

# Welcome

One of the objectives of the Site C project is to provide lasting economic and social benefits for neighbouring communities. In 2016, we worked with the District of Hudson's Hope to develop a long-term partnering agreement to support a sustainable and thriving community. We continue to meet regularly to build upon this relationship.

As part of the Site C project, we committed to mitigating the effects of the dam and reservoir on the community's infrastructure by building a new berm for shoreline protection and by replacing the District's water intake and pump house.

We also developed a community benefit agreement with the District of Hudson's Hope to provide \$3.5 million in programs and funding to:

- Revitalize a residential subdivision to provide housing options and improve employee attraction and retention
- Build a demonstration home to attract and retain essential community service professionals
- Create and improve recreational infrastructure
- Provide funding for a range of community programs and activities

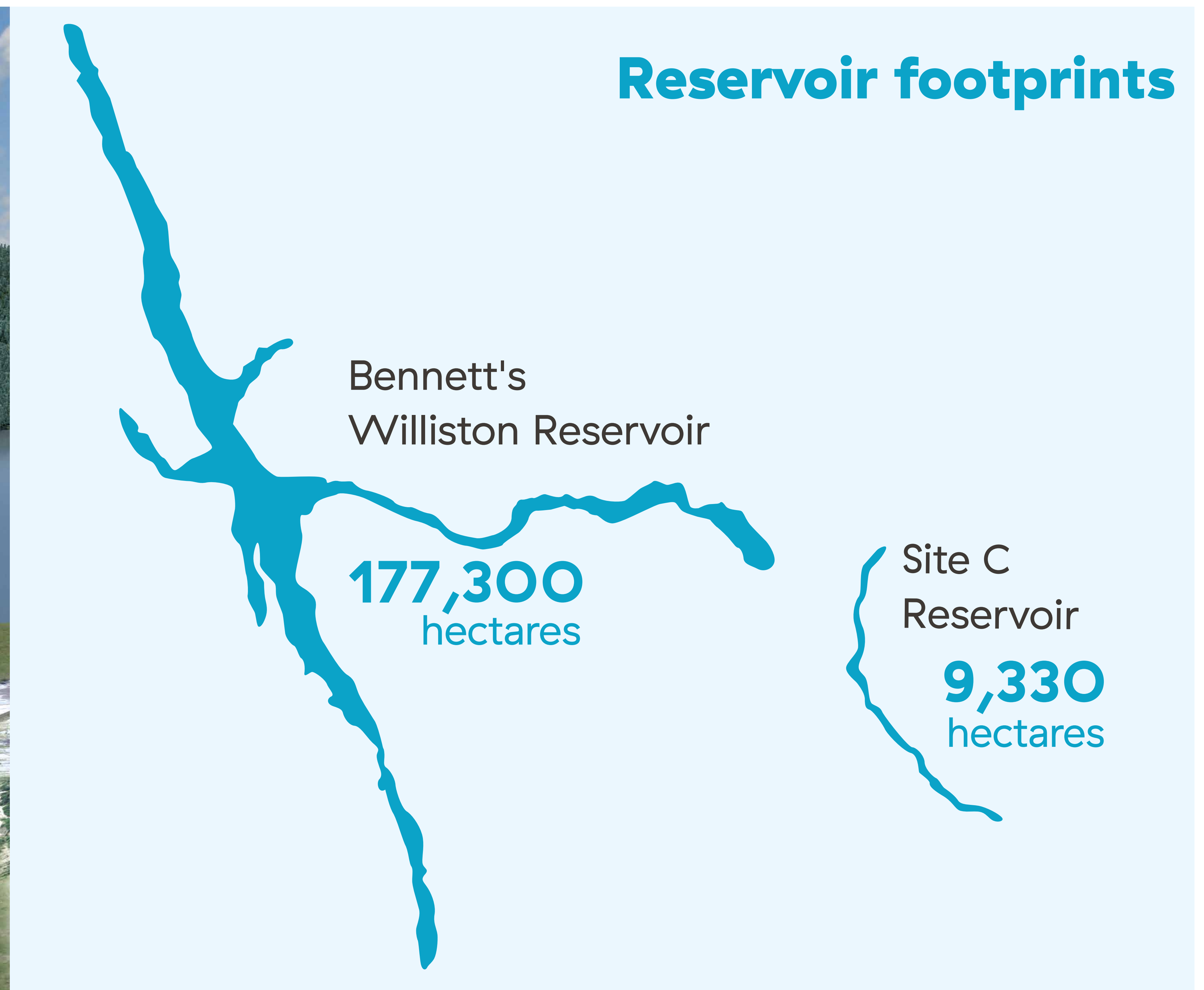
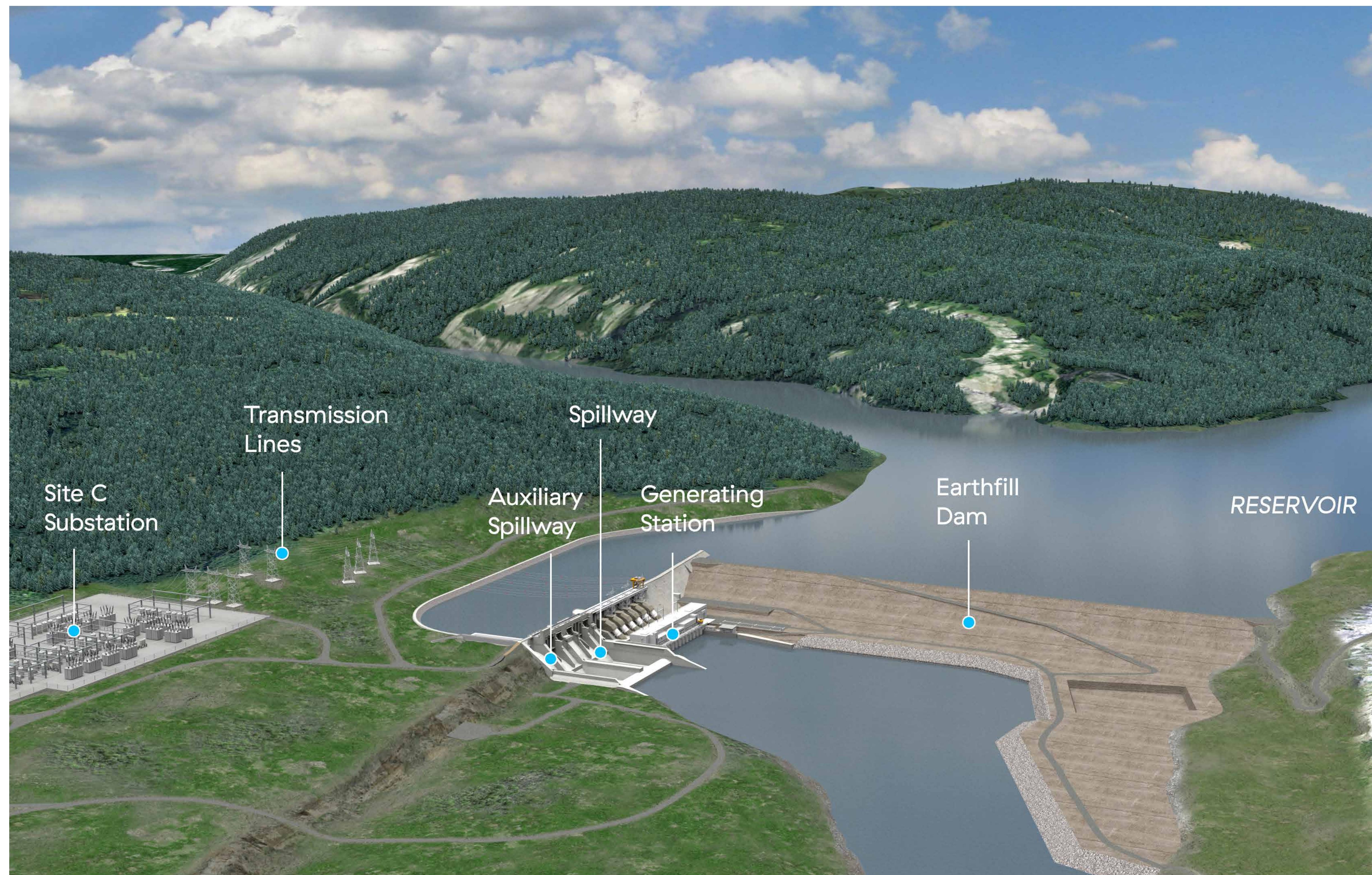
**The purpose of today's open house is to provide an update on construction activities and the community benefits and mitigations for the Site C project.**



