West Runway Rehabilitation Project

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Calgary Airports

SWIFT
NIAGARA FALLS SEPT 22–25 2025

Introduction

YYC Calgary Airport | Aéroport de Calgary

IMPORTANCE OF THIS WORK

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OPERATE SAFELY

The rehabilitation is essential for ensuring a safe, secure and efficient airport environment – ensuring YYC can safely operate while meeting the demands of passenger and cargo traffic over the next 40 years.

GROW CALGARY'S ECONOMY

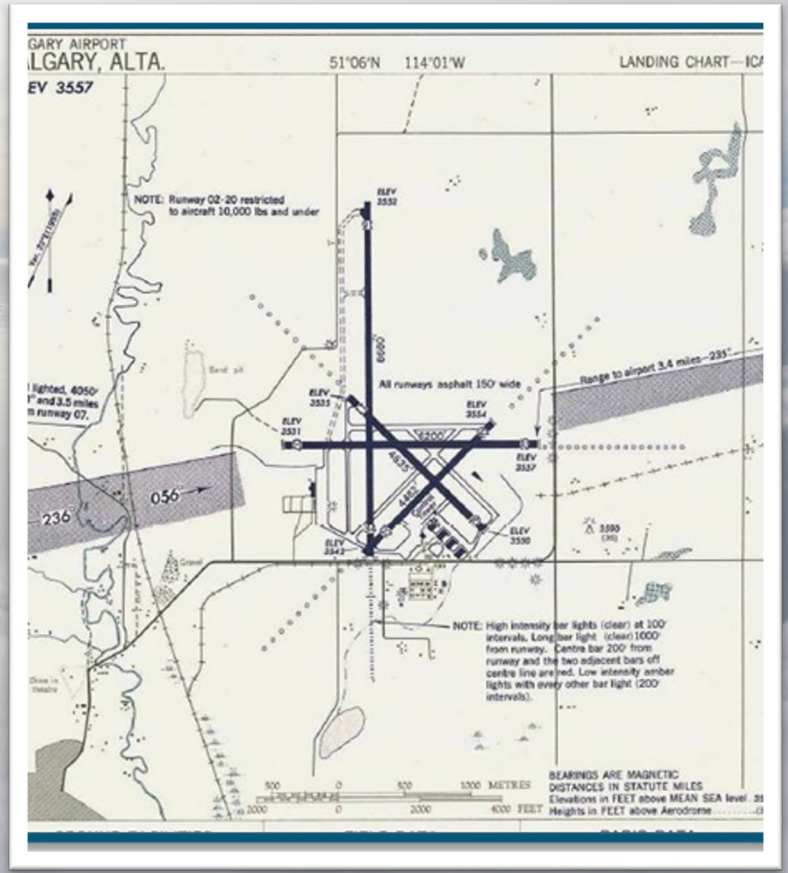
Ensure we have the capacity to continue to attract various commercial partners through YYC, as one of Canada's biggest travel and cargo hubs. This enables foreign direct investment, trade, tourism and critical goods movement.
This work is also anticipated to create approximately 300 jobs.

ENHANCE SUSTAINABLE PRACTICES

Demonstrate environmentally friendly and sustainable practices that ultimately minimize the impact on this land, any wildlife and the environment. The project will use crushed concrete from the old pavement removal and recycle milled asphalt to be reused for this and future projects.

Why was it needed?

- Runway 17R-35L was constructed in phases between 1939 and 1963.
- In recent years, YYC Infrastructure has completed structural assessments and testing to confirm that the subsurface structure is at risk of failure.
- A full depth removal and replacement of the structural and electrical components was required.



