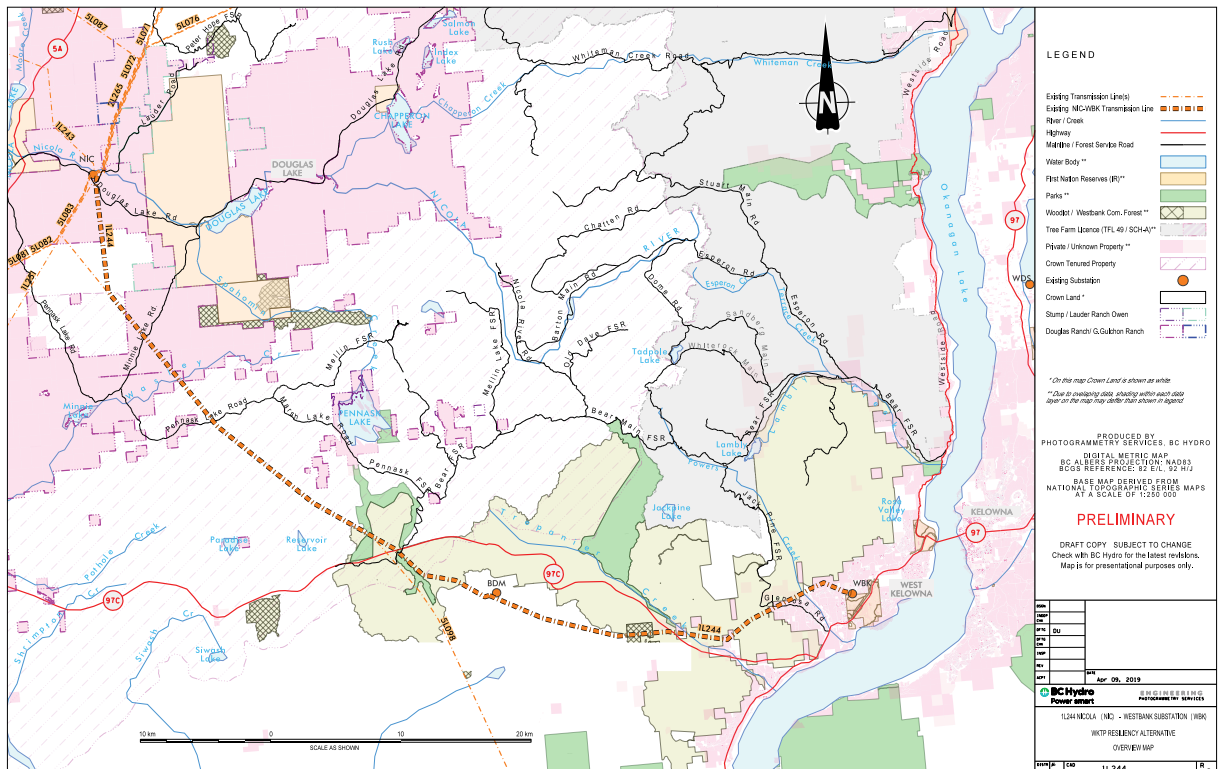
BC Hydro must fully consider, consult on and assess all feasible alternatives including a new alternative focused on improving the resiliency of the existing transmission line to minimize the risk of outages resulting from forest fires and geotechnical events.

