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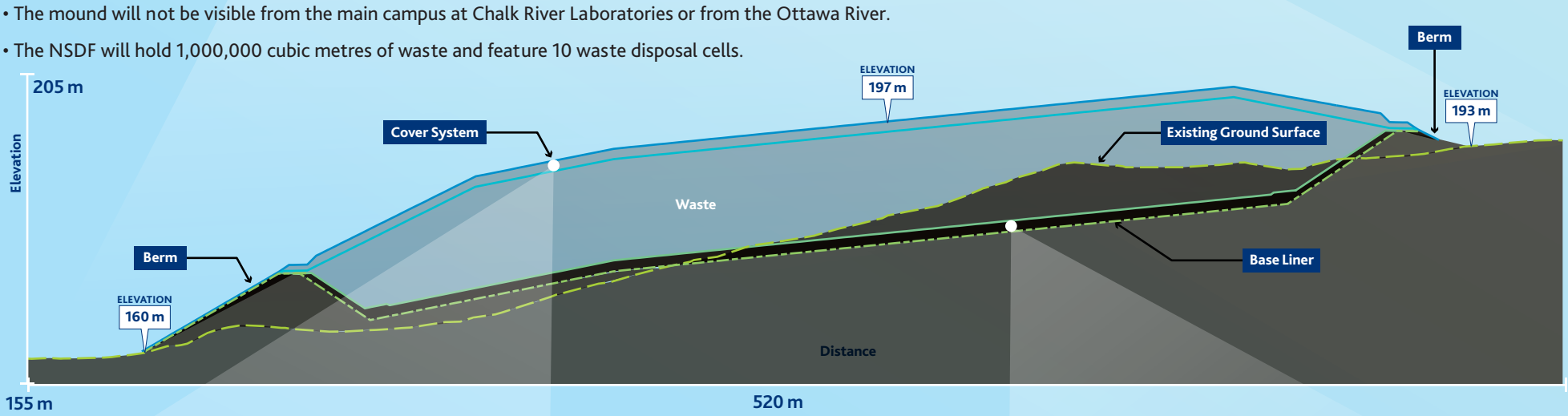
Near Surface Disposal Facility

NSDF Elevation & Location

- The NSDF will be an Engineered Containment Mound (ECM) built at the Chalk River Laboratories site to safely dispose of low level radioactive waste.
- The centre of the ECM is ~1.2km from the Ottawa River.
- The top of the ECM is ~90m above the Ottawa River and is sloped towards Perch Lake.

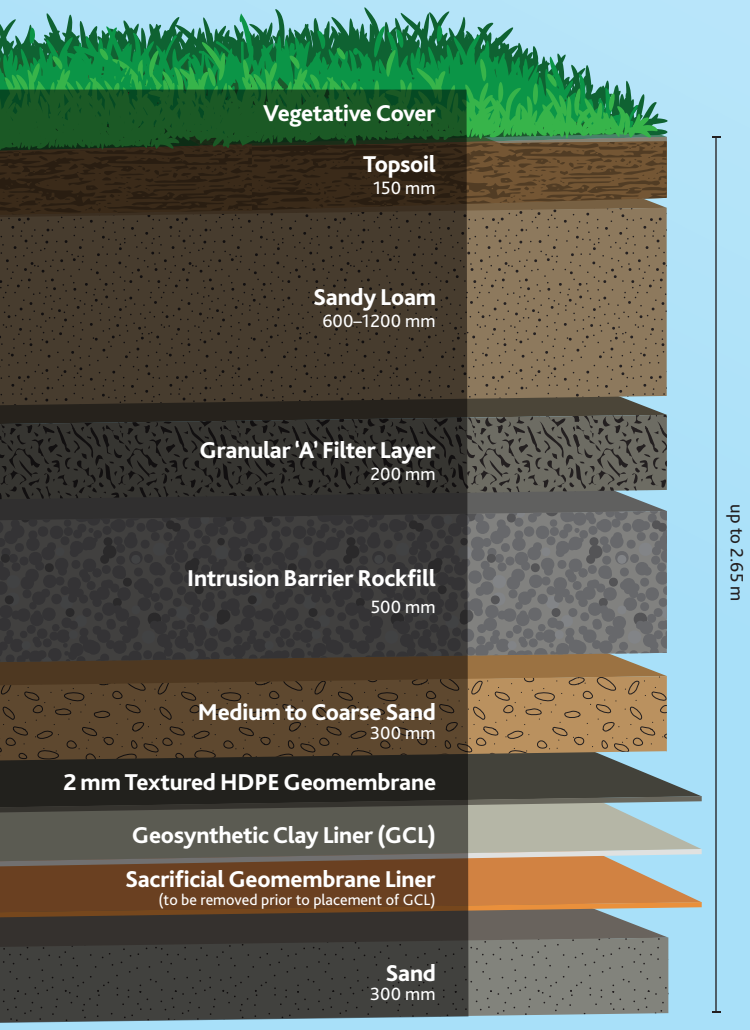
Engineered Containment Mound

- The ECM will resemble a grassy outcrop built into an existing hillside and will occupy a 16-hectare footprint on the 4,000 hectare Chalk River Laboratories site.
- The mound will not be visible from the main campus at Chalk River Laboratories or from the Ottawa River.
- The NSDF will hold 1,000,000 cubic metres of waste and feature 10 waste disposal cells.



Cover and base liner systems

COVER SYSTEM CROSS SECTION



DEFENCE IN DEPTH

There will be multiple engineered barriers to enhance the safety & reliability of the NSDF.

- A complex cover system to protect against erosion, provide drainage and prevent intrusion of plant roots and burrowing animals.
- A double composite base liner system with primary & secondary liners that will fully encapsulate the waste and restrict the movement of water, precluding the release of contaminants to the environment.
- A leachate collection system to collect and convey leachate generated in the ECM to the Waste Water Treatment Plant.
- A leak detection system to ensure the primary composite liner is functioning as designed.
- Performance monitoring systems to confirm the integrity and effectiveness of the wastewater treatment process and to enable repairs.
- Environmental monitoring systems (ground, surface, water, air) to verify compliance for at least 100 years following the end of operation.

BASE LINER SYSTEM CROSS SECTION