Drawing from 1957

Key Benefits and Risks

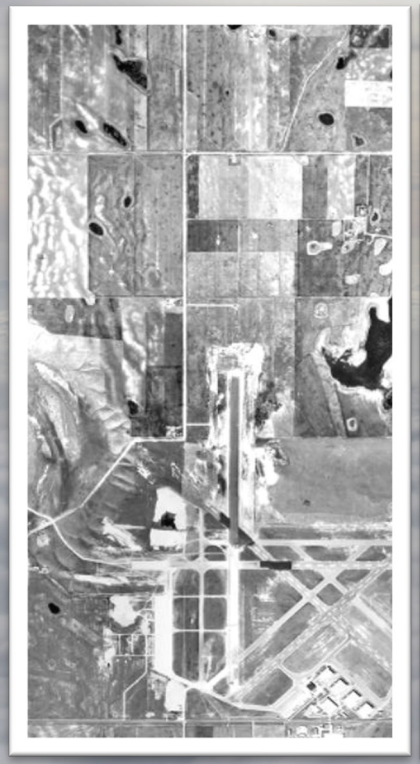
Benefits of Project

- A new CAT II Runway
- To support capacity and future growth for YYC and their strategic partners

Risks if Not Completed

- Structural or Electrical failure
- Costly Emergency Repairs
- Runway Capacity Constraints

