

Brampton Flying Club – ERO Submission



May 1, 2020



Brampton Flying Club



- Brampton Flying Club (BFC) was established in 1946
 - At this location since 1969
 - Over 1100 members & associates
 - 200+ private aircraft based at the airport
- Brampton Flight Centre (owned by BFC)
 - One of the largest flight training schools in Canada
 - Fleet of 25 training airplanes and 2 simulators
 - Flying hours: ~22,000 hr per year
 - ~100 employees
 - Brampton Flight College Professional Pilot Diploma Program (registered under Ontario Private Career Colleges Act) and self-paced professional pilot training
 - Commercial Pilot Licence with multi-engine and Instrument rating
 - Over 115 Canadian and international students trained annually
 - At any given time, we are also training ~300 recreational students
 - Approved Maintenance Organization (including an engine rebuild shop), licensed by Transport Canada
 - Restaurant, Pilot Shop



Brampton Flying Club



- Brampton-Caledon Airport, CNC3 (owned by BFC)
 - 16th busiest airport in Canada
 - 2 runway surfaces with 4 departure and arrival flightpaths for both visual and 2 published instrument approaches
 - ~120,000 movements per year
 - Working with the Town of Caledon to turn the area around the airport into an aviation hub
 - In discussions with several aviation-related companies looking to relocate to Brampton-Caledon Airport
 - Home to Four Seasons Helicopters (helicopter charters, executive helicopter management, aerial cinematography)
 - Home to VMO Aerospace (aircraft sheet metal and composite repairs and modifications)
 - Looking to double their footprint this year
 - Home to the Great War Flying Museum
 - Home to a Recreational Aircraft Association chapter