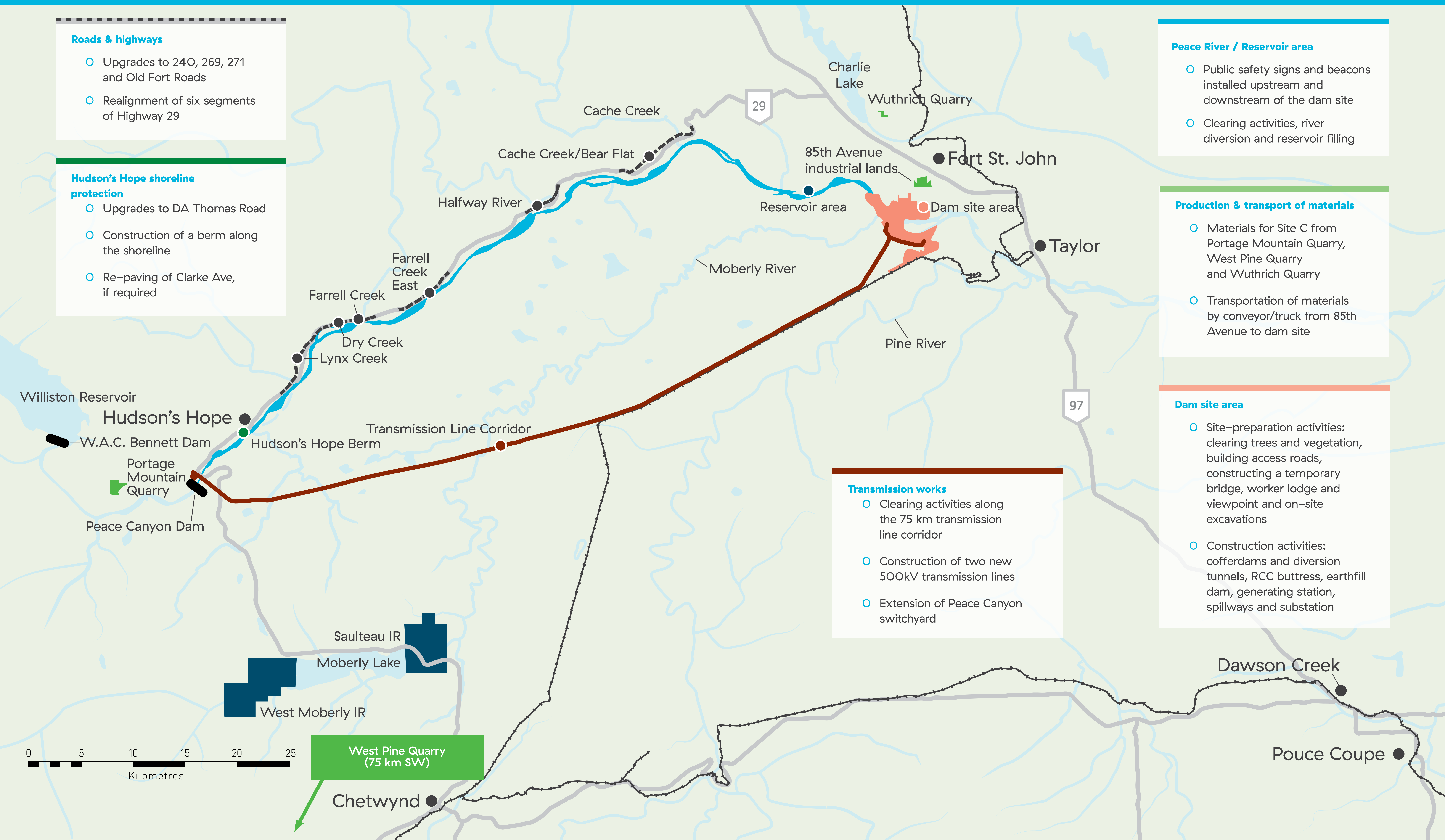
# Overview of the Site C project

Site C is the third dam on the Peace River and, once complete, will be one of the many hydroelectric dams that BC Hydro owns and operates throughout the province. The project received approval after a rigorous three-year environmental assessment by the provincial and federal government, with an independent joint review panel. Construction started in July 2015 and the first unit will be in service in 2024.