17R/35L Archive Photos



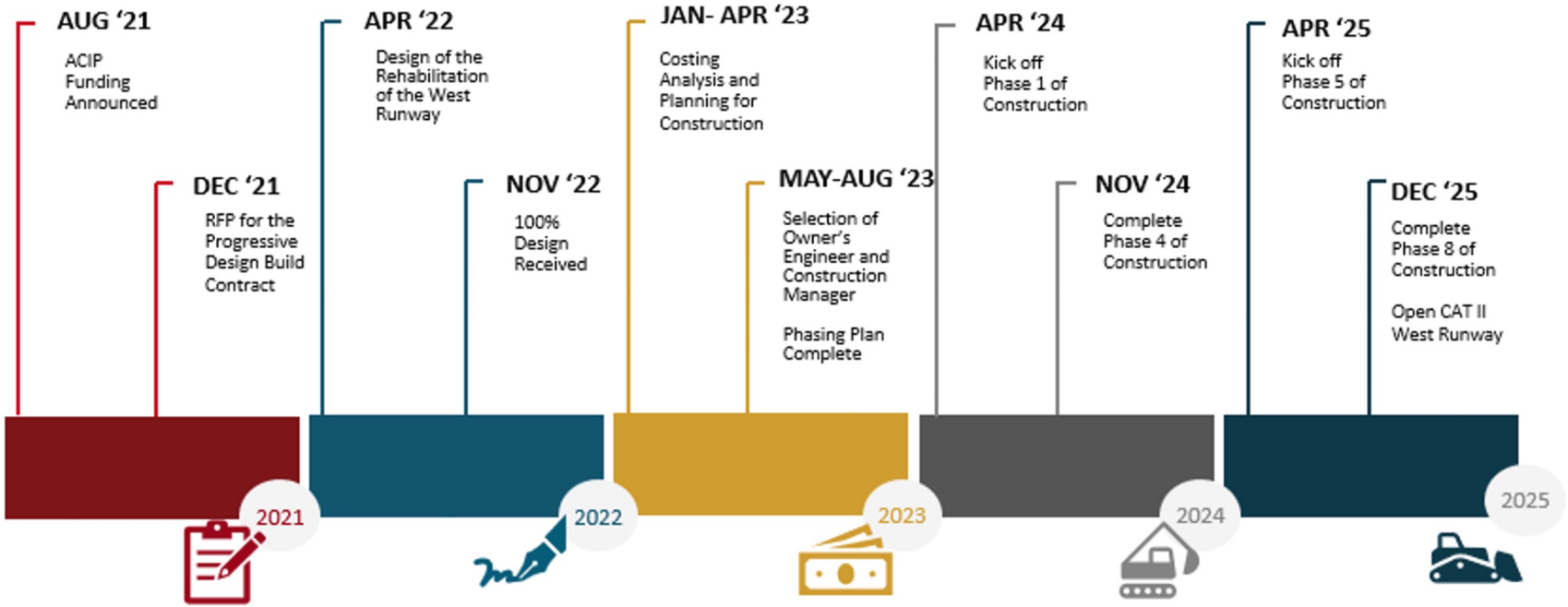
1948

1957

1979

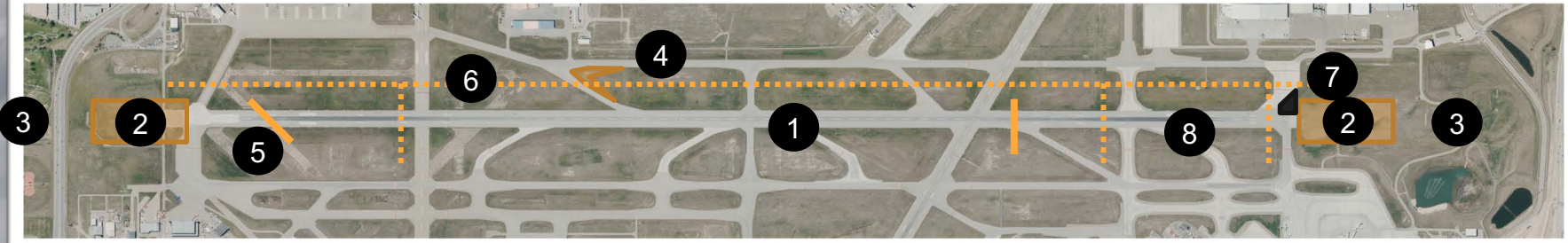
2022

Project Timeline



Project Scope

	Scope Item	Benefit
1	60m Wide Asphalt Runway with 7.5m Shoulders & Concrete Thresholds	• Rehabilitated Asset • Efficient Snow Removal
2	300m Runway End Safety Areas	• Safety • Compliance
3	Category II Approaches	• Reduced Visibility Operations • Redundancy
4	Taxiway A3 Widening	• Upgrade to AGN VI
5	Future Provisions for Climate Resilience	• Avoid Future Runway Excavations • Alignment with YYC Sustainability Goals
6	Spare Communications Duct Banks	• Allow for Future Technology Upgrades • Avoid Future Runway Closures
7	Taxiway A Realignment	• Realign Taxiway A Centre line to match Taxiway C Centre line
8	Inset Runway Edge Lights	• Maintenance Efficiencies



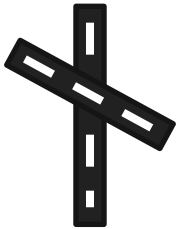
PRINCIPLES FOR PHASING PLAN

2-YEAR
construction schedule
(2024 & 2025)