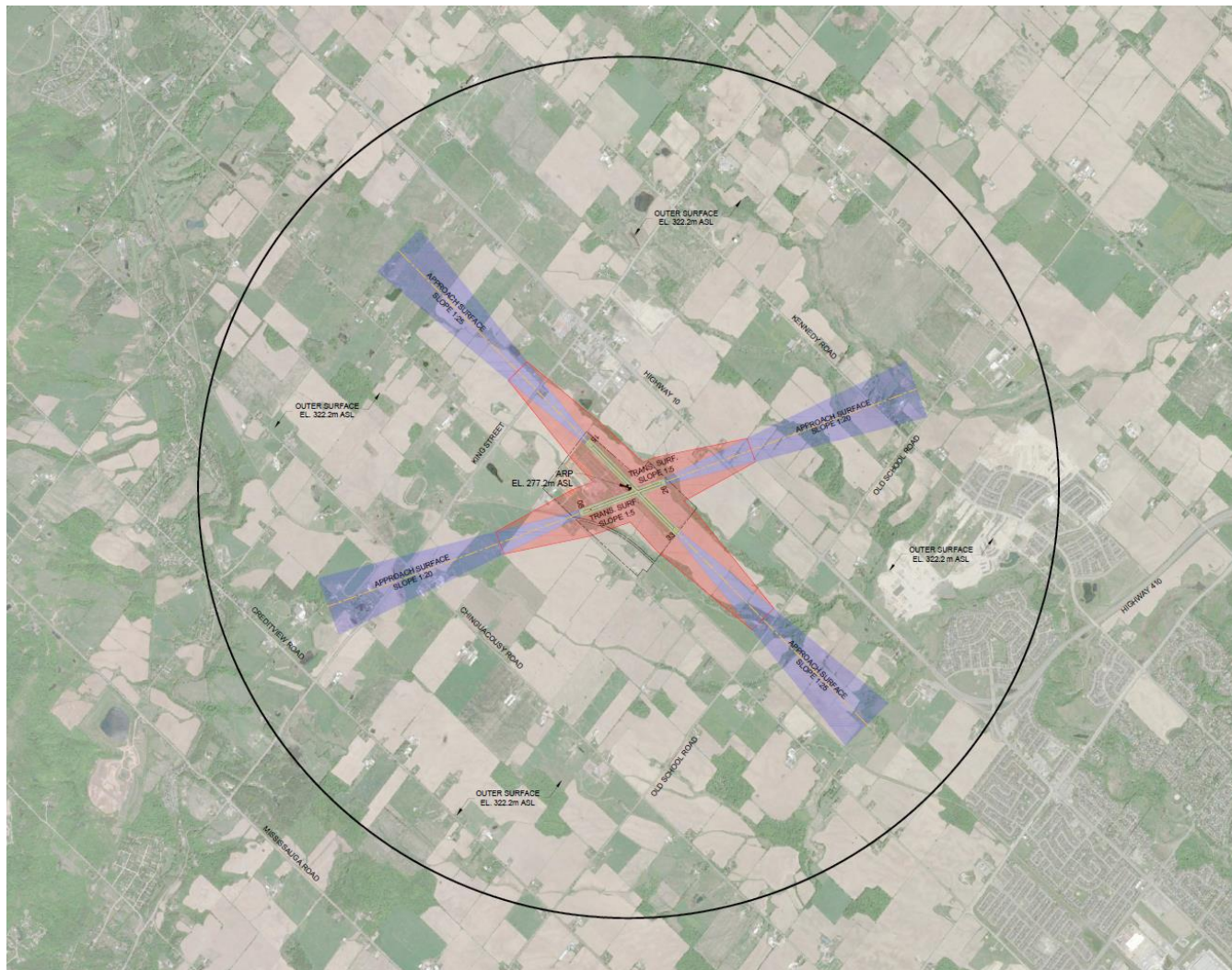
Protected Airspace



- Airspace requirements surrounding our airport are governed by Transport Canada document TP312, 5th edition, “Aerodrome Standards and Recommended Practices”
 - “Obstacle Limitation Surfaces defines the airspace around the runway to be maintained free of obstacles.”
 - Approach surfaces define the airspace that must be free of obstacles within the take-off and landing flightpaths for each runway end.
 - 1:20 approach surface for runway 08-26
 - 1:25 approach surface for runway 15-33
 - The outer obstacle identification surface is 45 m above the Aerodrome Reference Point (ARP), out to a distance of 4000 m from the ARP.
 - CNC3 ARP is 277.2 m ASL
 - Outer surface is at 322.2 m ASL

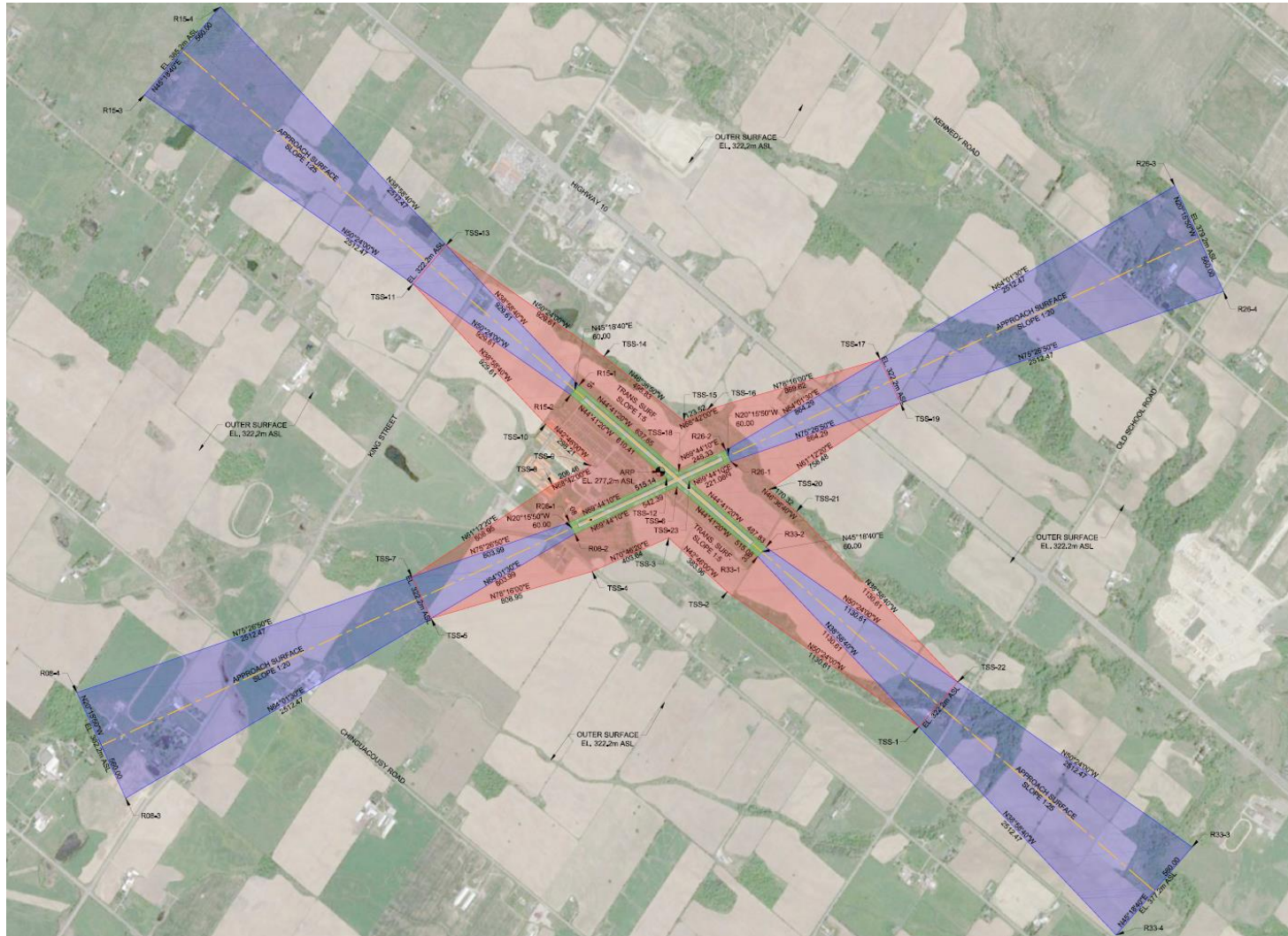


CNC3 Protected Airspace





CNC3 Protected Airspace (cont'd)

