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Runway

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# Proposed Runway 08/26 – Introduction

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- ✓ A 168 m extension into the water is required at each end of the runway
- ✓ The runway will stay within the existing marine exclusion zone, a zone marked by buoys in Lake Ontario that restricts boat traffic. The extended runway will not impact marine use.
- ✓ Extension will include a 150 m Runway End Safety Area, an airport safety initiative currently being evaluated by Transport Canada
- ✓ Other runways are not and will not be used for commercial scheduled flights



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# TP-312 Airport Planning Consultant

## Study Completed

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- ✓ External consultant validated the runway requirements related to the design of a runway 08/26 extension in accordance with Transport Canada Aerodrome Standards and Recommended Practices TP 312 including:
  - ✓ Notice of Proposed Amendment for Runway End Safety Area (RESA)
  - ✓ Constraints of different runway configurations
  - ✓ Registered zoning criteria
  - ✓ Airport classification
  - ✓ Impacts on Marine Exclusion Zone (MEZ), including Obstacle Limitation Surfaces (OLS)
  
- ✓ Analysis results:
  - ✓ An extension of Runway 08-26 by 168m into the water at each end should be achievable within existing airport standards, recommended practices, established approvals and precedents
  - ✓ Approach surfaces associated with Runways 08 and 26 will increase in length and divergence based on a Code 3 designation
  - ✓ It is not expected that the approach surface slopes will change based on a current exemption to protect the integrity of the MEZ
  - ✓ The existing Marine Exclusion Zone will not need to be expanded beyond current limits

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# No Change to MEZ

## Full Airport Accessibility Maintained

- ✓ Obstacle Limitation Surfaces (OLS) protect the runway ends from obstacles that might otherwise interfere with aircraft on approach and departure
  - ✓ Approach and departure path angles sit on top of the OLS
- ✓ Take-off/ Approach surfaces are delineated from the inner edge of the OLS starting at the end of the runway strip
- ✓ So as not to impact the existing OLS exemption slope no changes are being made to the existing runway strip, including the location of the inner-edge
- ✓ The MEZ does not need to be relocated for two reasons
  - ✓ While the runway is being extended into water by 550' , the landing threshold would be relocated by only 200' from its current location to the inner edge of the existing OLS
  - ✓ The slope of both the instrument approaches (glidepath angle), as well as the slope of the visual approach aids, will be adjusted accordingly to provide obstacle clearance
- ✓ None of the proposed changes will impact existing users, including general aviation, thus maintaining full accessibility

- ✓ Assumption for 150m RESA
  - ✓ Transport Canada issued a Notice of Proposed Amendment to CAR Part III Subpart 2 which references TP312 “Aerodrome Standards and Recommended Practices”
  - ✓ The intent of the NPA is to harmonize RESA with ICAO standards (Annex 14 Vol 1) and to fulfill the TSB recommendation for implementing RESA
  - ✓ The NPA states under CAR 302.557 that the RESA shall be **150m on runways that are 1,200m or greater (i.e. CYTZ)**
  - ✓ TC’s most recent response to the TSB RESA recommendation (A07-06) was issued on December 4/12 and stated that TC would undertake a risk assessment in FY2013/14 to determine applicability requirements for RESA
  - ✓ The objective of the assessment is to determine how long and where the RESA requirements will be

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# TP-308 Approach Design Consultant