2 RUNWAYS
available during all phases

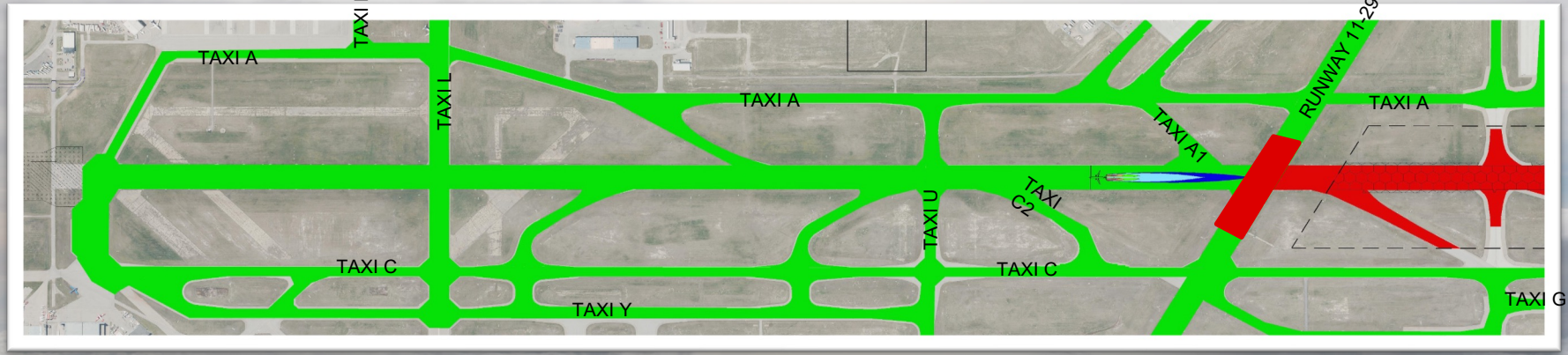
RESA

construction in 2024 for TC compliance



RUNWAY 11-29
closure in 2024

Shortened Runway Operations

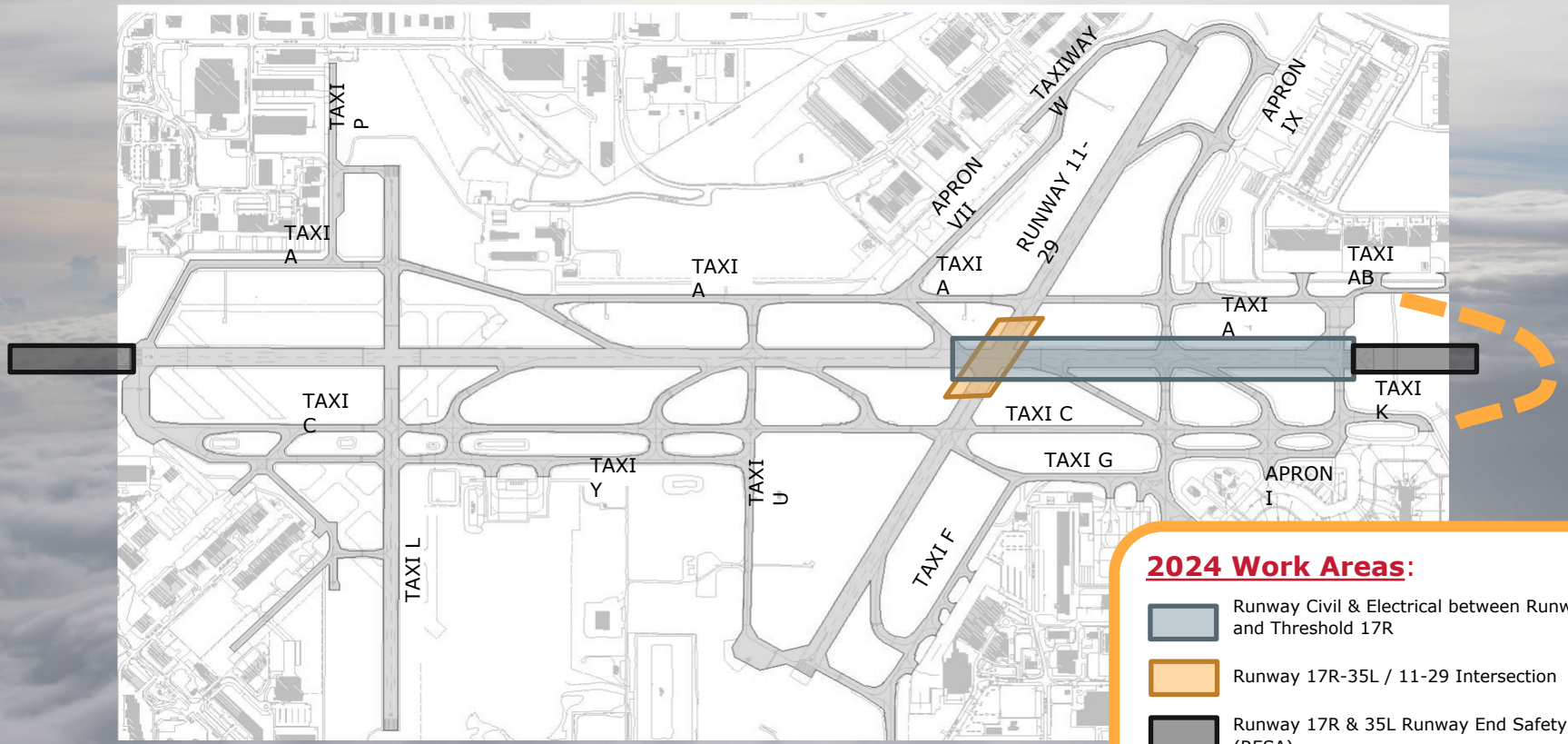


Runway Declared Distances Proposed Shortened Runway 17R-35L		
DECLARED DISTANCE	**RUNWAY 17R**	**RUNWAY 35L**
TORA	7,651’ / 2,332m	N/A
TODA	8,635’ / 2,632m	N/A
ASDA	7,651’ / 2,332m	N/A