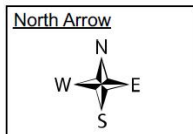
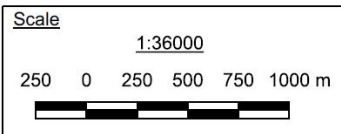
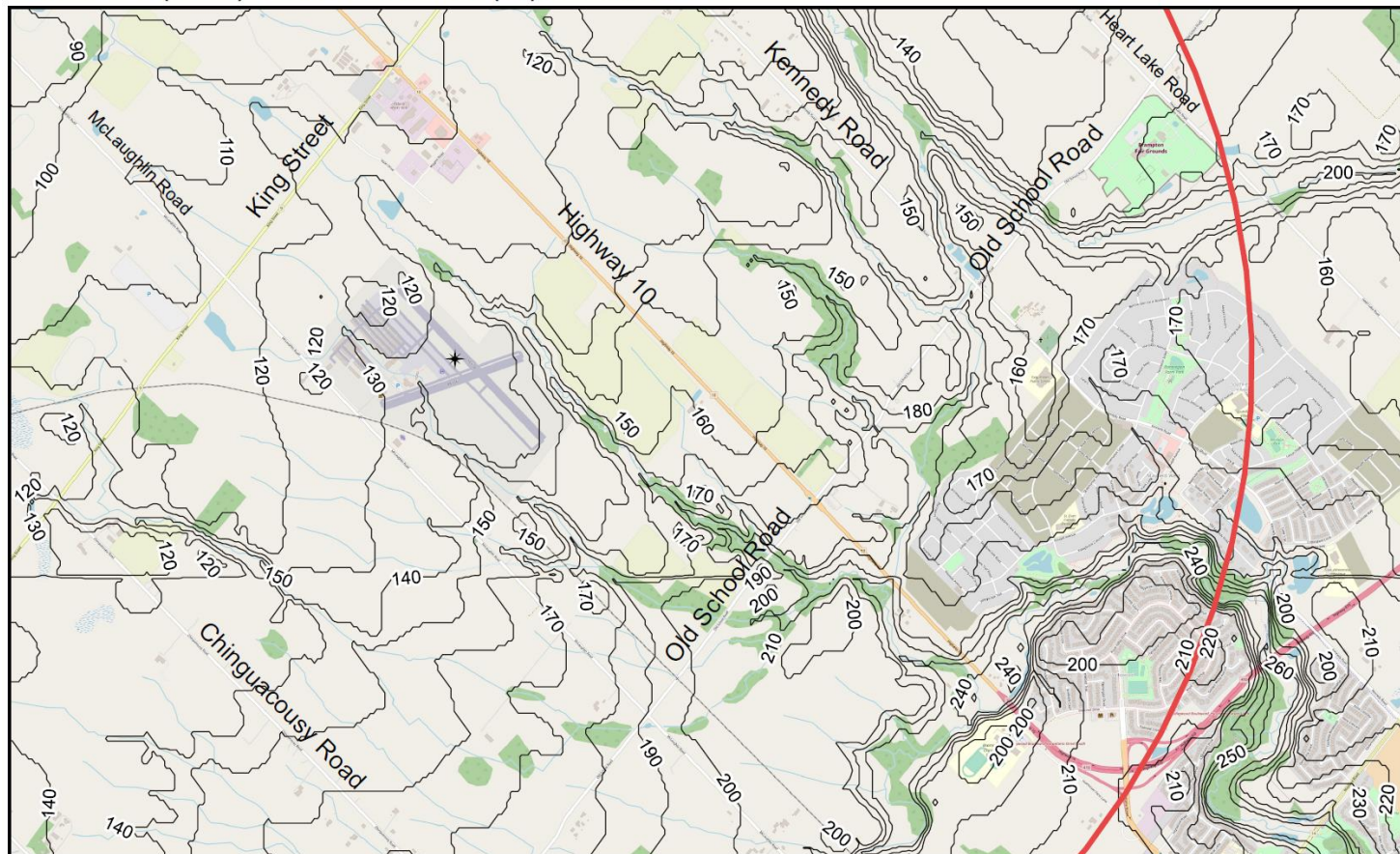




Contour Data

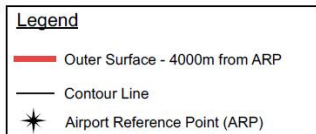


BRAMPTON (CNC3) AREA ELEVATIONS (FT) BELOW 322.2m



Notes:

1. All elevations in feet below 322.2m ASL
2. Base map from OpenStreetMap
3. Contour data from Government of Canada Geospatial Data Extraction DEM at a resolution of 0.75 arc seconds (2017)
4. Coordinate data in NAD83 Z17