The Site C project builds on BC Hydro's existing system. Because it uses water already in the Williston Reservoir, Site C will generate 35% of the electricity of the WAC Bennett Dam, using a reservoir only 5% of the size. Once it is built, the Site C generating station will produce 5,100 gigawatt hours of clean electricity every year, enough to power 450,000 homes in B.C.



# Building the Site C Clean Energy Project



## Roads & highways

- Upgrades to 240, 269, 271 and Old Fort Roads
- Realignment of six segments of Highway 29

## Hudson's Hope shoreline protection

- Upgrades to DA Thomas Road
- Construction of a berm along the shoreline
- Re-paving of Clarke Ave, if required

## Peace River / Reservoir area

- Public safety signs and beacons installed upstream and downstream of the dam site
- Clearing activities, river diversion and reservoir filling

## Production & transport of materials

- Materials for Site C from Portage Mountain Quarry, West Pine Quarry and Wuthrich Quarry
- Transportation of materials by conveyor/truck from 85th Avenue to dam site

## Dam site area

- Site-preparation activities: clearing trees and vegetation, building access roads, constructing a temporary bridge, worker lodge and viewpoint and on-site excavations
- Construction activities: cofferdams and diversion tunnels, RCC buttress, earthfill dam, generating station, spillways and substation

## Transmission works

- Clearing activities along the 75 km transmission line corridor
- Construction of two new 500kV transmission lines
- Extension of Peace Canyon switchyard

# Protecting the shoreline

The Site C project will create a new reservoir, which will result in changes to the shoreline at Hudson's Hope. Shoreline erosion, combined with changes in groundwater conditions, could cause the banks to recede in the lower slopes below the community.

To protect against this, we are building 2.5 kilometres of shoreline protection. This will consist of a berm, a large earth-and-rock-filled barrier. It will also consist of slope flattening, where we remove the unstable top layers of soil.

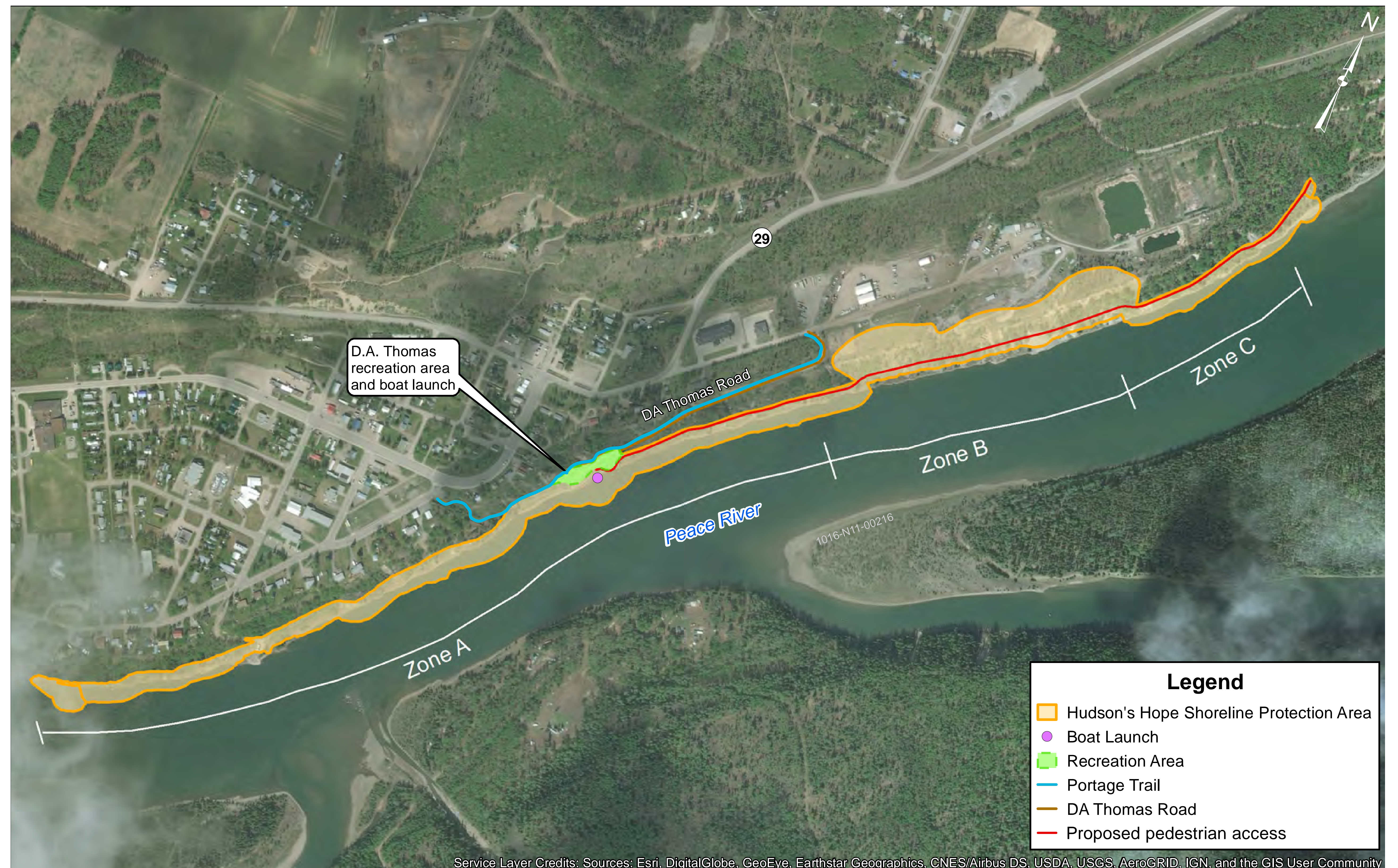
It's important to note that while the berm will protect the shoreline from instability caused by the new reservoir, it cannot address pre-existing conditions in the upper slopes.

