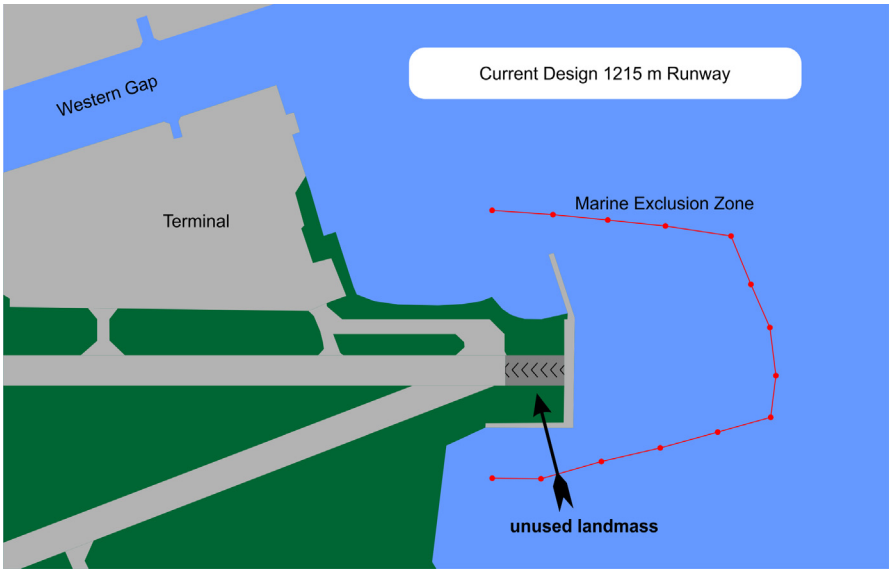
Toronto Boaters' Alliance

Meeting Runway End Safety Area (RESA) Requirements at BBTCA

Transport Canada will, in the foreseeable future, require airports like BBTCA to implement Runway End Safety Areas (RESAs) of 150 metres in length at both ends of runways. BBTCA currently lacks RESAs. The RESA requirement can be met in a variety of ways.

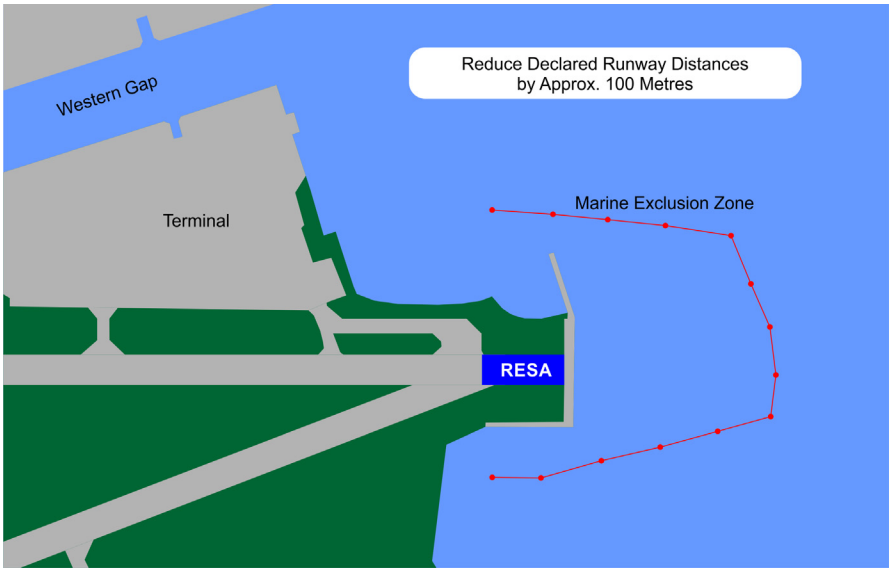
The best RESA implementation, assuming a "no jets" scenario, involves taxiway redesign on the existing landmass, providing a cost effective solution that complies with the Tripartite Agreement governing airport operations.