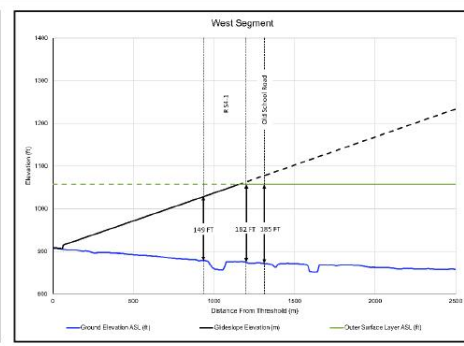
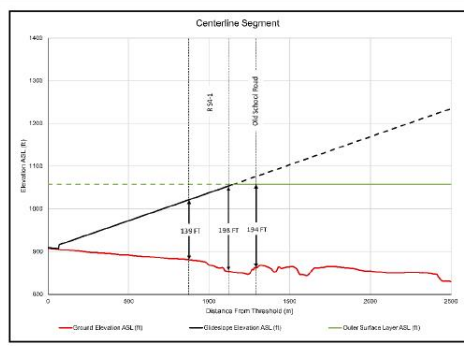
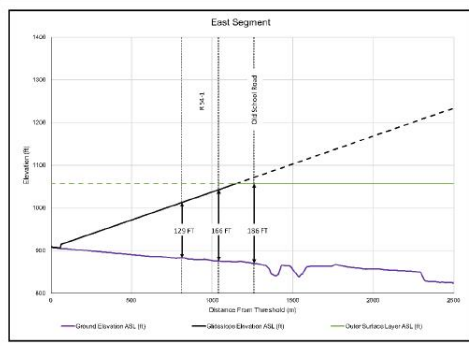
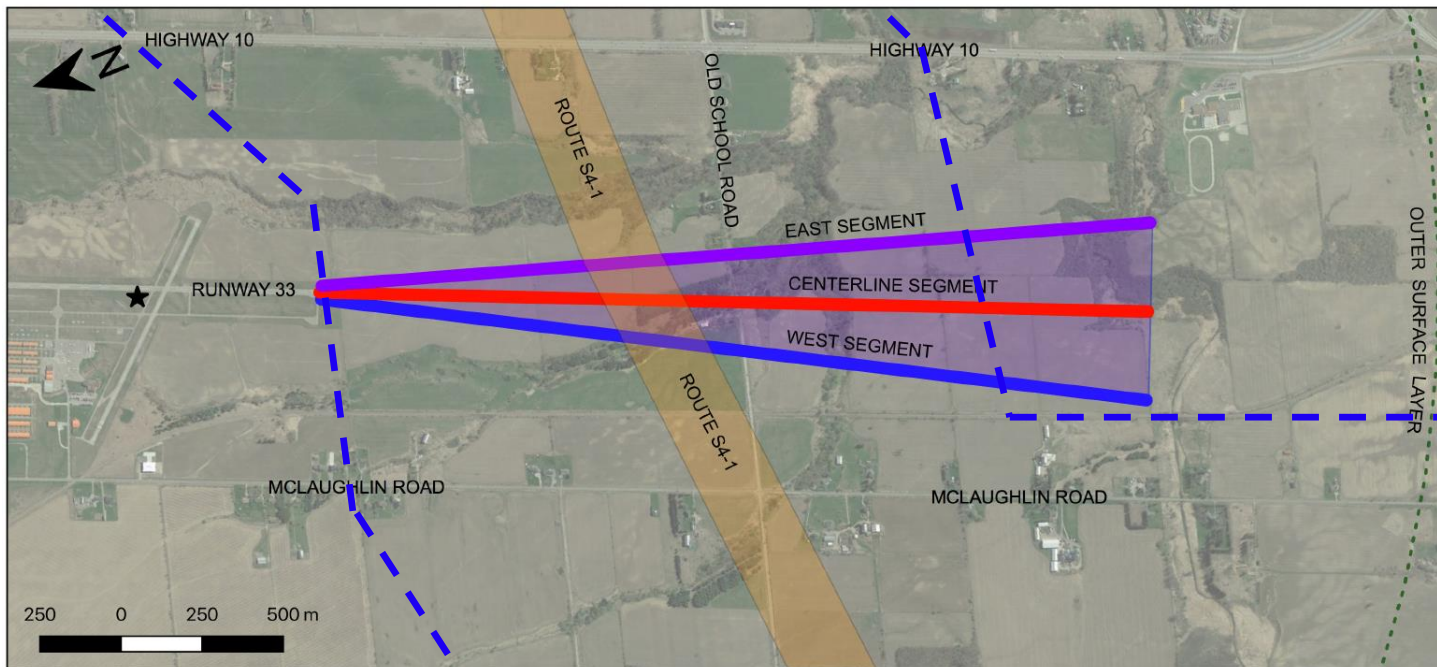