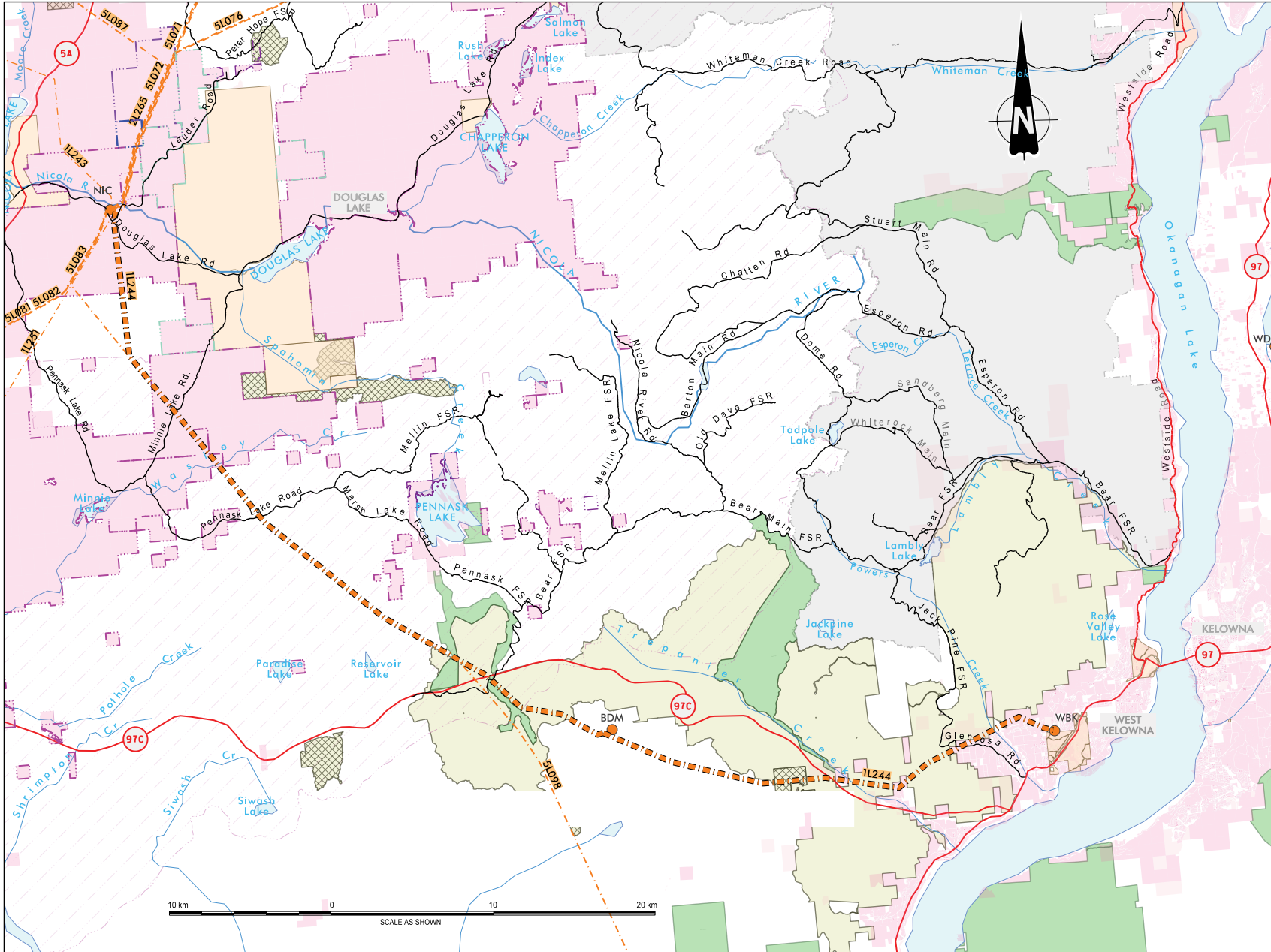


West Kelowna Transmission Project

Existing transmission line

- The Westbank Substation is supplied by a single 80 km, radial 138 kV transmission line from Nicola Substation to Westbank Substation constructed in 1967.
- Second largest communities in the BC Hydro system supplied by a radial transmission line.
- Serves 22,000 customers in West Kelowna and Peachland.





- ### LEGEND
- Existing Transmission Line(s)
 - Existing NIC-WBK Transmission Line
 - River / Creek
 - Highway
 - Mainline / Forest Service Road
 - Water Body **
 - First Nation Reserves (IR)**
 - Parks **
 - Woodlot / Westbank Com. Forest **
 - Tree Farm Licence (TFL 49 / SCH-A)**
 - Private / Unknown Property **
 - Crown Tenured Property
 - Existing Substation
 - Crown Land *
 - Stump / Lauder Ranch Owen
 - Douglas Ranch/ G.Gulchon Ranch

* On this map Crown Land is shown as white.
 ** Due to evolving data, shading within each data layer on the map may differ than shown in legend.

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 PHOTOGRAMMETRY SERVICES, BC HYDRO
 DIGITAL METRIC MAP
 BC ALBERS PROJECTION: NAD83
 BCGS REFERENCE: 82 E/L 92 H/J
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 NATIONAL TOPOGRAPHIC SERIES MAPS
 AT A SCALE OF 1:250 000

PRELIMINARY
 DRAFT COPY SUBJECT TO CHANGE
 Check with BC Hydro for the latest revisions.
 Map is for presentational purposes only.

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1L244 NICOLA (NIC) - WESTBANK SUBSTATION (WBK)
 WKTP RESILIENCY ALTERNATIVE
 OVERVIEW MAP

West Kelowna Transmission Project

Performance of the existing transmission line

In the past 20 years:

- 4 unplanned outages
- 16 total outage hours
- 4 average hours per outage
- 9 hour maximum outage duration

Vegetation maintenance and fire protection:

- Conduct two vegetation patrols per year along entire length of the line.
- Use mechanical mowing where possible to keep fuel loads to a minimum.
- Significant mowing and hazard tree maintenance in right-of-way planned this year.
- Apply fire retardant to wood pole structures.
- Replace wood poles and equipment to reduce probability of pole-top fires.
- Maintain access to reduce the outage duration.
- Active fire monitoring and response system.



West Kelowna Transmission Project

Resiliency alternative

Options that will be studied:

- Enhanced access maintenance, vegetation removal around poles and fire retardant application to wood poles.
- Replacing wood poles with steel or fibreglass poles in highest-risk and difficult to access areas; base protection for poles; and expanding the width of the existing right-of-way.
- Improving permanent access, response plans and specialized equipment.



Example of an H-frame structure



Poles treated with fire protection survive a fire in Falkland in 2011.

2019 Fire Protection Program

BC Hydro takes fire protection measures to protect its infrastructure from wildfires.