Runway Landing Distance Available Proposed Shortened Runway 35L	
LANDING DISTANCE AVAILABLE (LDA)	**RUNWAY 35L**
TO TAXIWAY U	6,486’ / 1,977m
TO TAXIWAY C2	7,169’ / 2,185m
TO THRESHOLD (TAXI A1)	7,877’ / 2,401m

AGN Restriction REVISED	
RUNWAY 17R DEPATURE FROM THRESHOLD 17R	AGN III RESTRICTED
RUNWAY 17R DEPARTURE FROM TAXIWAY U	AGN IV RESTRICTED
RUNWAY 35L ARRIVALS	AGN IV RESTRICTED

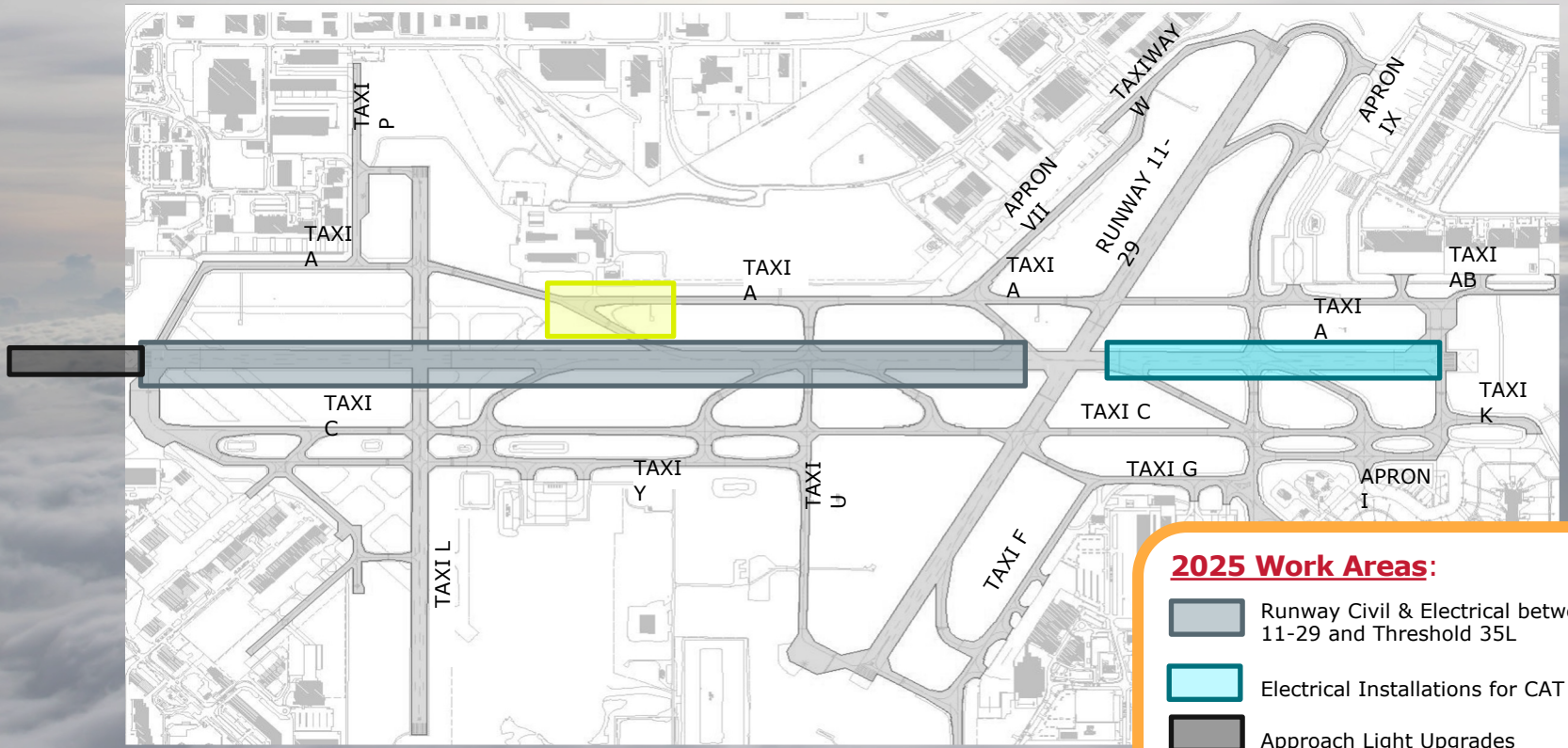
2024 Construction



2024 Work Areas:

- Runway Civil & Electrical between Runway 11-29 and Threshold 17R
- Runway 17R-35L / 11-29 Intersection
- Runway 17R & 35L Runway End Safety Areas (RESA)
- North Vehicle Service Road

2025 Construction



2025 Work Areas:

- Runway Civil & Electrical between Runway 11-29 and Threshold 35L
- Electrical Installations for CAT II
- Approach Light Upgrades
- Taxiway A3 Filet Construction

ENVISION®

Institute for Sustainable Infrastructure

- Comprehensive sustainability framework and rating system
- Sustainable, resilient, and equitable infrastructure
- Protect the environment, enhance human health and bolster economic prosperity

ENVISION™

ENVISION® and WRRP