Shoreline protection will begin at the western end of Hudson's Hope, and extend downstream past the municipal sewage treatment facility. The typical height of the berm will be approximately 20 metres lower than the top of the slope, in most areas.

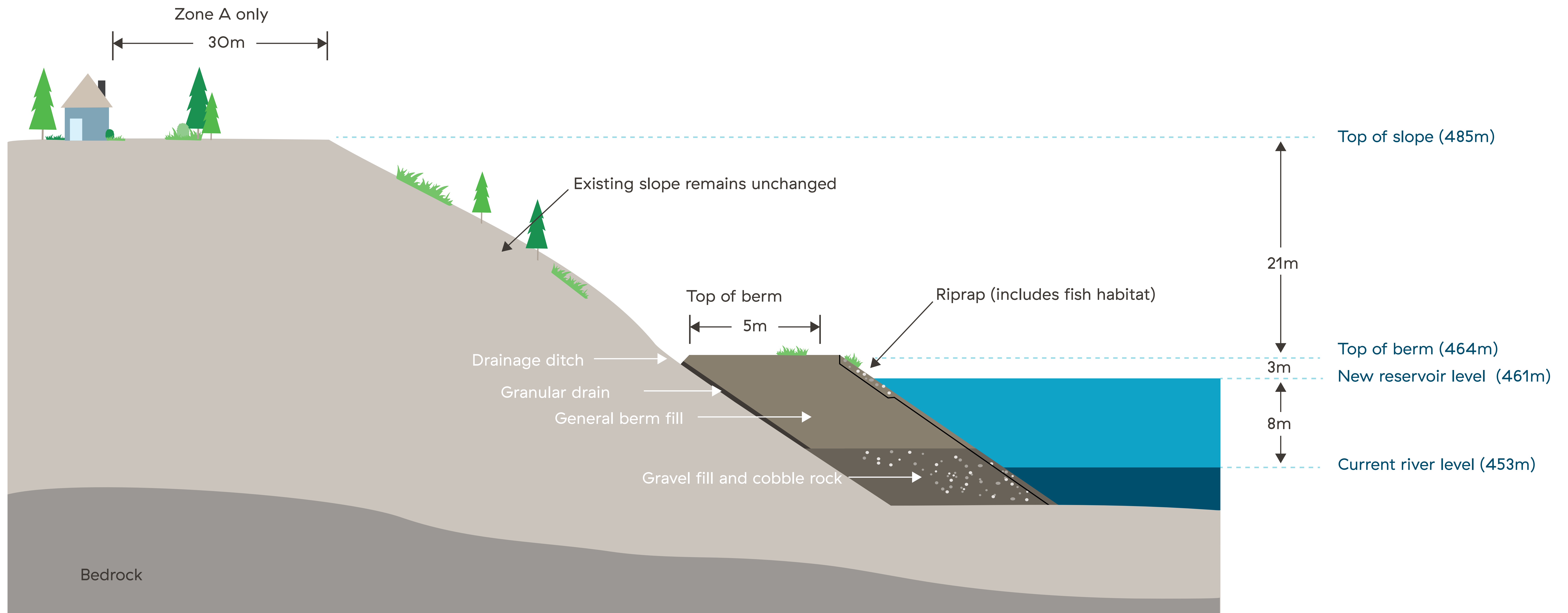


# Types of shoreline protection

Location	Type of shoreline protection
<b>Zone A:</b> Below the residential area and extends just downstream of the hotel on Clarke Ave	1,650 metre berm
<b>Zone B:</b> Below the light industrial land	550 metre slope flattening and armoring of the shoreline
<b>Zone C:</b> Below the municipal sewage treatment lagoons	450 metre berm