Fire protection work for the existing transmission line running from Nicola Substation to Westbank substation includes:

- brushing around the base of structures, and,
- the application of fire retardants to the bottom section of poles.

This fire protection work is generally effective for 2 to 3 years.

West Kelowna Transmission Project

Next steps

Work for the Resiliency Alternative will include:

- Wildfire and geotechnical assessments.
- Environmental overview assessment and an archaeological assessment.
- Ongoing consultation and engagement with First Nations, governments and stakeholders.
- An assessment of the options.
- A detailed review of the costs for all the alternatives.



Cultural plant knowledge holder with Trapper's Tea



WKTP Open House in West Kelowna, November 2017.

West Kelowna Transmission Project

Identifying a preferred alternative

Our work on the new secondary line alternatives and the Resiliency Alternative will help inform our decision on the preferred alternative.

We expect the decision timeline will extend to early 2020 at the earliest to ensure all required data has been gathered to support the decision and subsequent application to the BC Utilities Commission.

Key aspects will include:

- Safety
- Environment
- Cost
- Socio-economic
- First Nations
- Stakeholders
- Wildfire
- Geotechnical

The project in-service date will be updated once a preferred alternative is confirmed.

Westbank Substation Upgrade Project

Project overview



- In-service since the early 1970s.
- Serves more than 22,000 customers in West Kelowna and Peachland.
- Supplied by one 138 kilovolt transmission line from Nicola Substation.
- Upgrades will increase capacity, replace end-of-life equipment and accommodates a connection for a new transmission line.

Westbank Substation Upgrade Project

Why are the upgrades needed

We need to upgrade the Westbank Substation in order to:

- Meet the peak electricity demand, which is expected to grow in the coming years.
- Replace major equipment that is at or near end-of-life.



Westbank Substation Upgrade Project



Westbank Substation Upgrade Project

Environment and engineering studies

We've started the following desktop and field studies:

- Archaeological Impact Assessment
- Soil Characterization
- Wildlife and Vegetation Studies
- Management of oil-filled equipment
- Geotechnical Investigations
- Property Line Survey

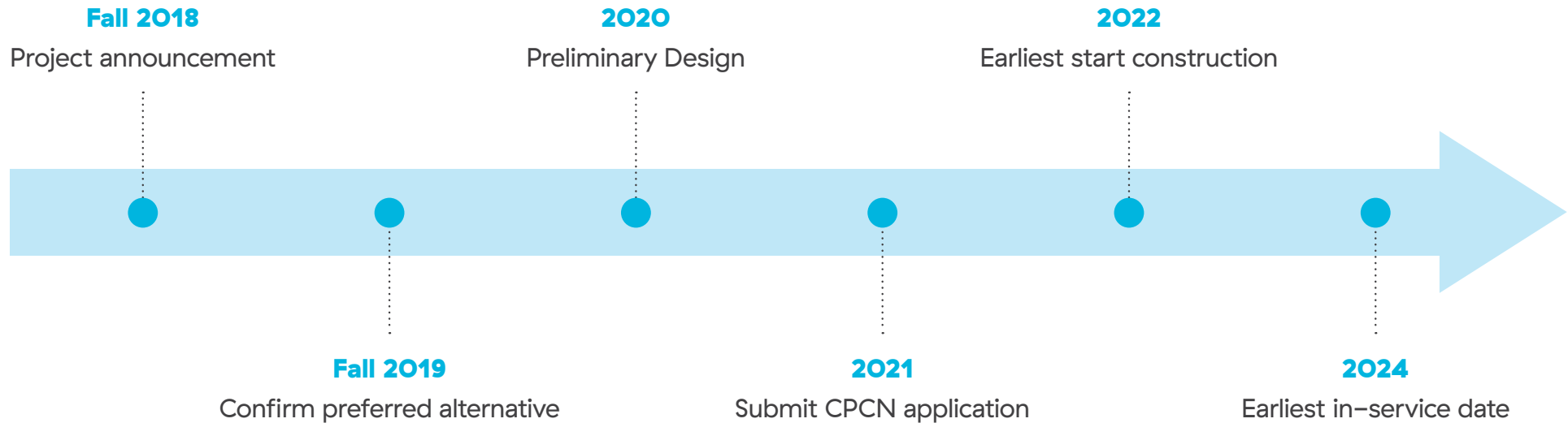


Westbank Substation Upgrade Project

Next steps



- Complete studies and designs.
- Next round of Public Open Houses anticipated for June 2019.
- The project will require a Certificate of Public Necessity and Convenience (CPCN) application to be submitted to the BC Utilities Commission (BCUC).



West Kelowna Transmission Project & Westbank Substation Upgrade Project

More information



Consultation and engagement will be ongoing throughout the West Kelowna Transmission Project and the Westbank Substation Upgrade Project. If you have any questions or comments on our project work, you can reach us at:

Email: projects@bchydro.com

Phone: 1 866 647 3334

You can also find the latest project information on our website.

- For information on the West Kelowna Transmission Project, visit bchydro.com/wktp
- For information on the Westbank Substation Project, visit bchydro.com/westbanksub