NOTE: this document is available for electronic use at http://bbtcafacts.weebly.com/documents



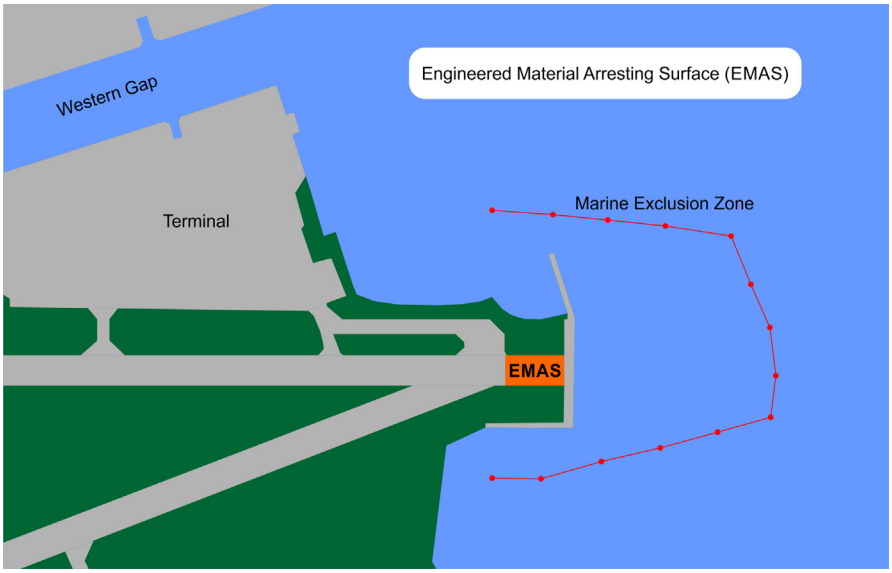
Current Airport Design

- no RESAs
- approximately 90 metres of unused landmass at each runway end
- will not meet RESA requirements of future Transport Canada regulation TP312 5th edition



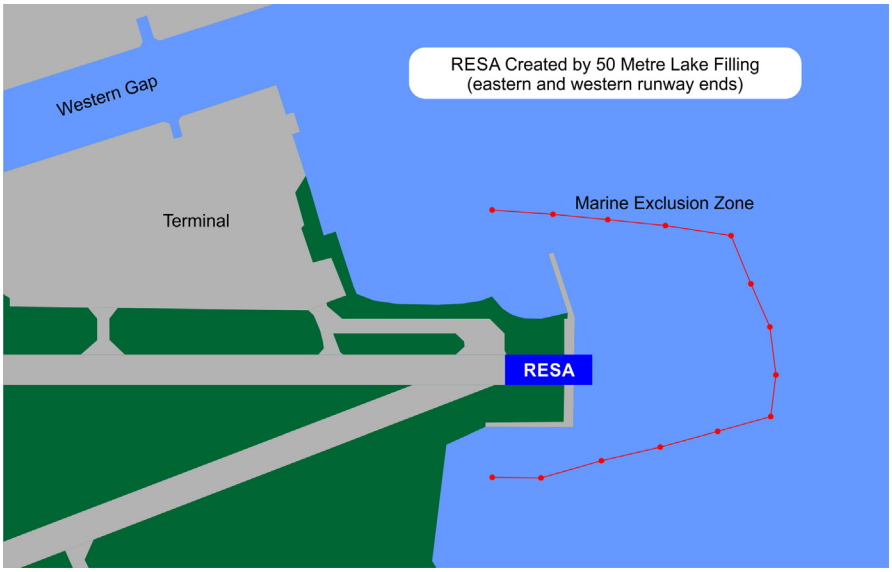
Reduce Declared Runway Distances

- RESAs built on existing landmass
- required additional landmass obtained by shortening existing runways
- cost effective
- no lake filling required
- compliant with Tripartite Agreement



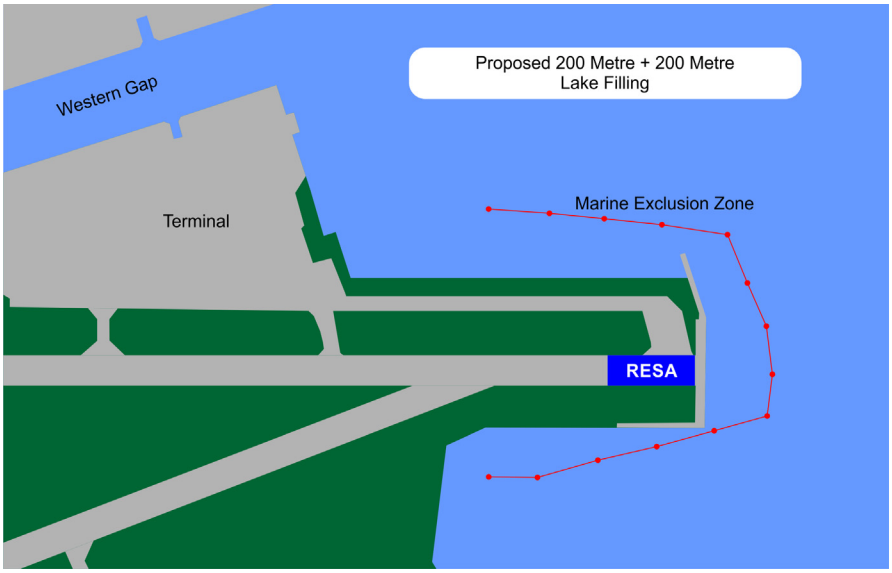
Engineered Material Arresting Surface (EMAS)

