

Site C: The earthfill dam

July 2023

One of the most significant areas of the Site C Clean Energy Project is the earthfill dam. The dam will direct water from the Peace River to the approach channel, which will lead into the powerhouse to generate power.

How big is the dam?

- 60 metres tall above the riverbed (as high as a 20-storey building)
- Over one kilometre across the Peace River
- About 500 metres wide at the base and 10 metres wide at the top

How was the dam built?

Construction of the earthfill dam began in 2021, after the Peace River was diverted. It took two years to complete.

- The dam's core is made of glacial till, a material containing clay, which is impervious to water.
- Granular shells, which are larger and heavier, are used on the outside to support the glacial till.
- Most of the material for the dam came from local sources in the Peace Region.
- A five-kilometre-long conveyor belt delivered the glacial till to site, removing the need for hundreds of thousands of truck trips from local roads.
- In total, 15.5 million m³ of material were placed (enough to fill the Great Pyramid of Giza six times).



Site C meets the highest safety standards

The earthfill dam is designed to the Canadian Dam Association's highest recommendations. It will be maintained over the life of the project in accordance with international and Canadian safety practices to withstand a major (one in 10,000 year) earthquake.

BC Hydro manages the safety of its facilities through a comprehensive program that includes a 24/7 automated monitoring program. Thousands of instruments collect and report dam performance data.

Like all of our dams, Site C will be visually checked weekly and more extensively inspected by qualified dam safety engineers twice a year. BC Hydro submits annual reports to the Province of B.C. and commissions independent reviews of each dam every five to 10 years.