Runway 33 Approach



BRAMPTON (CNC3) RUNWAY 33 GLIDESLOPE AREA

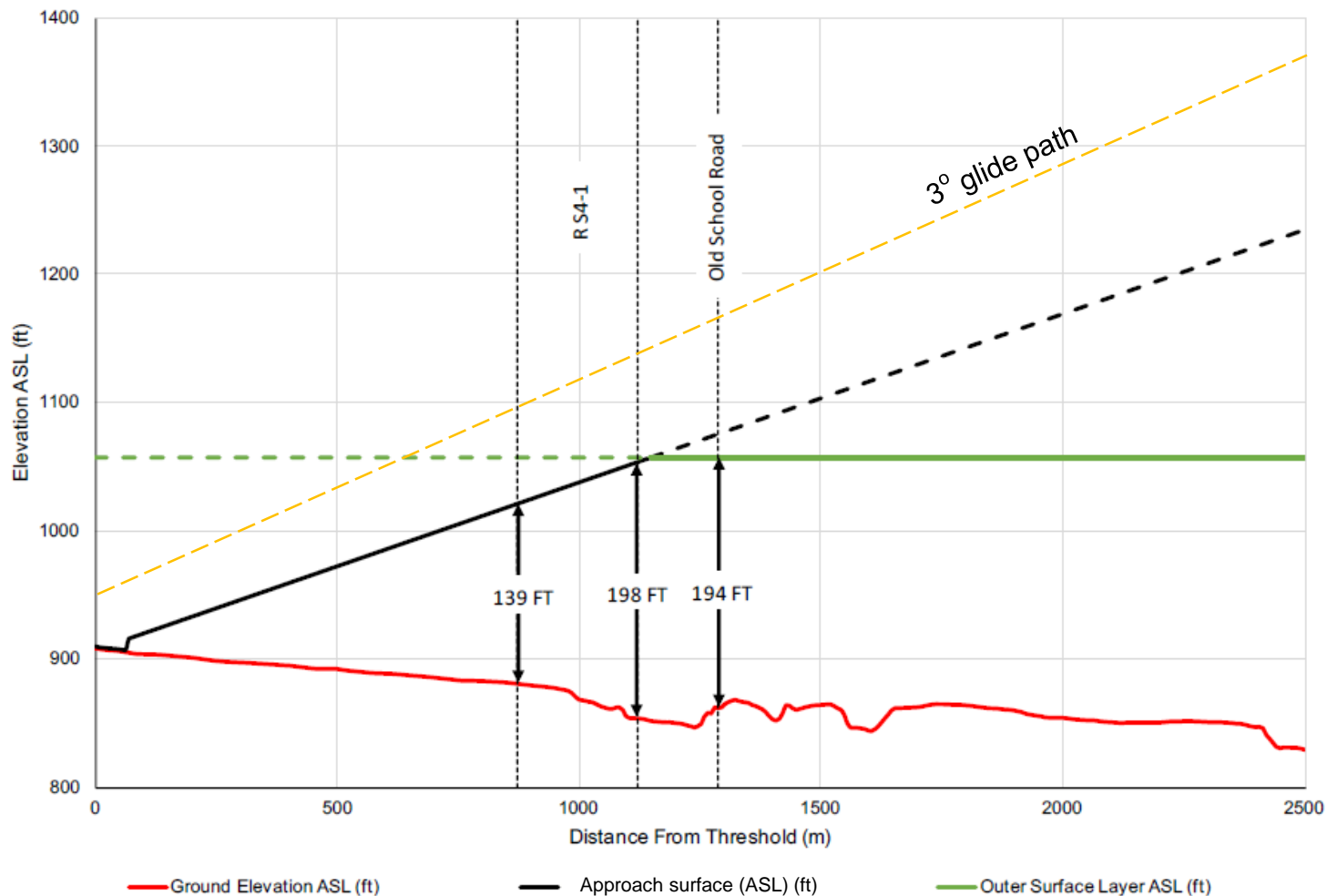




Runway 33 Approach



Centerline Segment

