

# How we construct a crude oil tank terminal

Crude oil tank terminals are a critical component of the Enbridge energy transportation system. These facilities temporarily store crude oil products as they are moved through our pipelines to be delivered to refineries and serve our consumers. These facilities also provide product quality and safety control checkpoints along our pipeline network.

In addition to storage tanks, Enbridge terminals may also include infrastructure that routes the different types of oil we transport between tanks and pipelines.



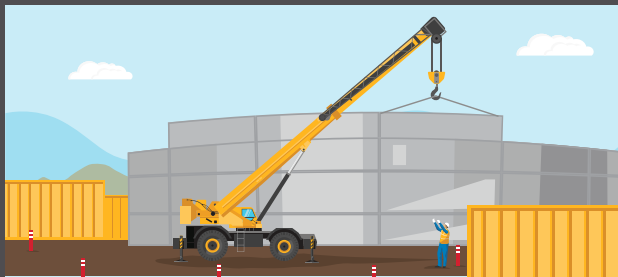
## 1 Surveying

Boundaries and elevations are determined by surveying. Soil conditions are carefully analyzed and the site is contoured to achieve proper drainage and required elevations.



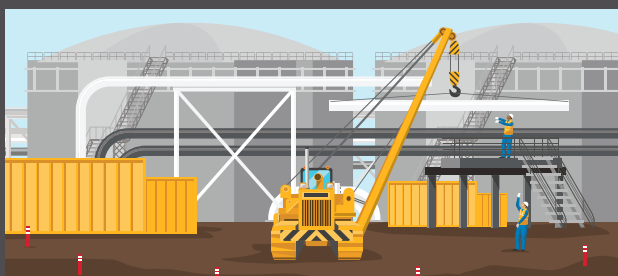
## 2 Tankage foundation

Soil excavation and backfilling techniques are used to provide a solid tank foundation. The foundation design is dependent on geotechnical and engineering studies.



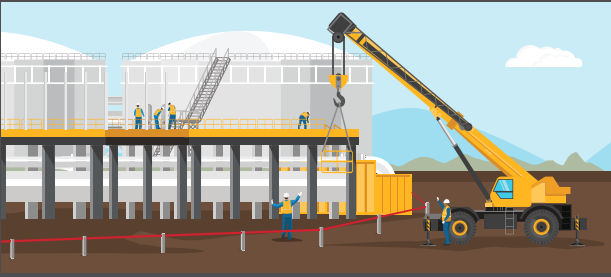
## 3 Oil tanks

Heavy-metal sheets are welded together to form the tank bottom, walls and roof. Tanks are pressure-tested before coating is applied to the interior and paint to the exterior.



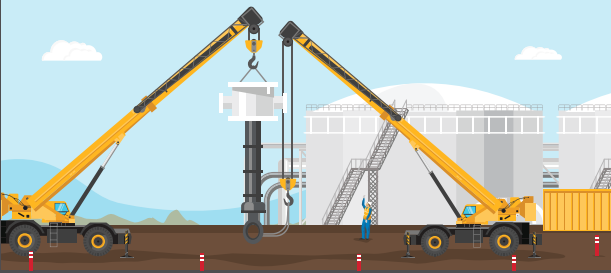
## 4 Piping

High-grade steel pipes are fabricated and coated offsite. Pipes are then placed either above or underground and welded together. All welding is fully inspected before the piping is pressure-tested.



## 5 Steel platforms

Platforms made of high-quality structural steel are often fabricated and coated offsite, and mainly used to allow access to mechanical and instrumentation equipment such as pumps and valves.



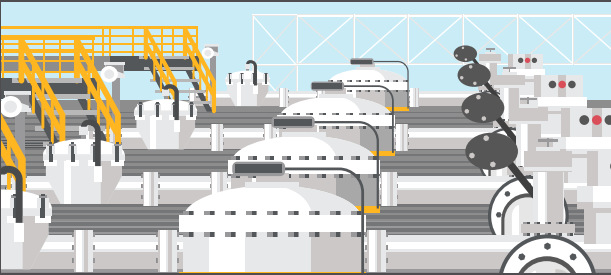
## 6 Booster pumps

Booster pumps are used to transfer oil from tankage within the terminal to the mainline pipeline system.



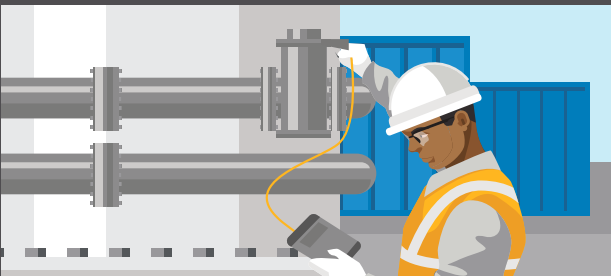
## 7 Valves

Valves are intricate pieces of mechanical equipment used to control the flow of oil products through the pipeline. They can be either manually or automatically operated.



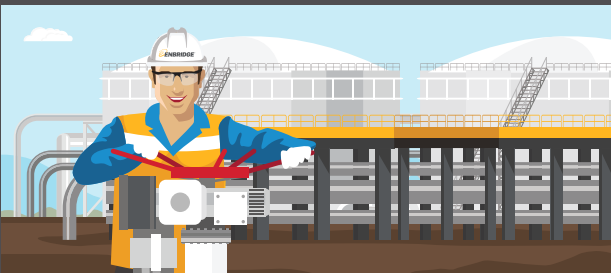
## 8 Metering

Metering is an instrument used for automatically measuring the amount of oil products flowing through the pipelines.



## 9 Leak detection

All storage terminals are equipped with a dedicated leak-detection instrumentation system used to monitor the operation and safety of oil tanks and pipelines. In the event a leak is detected, the system will automatically shut down the flow of oil using automated valves.



## 10 Commissioning and startup

The terminal is fully inspected and all quality audits are completed, making it ready for safe operation. Enbridge engineers, builds, operates, and maintains its oil storage facilities to meet – or exceed – all federal, provincial and state regulations.