Why?

- Corporate sustainability goals:
  - 30% emissions reduction
  - 10% water-use reduction
- Grant agreements with Transport Canada
- Crossover with the regulatory requirements
  - Impact Assessment Act → Environmental Effects Evaluation
  - Infrastructure Canada → Climate Lens Program
- Guide project decisions

ENVISION® and WRRP

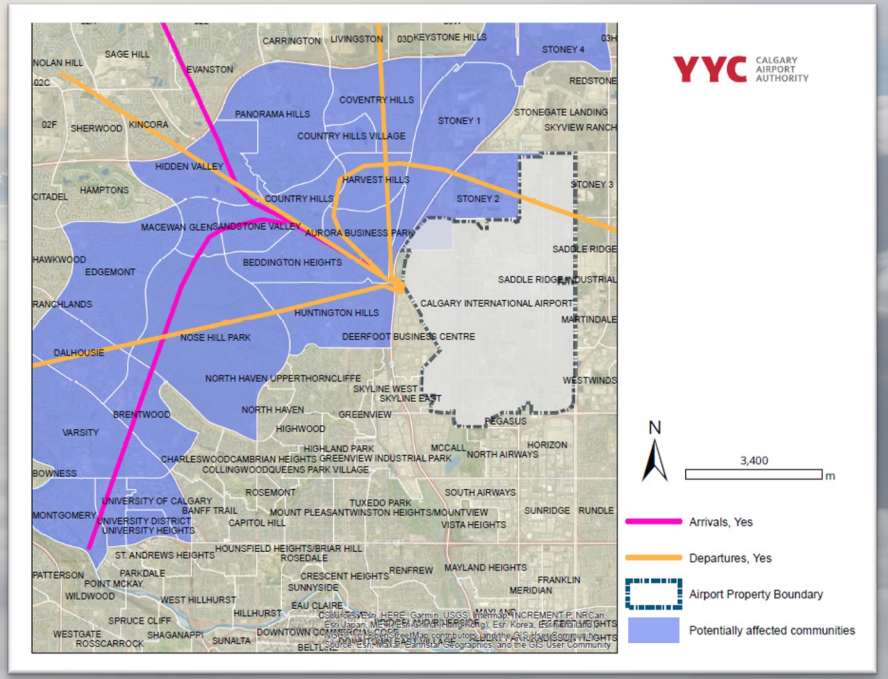
Our Target

- Goal: Platinum Certification
  - Achieving 50% of available points

- Key Tactics:
  - Reduce construction waste: working with other facilities to divert waste from landfill, potential re-use of materials at other airports
  - Balance earthworks: reuse of 80% of excavated material
  - Reducing construction energy consumption: encourage specialized equipment, anti-idling policy, sustainable transportation program
  - Climate resiliency considerations: climate lens program from Infrastructure Canada, YYC Pathway to Net-Zero
  - Community engagement: community info sessions
  - Noise monitoring: new noise monitoring terminals around the City for impacted communities
  - Standard project requirements: ECO Plan, HSE Plan, etc.