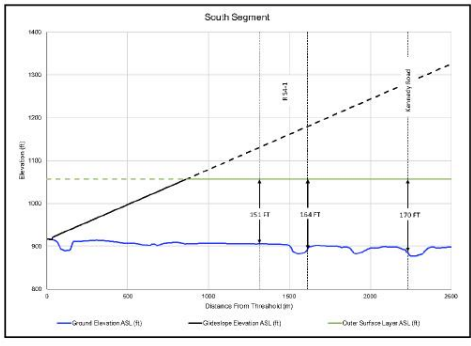
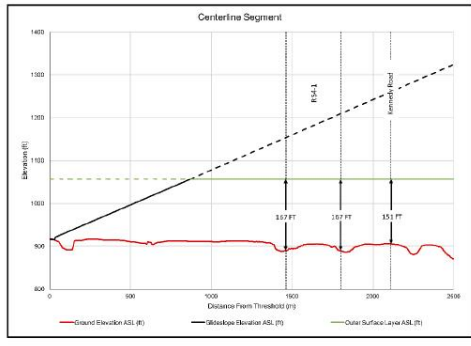
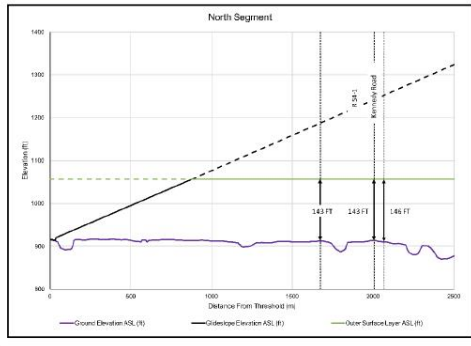
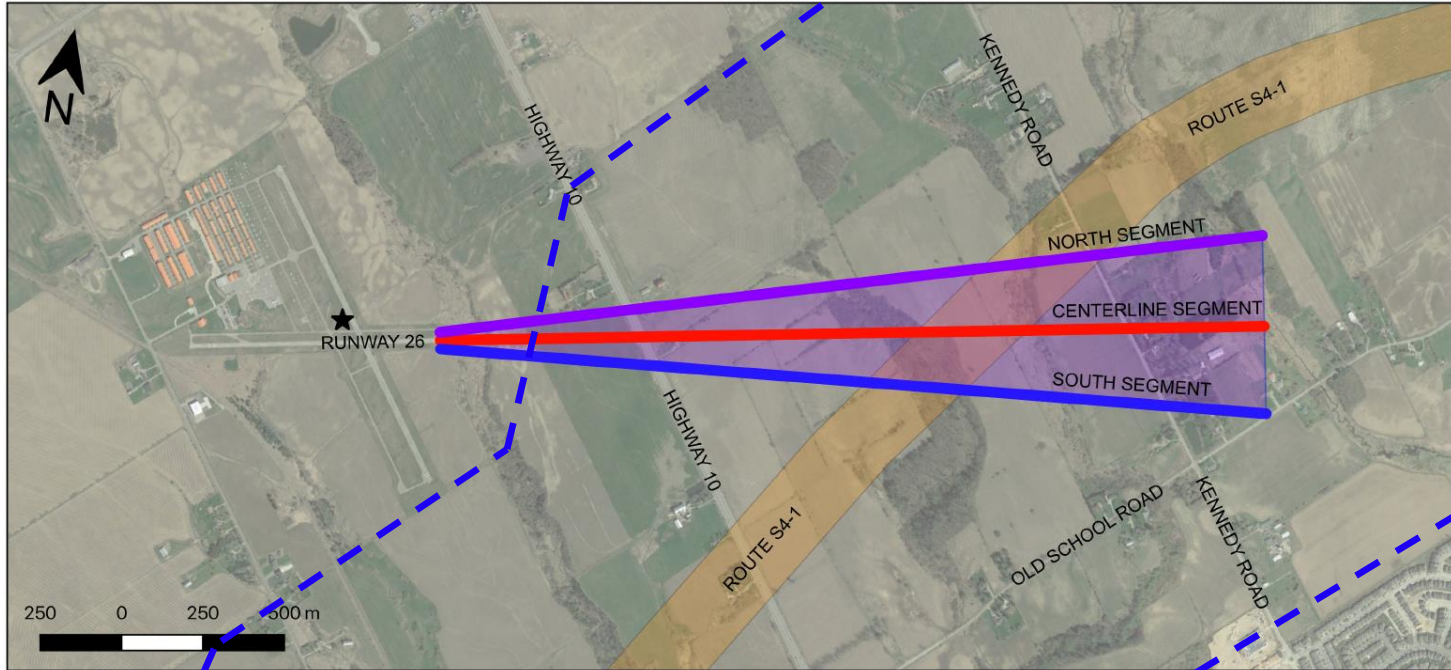