- EMASes are crushable concrete that quickly stops aircraft overrunning a runway
- EMASes are being discounted as too expensive but have not been costed
- no lake filling required
- Transport Canada approval unknown
- precise effect on runway length unknown
- compliant with Tripartite Agreement



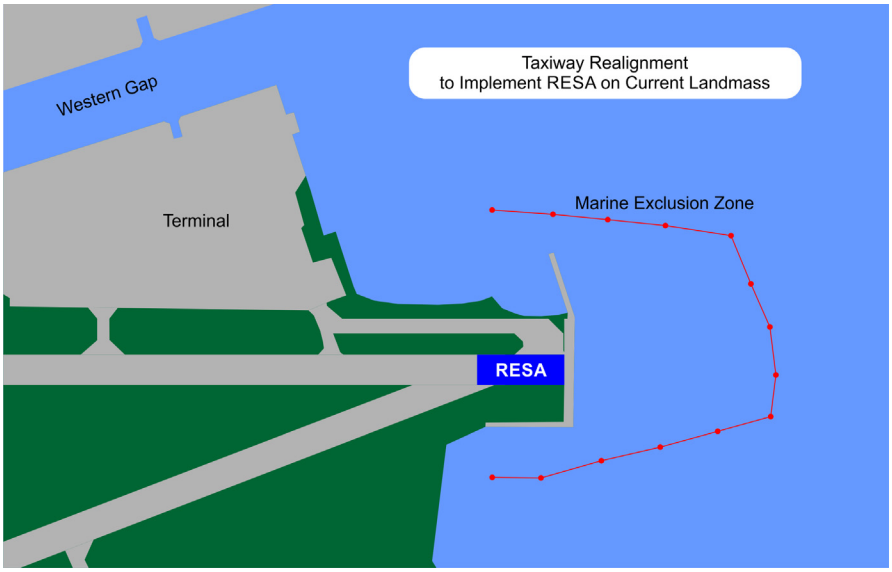
RESAs Implemented by Lake Filling

- RESAs built partially on existing landmass and partially on lake filled land
- incorrectly described as the only way to meet RESA requirements in a “no jets” scenario
- runway length unchanged from current airport
- lake filling required (precise amount and cost unknown)
- **NOT compliant** with Tripartite Agreement



RESAs Created as Part of Jets and Runway Expansion

- RESAs entirely built on lake fill
- taxiways extend to RESA ends for maximal runway length
- extensive lake filling required
- parallel taxiway would need lake filling to the north in Inner Harbour to meet Code 3 runway/taxiway separation requirements
- jet blast barriers required
- runways substantially lengthened
- Marine Exclusion Zone growth required (not shown)
- **NOT compliant** with Tripartite Agreement



RESA Implementation through Taxiway Realignment

- RESAs built on existing landmass
- taxiways extend to RESA ends for maximal runway length
- runways slightly lengthened
- no lake filling required
- compliant with Tripartite Agreement

THIS IS ALMOST CERTAINLY THE BEST OPTION FOR RESA IMPLEMENTATION

Conclusion and Recommendations

The coming Transport Canada RESA requirement at BBTCA can be met without lake filling, in three ways.

- **Reducing Declared Runway Distances:** should be assessed as to cost and operational effect.
- **Implementing EMASes:** should be assessed as to technical feasibility, cost, and operational effect.
- **Taxiway Redesign:** is the best option, as it almost certainly provides the most cost effective RESA implementation (other than Reducing Declared Runway Distances) without compromising runway length, and without requiring amendment of the Tripartite Agreement. Its technical feasibility matches that of the design already offered in the “200m+200m expanded runways” design.

Lake Filling to Implement RESAs should be discarded as an option on the grounds of costs of lake filling and Tripartite Agreement non-compliance.

The emphasis currently given by PortsToronto to **Lake Filling to Implement RESAs** suggests that RESA implementation options are either 1) not fully thought out, or 2) are presenting lake filling as a fait accompli to reduce opposition to the full lake filling proposal advanced by Porter Airlines.