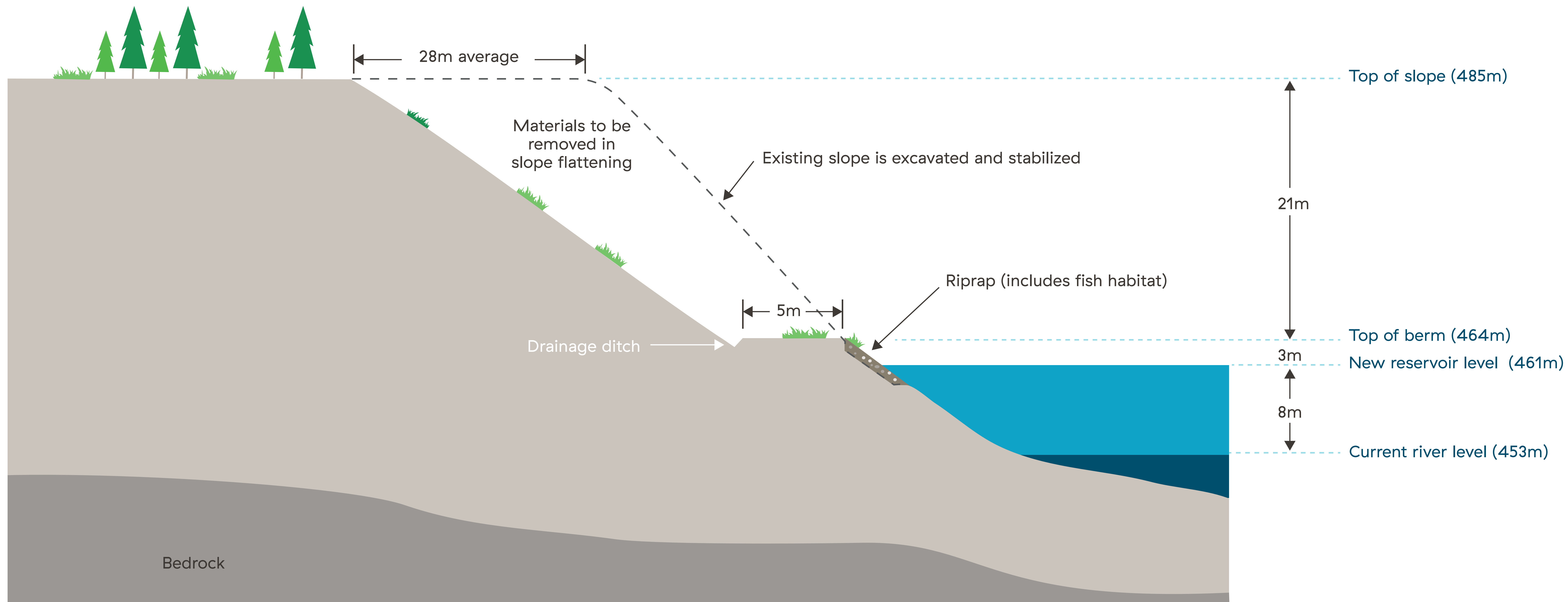


# Cross-section for Zone A and Zone C



\*Measurements are approximate

# Cross-section for Zone B



\*Measurements are approximate

# Construction of shoreline protection

We will be building shoreline protection from 2020 to 2022. During this time, construction vehicles will enter the site from D.A. Thomas Road, which will be upgraded to facilitate access to the project and future community use. BC Hydro will assume ownership and maintenance of D.A. Thomas Road. We have completed a pavement condition survey and will return Clarke Avenue to the same condition once work is finished. This could include re-paving, if needed.

Material for the berm will be transported from Portage Mountain via Canyon Drive. To improve safety, we have installed a mandatory paved brake check on Canyon Drive.

## Traffic management

Safety is our highest priority. An important part of this is carefully managing the traffic and community impacts from our work.

For our shoreline protection work, the contractor will develop a safety plan that includes traffic management.

We have also developed a traffic management plan to focus on the movement of materials from West Pine Quarry to Hudson's Hope and Highway 29. BC Hydro and the Ministry of Transportation and Infrastructure shared the plan with local municipalities to get feedback on concerns and priorities.



## What to expect

- There will be truck traffic in the Hudson's Hope area as equipment and materials are brought to site.
- There will be some noise, vibration and dust near construction activities.
- Where possible, we will take steps to reduce the effects of construction activities on local residents.
- When a contractor is selected for the shoreline protection project, they will confirm their schedule. Generally, we expect work to occur on day shift, seven days a week.
- There will be approximately 10–15 haul trucks on Canyon Drive per hour as a result of both Site C Highway 29 hauling and the shoreline protection project.



# D. A. Thomas boat launch and day use area

As part of our community investment program in Hudson's Hope, we are developing a new small craft boat launch and day use site at the bottom of D. A. Thomas Rd. The boat launch will consist of a gangway and floating dock. This will allow the launch of car topper-type boats such as kayaks and canoes at regular reservoir operation levels. Boats on trailers will still need to be launched at the new boat launch and day use area at Lynx Creek.

There will be no public access to D. A. Thomas Road and the shoreline during berm construction, from 2020 – 2023.



## Your feedback

How would you like the day use area to be laid out for vegetation and picnic areas?

A large, empty rectangular area with a dotted border, intended for user feedback.

# Lynx Creek boat launch

Due to the new reservoir, the Lynx Creek boat launch in Hudson's Hope will be rebuilt and upgraded at a site to the east of its current location. This will include:

- A day use area with picnic site, interpretive kiosk and pit toilet
- Safe road access for vehicles with trailers
- A double-wide concrete boat ramp with a 10–15% grade
- Safe turnaround area for trailered, motorized boats longer than five metres
- Parking for vehicles with trailers

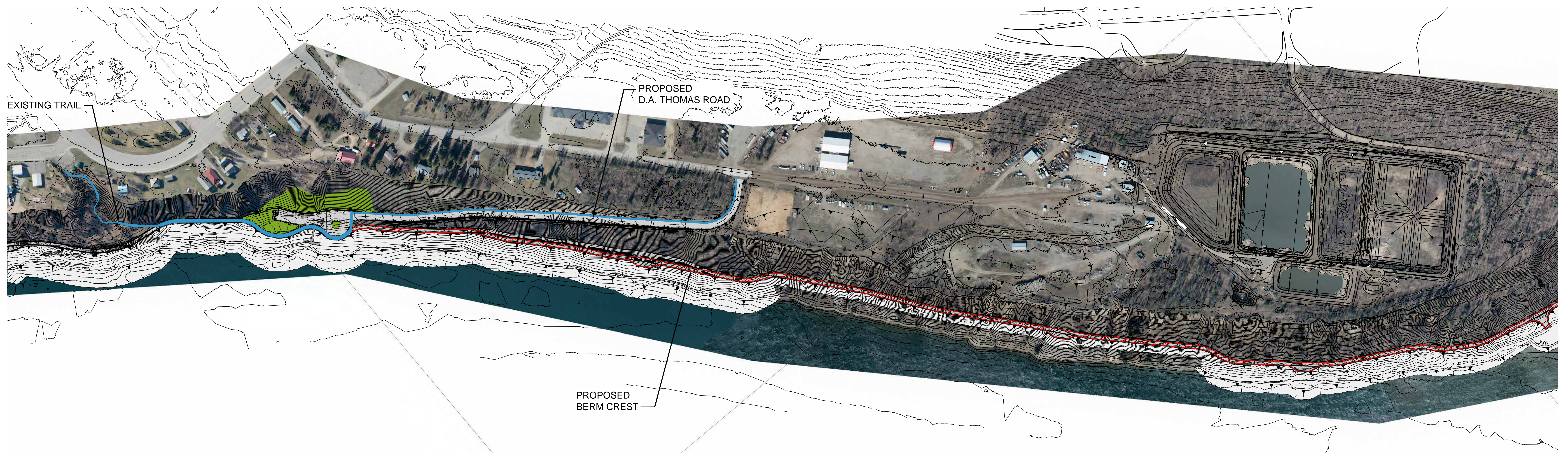
The new boat launch at Lynx Creek will open after the reservoir is filled in 2023. We aim to maintain access to the existing boat launch during the Highway 29 realignment work and prior to reservoir filling. We will maintain emergency access to the river for the RCMP at Peace Canyon Dam.