Runway 26 Approach



BRAMPTON (CNC3) RUNWAY 26 GLIDESLOPE AREA

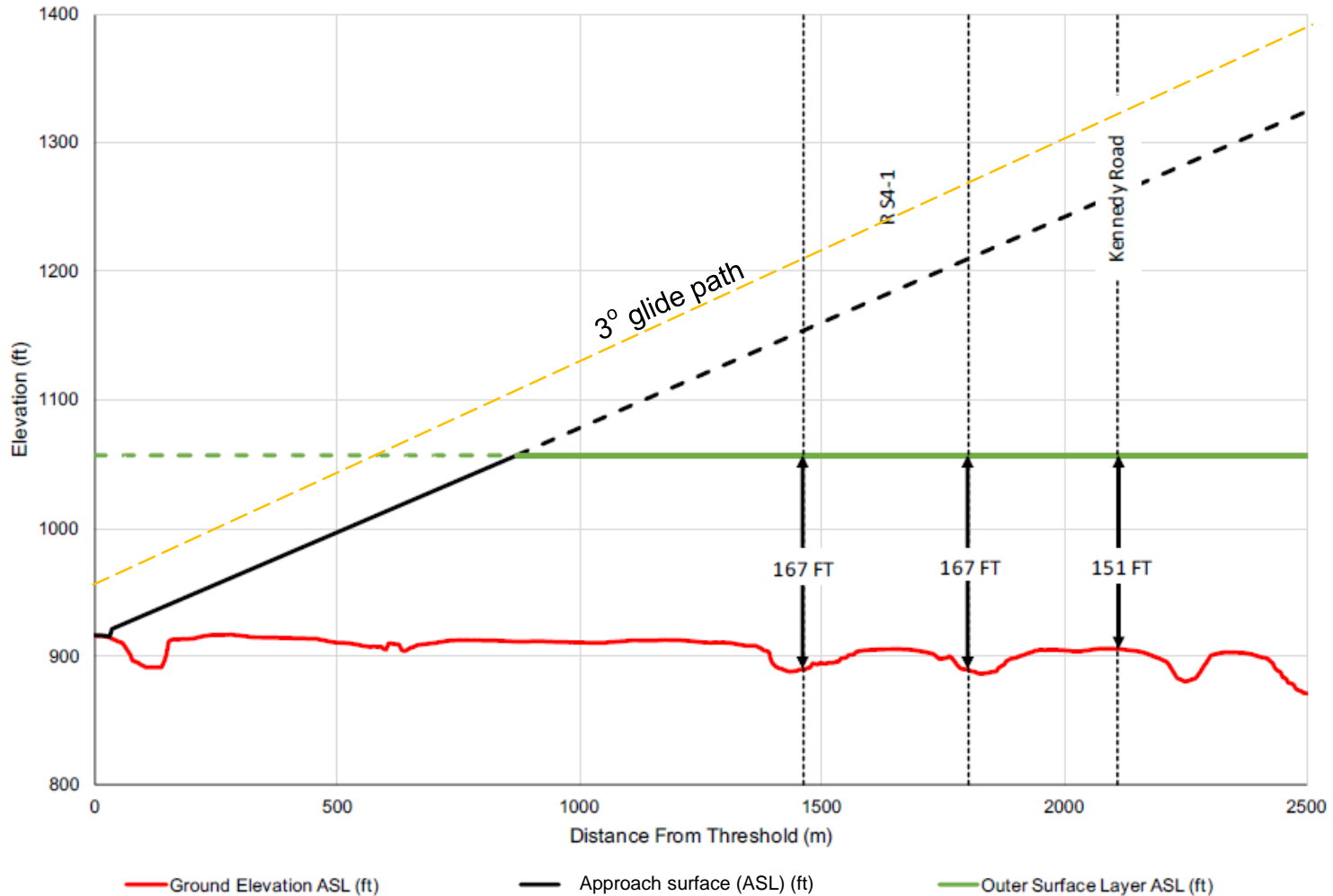




Runway 26 Approach



Centerline Segment





CNC3 Protected Airspace



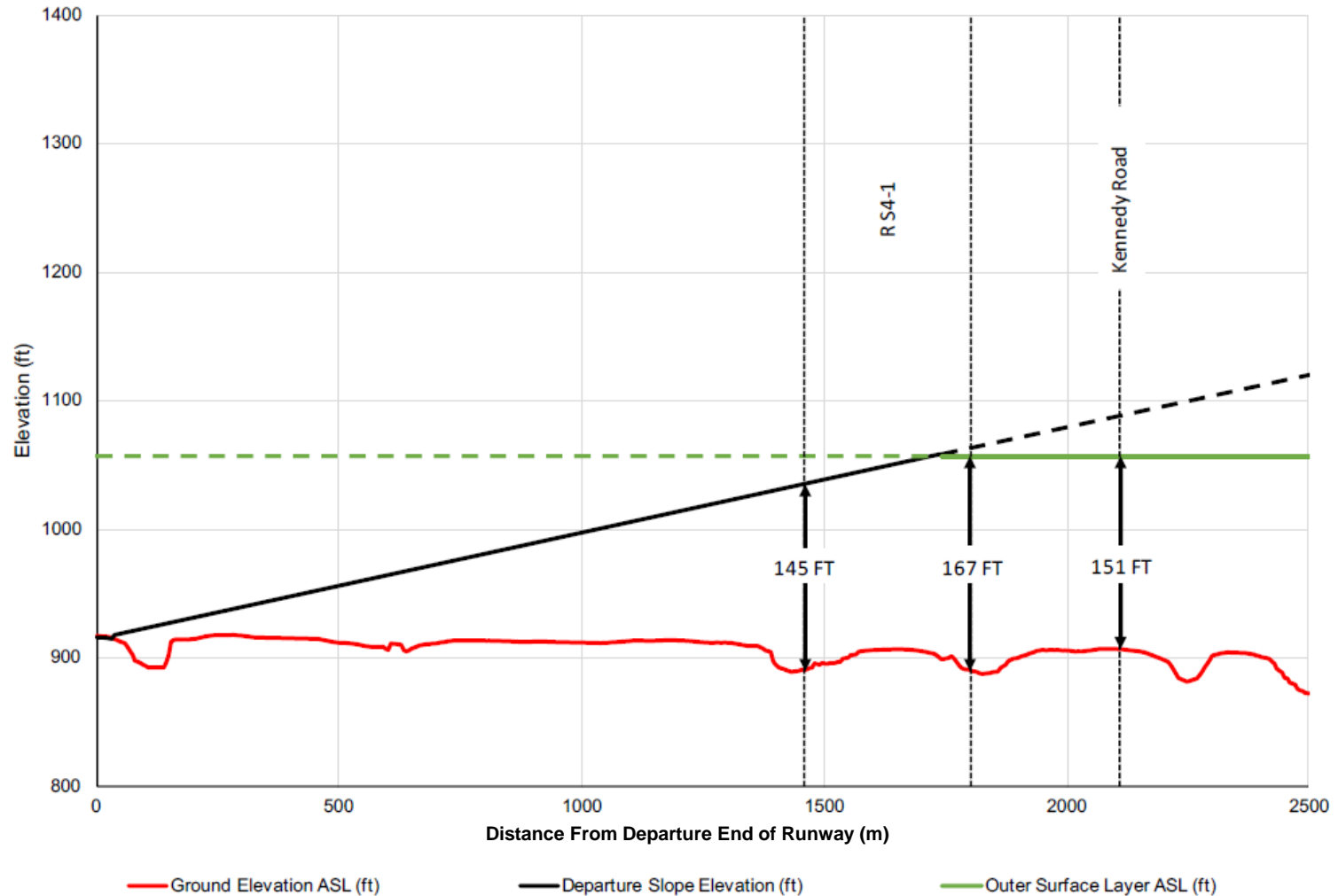
- Instrument approach and departure procedures are governed by Transport Canada document TP308, Change 7.2, “Criteria for the Development of Instrument Procedures”
 - Obstacle Limitation Surfaces and Obstacle Identification Surfaces defined in TP312 cover instrument approach requirements but for instrument departures, the obstacle clearance surface in TP308 is more stringent
 - 1:40 obstacle clearance surface from the departure end of any runway
 - Obstacles penetrating the 1:40 surface require airplanes to have higher minimum climb gradients in order to provide sufficient clearance to the obstacle.



