

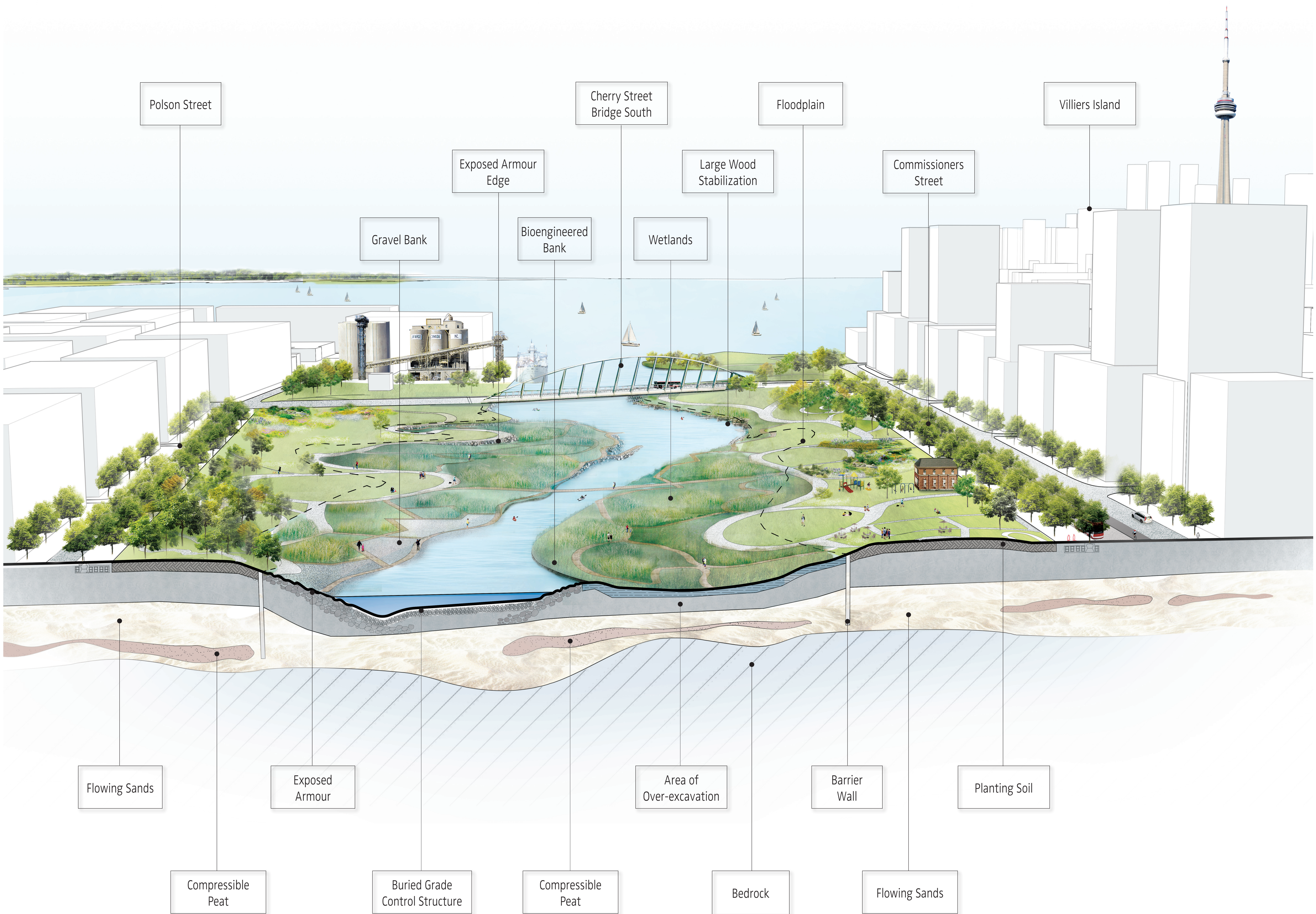
HOW DO WE BUILD IT?

The project's innovative solution to flood protection is more than pure engineering. The approach couples the fundamentals of flood protection with the creation of a river mouth that will promote biodiversity and serve as the centre around which sustainable new neighbourhoods can emerge.

Although international precedent exists – mostly in the Netherlands – there are few, if any, projects of a similar nature that have been completed in Canada. The characteristics of the area are challenging because the entire site is a brownfield, consisting of reclaimed land built over a marsh, surrounded by water and connected to the lake. The presence of flowing sand and compressible peat below ground adds even more complexity to excavation and construction because of the tendency for exposed soils on the river bank to erode during excavation and compress throughout construction.

Key elements to creating the new river valley include:

- Excavating beyond the planned extent of the river and floodplain to compensate for predicted erosion and then stabilizing the shoreline with armouring and barrier walls;
- Armouring strategies – such as exposed and buried armour stone, gravel banks, rocky harbour edges, bioengineered banks and large wood stabilization will protect the shoreline from erosion;
- Creating a green spillway and naturalized open spaces along the river's edge that will support biodiversity, safely convey flood water, and serve as passive recreation areas; and
- Raising grades along the new river edge, green spillway and the Keating Channel.



Sample Cross-section of Bank Stabilization Methods