# Walking trails

Although there will be some changes to the shoreline at Hudson's Hope over the next few years, we will be maintaining and potentially improving walking opportunities for the community. After the shoreline protection berm has been built, the Portage Trail will be reconnected to D.A. Thomas Road. The trail will be accessible year-round for non-motorized use. Due to community input, pedestrian access west along the berm will be restricted.

**New trail:** The District and BC Hydro worked together to provide pedestrian access along the berm crest going east from the D.A. Thomas boat launch.



# Community infrastructure

## Lucas Subdivision

BC Hydro contributed \$1.7 million towards the redevelopment of the Lucas (formerly Atkinson) Subdivision, which included improvements to roads as well as updates to water, sewer and electricity servicing. We worked with the District of Hudson's Hope on the redevelopment of the subdivision and hired a local contractor to complete a large portion of the earthworks. We are now going through the phased sale and marketing strategy for the subdivision.

BC Hydro has purchased 10 of the Lucas subdivision lots from the District of Hudson's Hope for \$500,000. Nine of the lots will be used to help attract and retain skilled employees for existing BC Hydro operations.

## Essential Services House Project

On the remaining lot in the Lucas Subdivision, BC Hydro and School District 60 are collaborating to build a house that will be used as an incentive for essential community service providers, such as pharmacists, doctors or nurses, to come to Hudson's Hope. Students who were selected to work on the house construction received a full semester of high school elective credits, earned Level One carpentry certification and earned apprenticeship hours towards their Red Seal.

The \$465,000, 1,375-square foot house features nine-foot ceilings, a custom maple kitchen, three bedrooms, two bathrooms, natural gas heat and hot water, a large deck and attached garage.



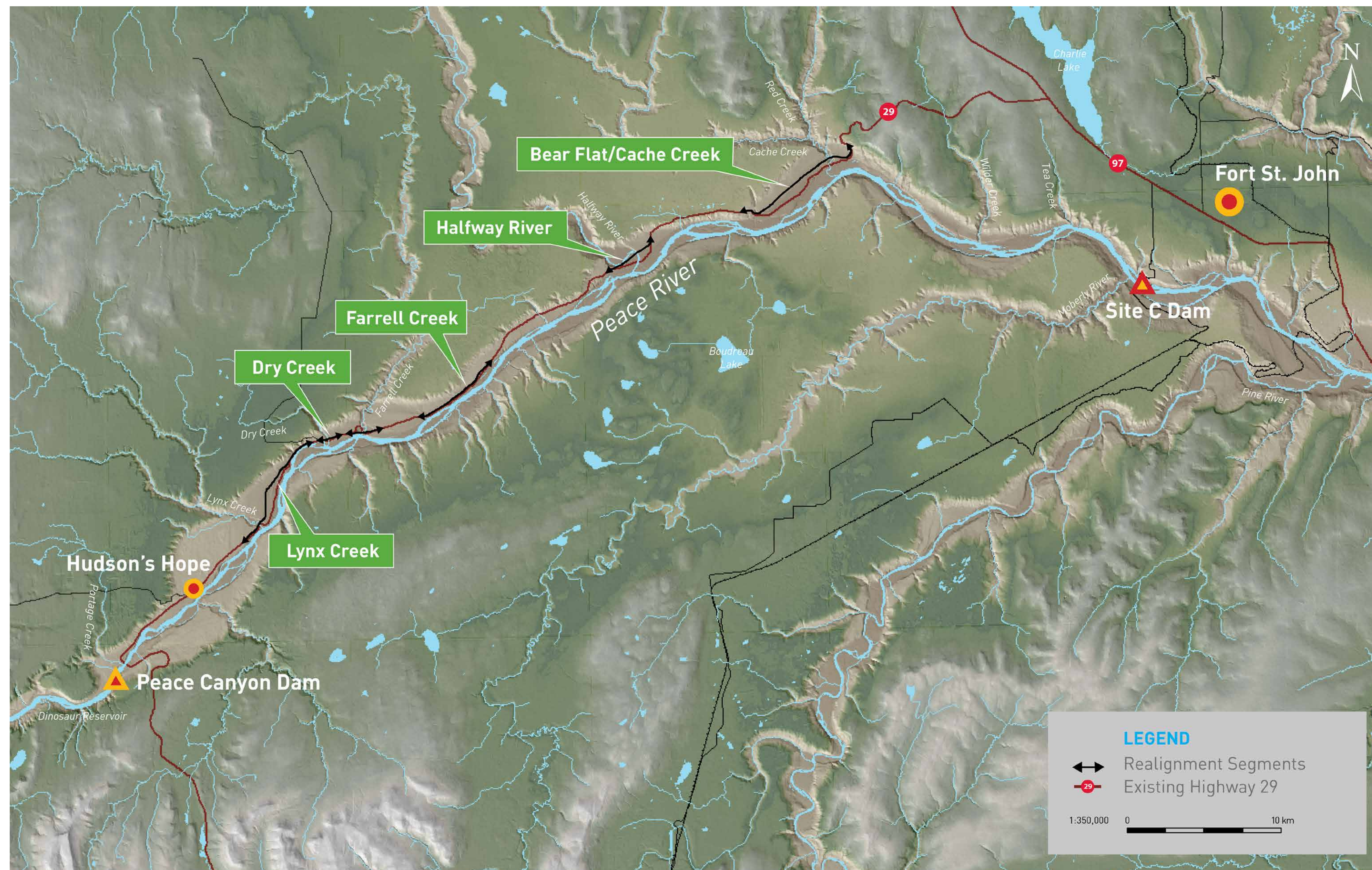
## Water intake and pump house replacement

The District of Hudson's Hope and BC Hydro worked together to determine the best option to replace the community's water intake and pumphouse. After completing investigations, the District determined that there is sufficient water quantity and quality to replace the current system with a well system. The District presented this system to residents at a public meeting on Thursday, April 18, 2019. We will continue to work together to implement the new system.

# Highway 29 realignment

Connecting the communities of Hudson's Hope and Fort St. John, Highway 29 is a 70-kilometre stretch of road that winds along the north side of the Peace River. When the Site C reservoir is filled beginning in 2023, the reservoir will widen the Peace River by two to three times and inundate parts of this existing highway.