Potential Impacts to Neighbouring Communities

- Throughout this project, there will be increased use of the crosswind runway that places aircraft over parts of northwest Calgary and southeast Calgary.
- During peak construction times, those communities may experience higher volume of traffic overhead than previous summers.
- Monitoring tools will be in place to gather noise data during this time.



Potential Impacts to Neighbouring Communities

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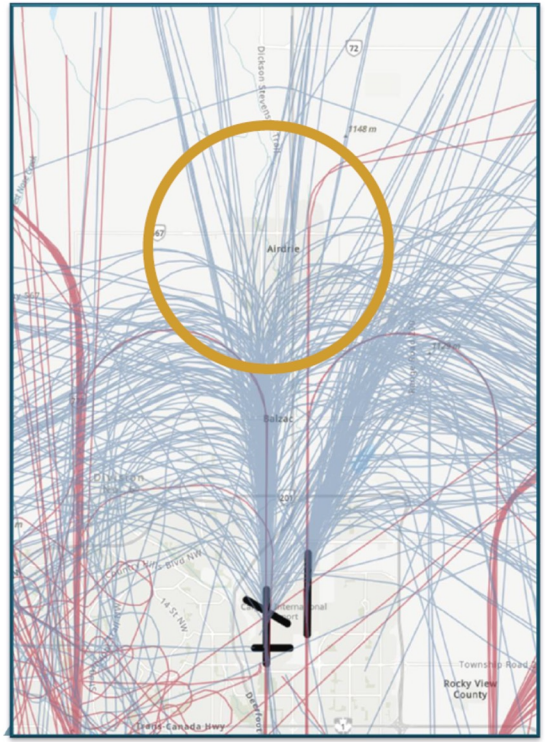
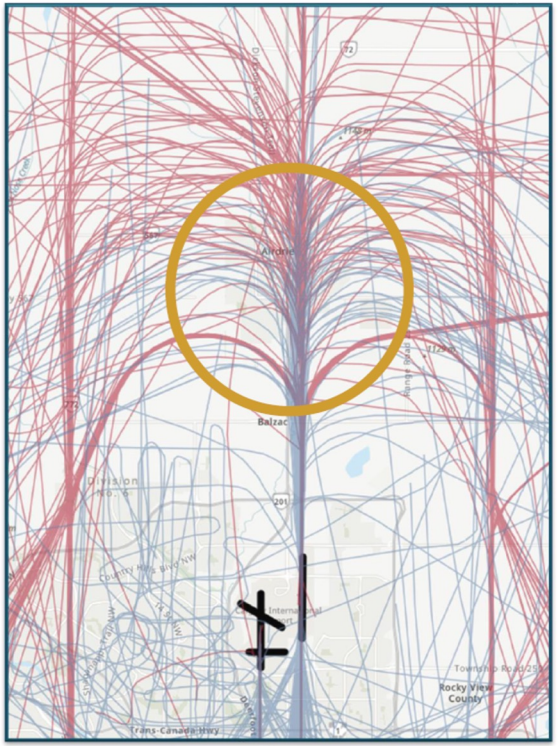
FLIGHT ACTIVITY COMPARISON



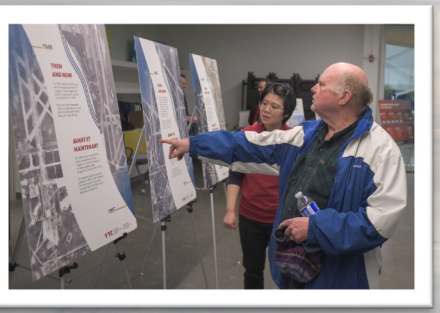
August 18, 2023

August 18, 2024



YYC CALGARY INTERNATIONAL AIRPORT

Community Engagements



5 sessions hosted at the end of February in surrounding areas:

- Over 400 attendees between the 5 sessions
- Some locations had very engaged community members who had questions about the project, while others were already at the venue
- Residents in impacted areas expressed appreciation for the information provided and did not raise concerns based on last year's construction experience
- Most are not worried about the work and acknowledged the anticipated change in noise impacts

Sustainability Initiatives

Concrete Recycling

- Existing concrete from runway (keel section, thresholds, etc.) was incorporated into the new pavement structure

- Around 31,700 m^3 was recycled on the project.