## Study Completed

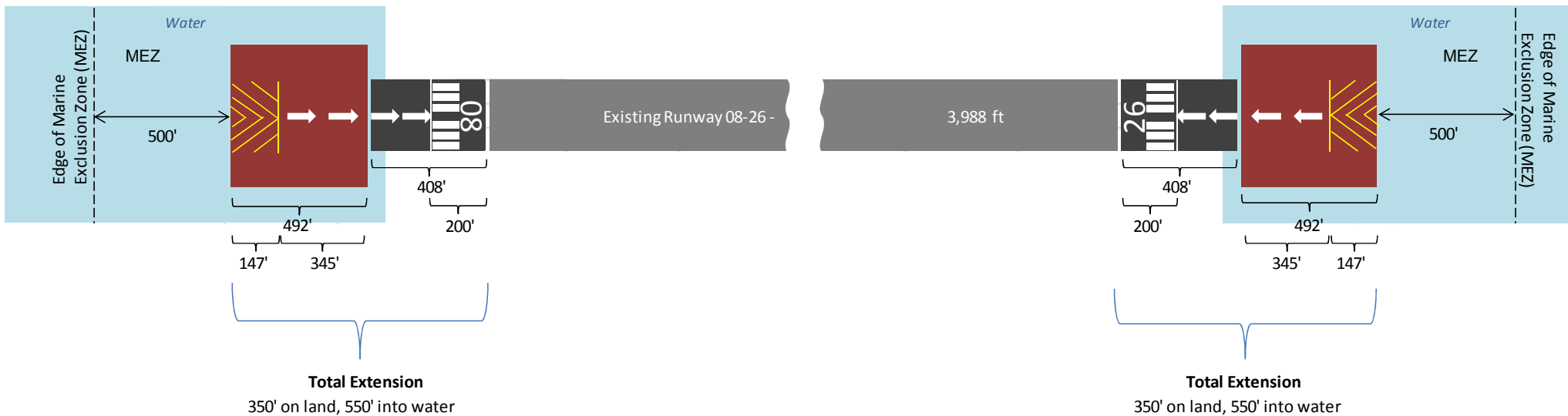
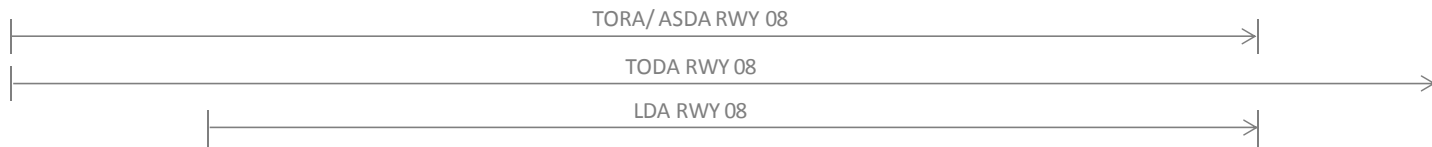
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- ✓ External consultant validated the airport and aircraft requirements related to the design of a runway 08/26 extension in accordance with Transport Canada Criteria for the Development of Instrument Procedures TP 308, and ensure CS100 compliance including:
  - ✓ Departure and Approach obstacle analysis given aircraft speed category per requirements of Obstacle Clearance Surfaces (OCS)
  - ✓ Departure path/profile and approach design
  - ✓ Missed approach analysis
  
- ✓ Analysis results:
  - ✓ ILS localizer and glideslope antenna will require re-siting (both, at each end)
  - ✓ Departure Rwy 08 will require an RNAV departure procedure
  - ✓ Departure Rwy 26 is unaffected
  - ✓ ILS Runway 08 requires glideslope to be raised from 3.5 degrees to 3.9 degrees
  - ✓ ILS Runway 26 glideslope remains unchanged
  - ✓ RNAV C approach procedure will require minor alterations to current waypoint positions in order to preserve maximum 15 degree offset from runway centreline
  - ✓ All approaches will be capable of accommodating C Series (Cat C speed-) aircraft
  - ✓ All approach minima remain unchanged

# Proposed Runway 08/26 Extension

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TORA	Clearway	TODA	ASDA	LDA	RESA
5149'	492'	5641'	5149'	4596'	492'



Existing Runway  
Pre-RESA extension  
RESA (Runway End Safety Area)

Note: All distances in feet per North American aviation standards. For illustrative purposes only. Graphic not to scale.



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Thank you  
Merci

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