As a result, BC Hydro is working with the Ministry of Transportation and Infrastructure to realign affected sections of the highway. Construction is taking place from 2018 – 2023. The work involves moving parts of the highway north of the future reservoir. This includes constructing bridges, culverts, and berms.



# Highway 29 construction schedule

Segment	Length	Site preparation*	Construction
Cache Creek East	6 km	2018 – 2020	2019 – 2023
Cache Creek West	4 km	2017 – 2018	2018 – 2020
Halfway River	4 km	2019 – 2019	2019 – 2022
Farrell Creek East	6 km	2020 – 2020	2021 – 2022
Farrell Creek	2 km	2020 – 2020	2021 – 2023
Dry Creek	1.5 km	2019 – 2020	2020 – 2021
Lynx Creek	8 km	2019 – 2021	2020 – 2023

\*Refers to geotechnical investigations, surveys, archeological work, and other activities that prepare the area for construction.



Work will usually occur seven days a week, twelve hours a day. Drivers can expect some delays and periods of single lane alternating traffic. To ensure safety, please watch for traffic control personnel and signs that indicate active work areas.

## Your feedback

What is the best way of providing you with traffic updates?

## Current status

We have begun construction of the highway at Halfway River and Cache Creek West.

Construction on parts of Cache Creek East may begin in the fall of 2019. Design work is in its final phases for the other segments.

## Next steps and mitigation

Realigning Highway 29 requires clearing, road grading and paving, and bridge construction. All highway work is delivered to Ministry of Transportation and Infrastructure standards.

Safety is our top priority. All contractors will follow rigorous traffic management, safety and environmental plans.

Please visit [DriveBC.com](http://DriveBC.com) for more information on lane closures.

**Emergency vehicles will have priority access and experience minimal delays.**

# Funding for community benefits

The District of Hudson's Hope and BC Hydro worked together to develop a community benefit agreement that would provide \$3.7 million in programs and funding to the community:

- \$2.7 million for the Lucas Subdivision. This includes \$1.7 million for redeveloping and \$500,000 for purchasing 10 lots in the subdivision. It also includes \$500,000 for building and maintaining the demonstration home to attract key community services personnel.
- \$268,000 for the District to develop an industrial park, support community development activities and fund recreation facilities and programs
- \$20,000 for fire and road rescue programs services in the community
- \$80,000 for the District to use towards community planning activities undertaken to reflect the changes occurring due to the Site C project
- \$442,000 to the District for changes in land use, including \$160,000 under Environmental Assessment Certificate Condition 50 and \$282,000 in additional funding negotiated by the District.

The District also received \$150,000 for enhancements to Alwin Holland Park and other community shoreline recreation areas, under Environmental Assessment Certificate Condition 40.

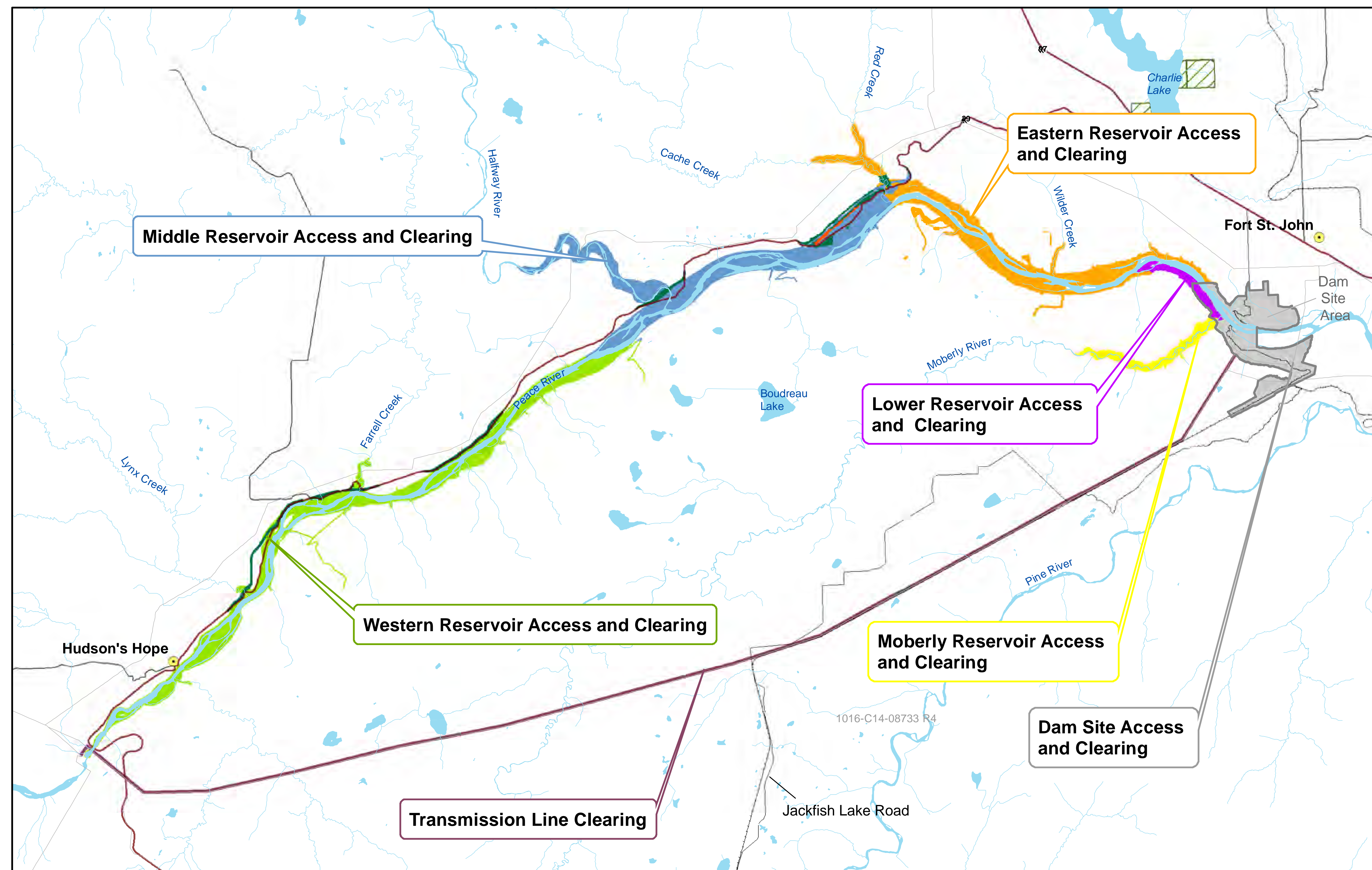


# Site C work in your area: reservoir area clearing

The Site C project includes an 83-kilometre reservoir from the Site C dam to Hudson's Hope that will be about two to three times the width of the current river. While filling the reservoir is one of the last activities to take place, the reservoir area first needs to be cleared of trees and vegetation. Clearing is also taking place in the transmission line corridor.