Sustainability Initiatives

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Gravel Recycling

- Gravels from existing runway were removed and processed to be incorporated into the new pavement structure

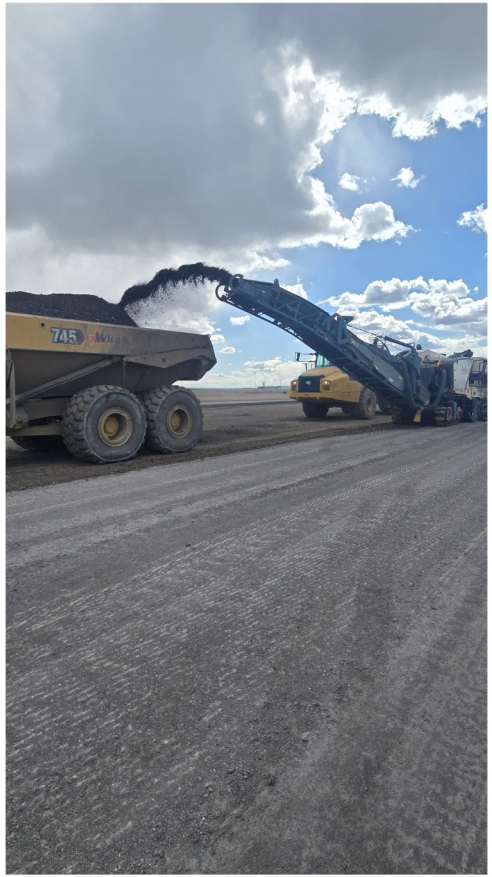
- Around 127,000 m^3 was recycled on the project.

Sustainability Initiatives

Reclaimed Asphalt Pavement (RAP)

- Typical YYC specifications were changed during design to allow for up to 20% RAP in base course.

- Around 15,145 tonnes of RAP were used in the runway paving.

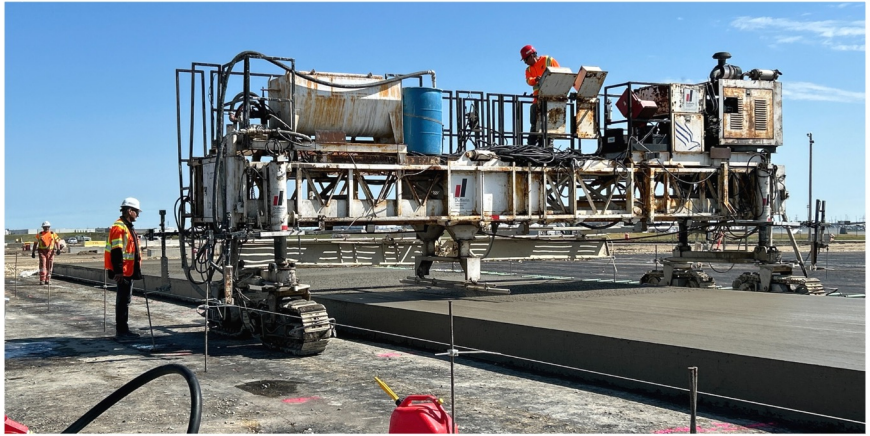


Sustainability Initiatives

Carbon Capture Concrete

- Utilizing new technology to capture carbon in the concrete mix.

- Results show that the concrete meets the performance of the traditional concrete mix while providing a sustainable option of lowering carbon emissions.



Sustainability Initiatives

Stormwater Use

- YYC completed “snow-farming” to prepare for construction season
- Stormwater was used for construction activities like dust control and compaction
- Around 1,000,000 liters were used on the project.

Conclusion

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Questions?
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Thank You!
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