Trees that are the right size, quality and volume to make them suitable for processing will be hauled to local mills. The remaining wood may be chipped, mulched, spread as coarse woody debris, or burned on site.

Logging trucks will use Highway 29 and resource roads to haul logs to local mills, while avoiding local streets where practical. Most work around Hudson's Hope will involve clearing islands that are accessed from the south side of the Peace River. Some logging of valley slopes (possibly using helicopters) may be required in this area.



## Moberly reservoir access and clearing

- Season 1: winter 2016/2017
- Season 2: fall 2018 to spring 2019
- Waste wood removal: 2018 to 2019

## Eastern reservoir access and clearing

- Fall 2018 to spring 2020
- Waste wood removal: 2019 to 2020

## Transmission line clearing

- Season 1: winter 2017 to spring 2018
- Season 2: fall 2018 to spring 2019
- Waste wood removal: 2018 to 2019

## Lower reservoir access and clearing

- Season 1: fall 2015 to spring 2016
- Season 2: winter 2016 to winter 2017
- Season 3: fall 2018
- Waste wood removal: spring 2018 to spring 2019

## Middle reservoir access and clearing

- Summer 2019 to 2023
- Waste wood removal: 2020 to 2023

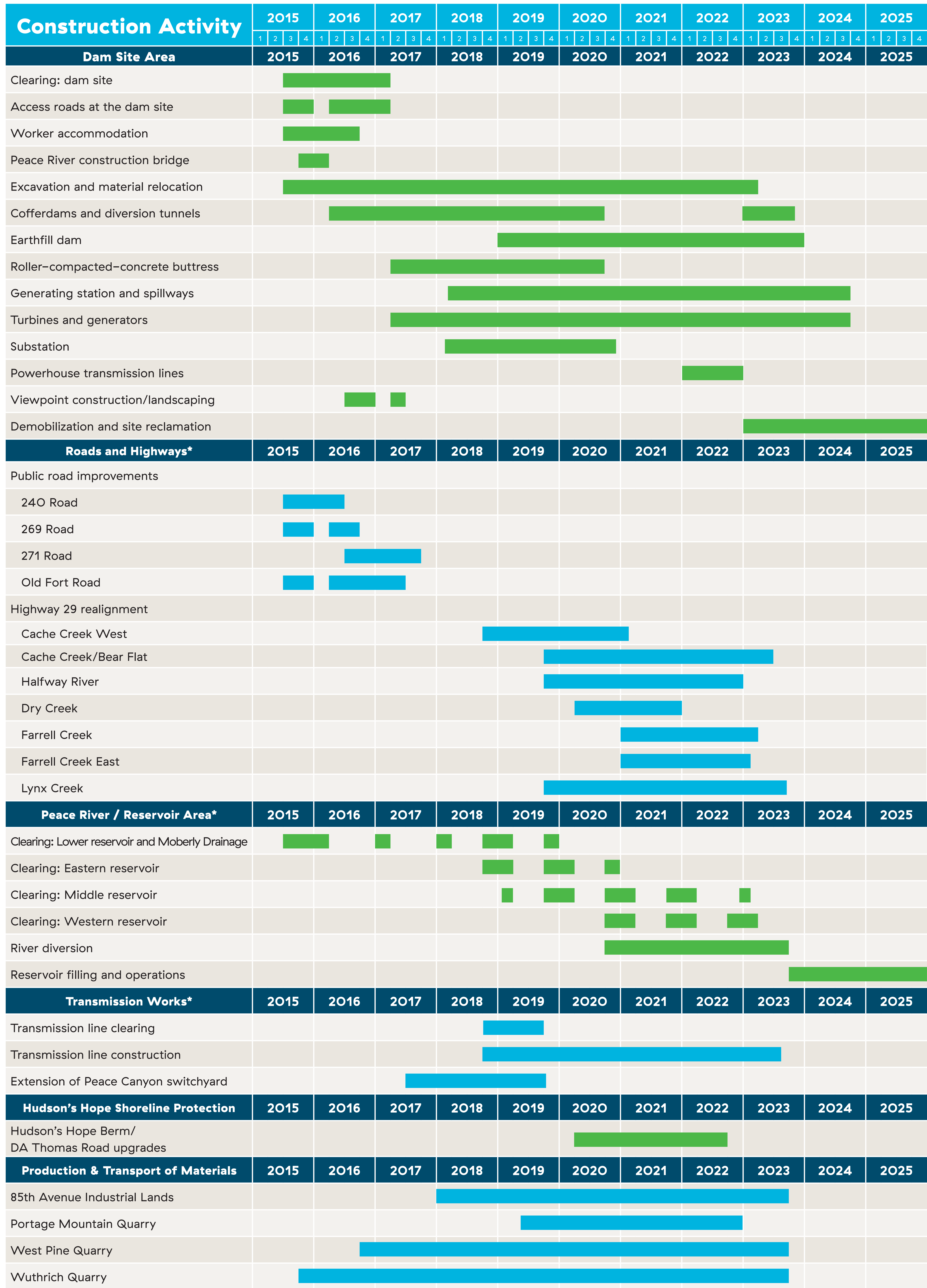
## Western reservoir access and clearing

- Summer 2020 to spring 2022
- Wood waste removal: 2022 to 2023

\*All schedules are approximate and subject to change



# Project Schedule



The construction schedule is indicative only and subject to change. The purpose of the schedule is to illustrate the general sequence of construction activities, but the dates and schedule may change.

\* Timelines do not include site preparation or wood disposal.