Runway 08 Departure



Runway 08 Departure - Centerline Segment 1:40 Slope

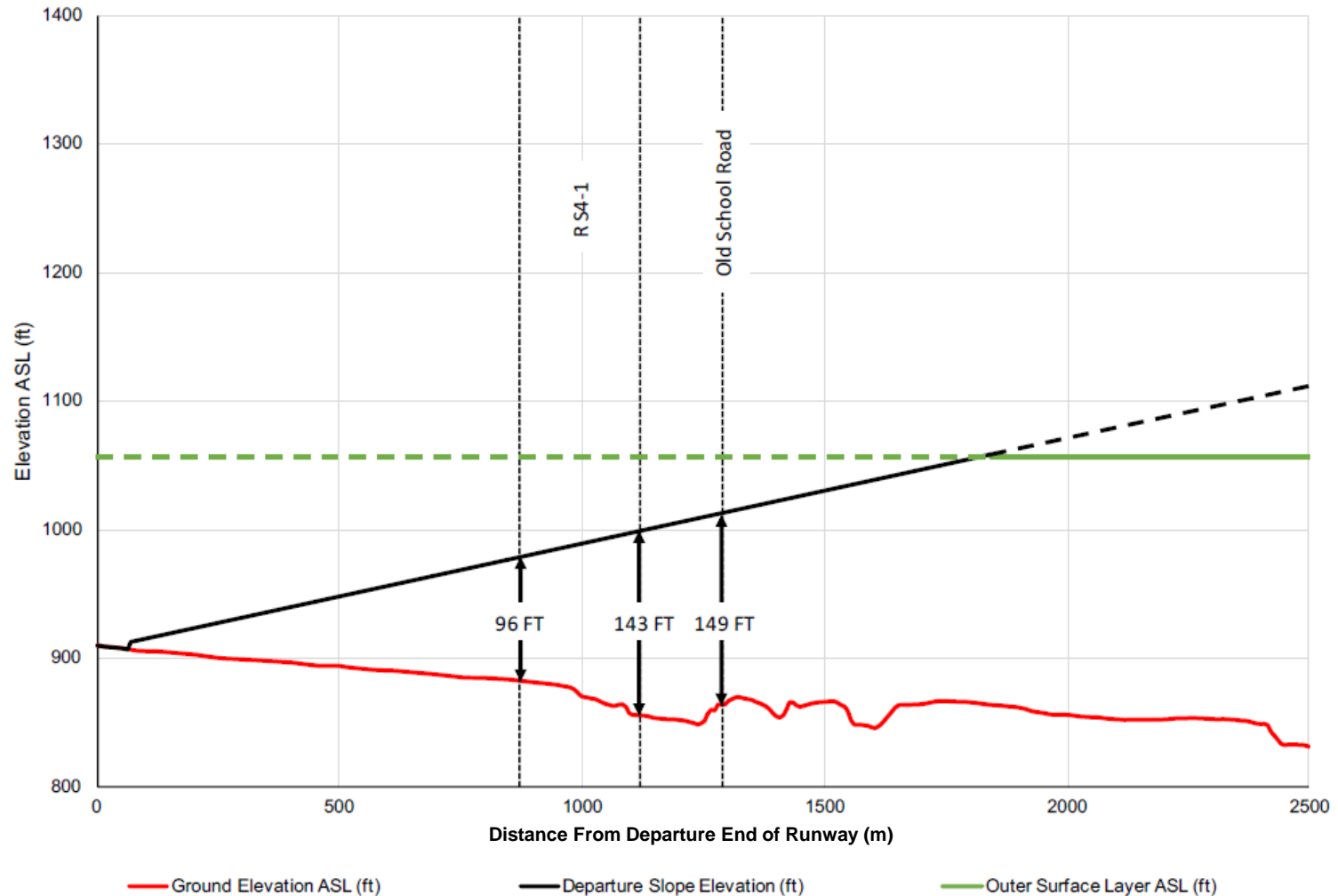




Runway 15 Departure



Runway 15 Departure - Centerline Segment 1:40 Slope





Impact on Operations at CNC3



- At a minimum, the proposed power lines will shut down the instrument approaches to CNC3
 - Reduces our capability to do advanced training
 - Reduces airport availability to other users, such as medevac flights that use our facility
- Depending on the location and height of the power lines, operations at the airport may be severely limited or we could face a complete shutdown of the airport
 - We are a key contributor to the economic growth of the Brampton-Caledon region, providing over 140 FTE jobs at the airport, with expansion plans underway to become an aviation hub.
 - Relocating the airport would be prohibitively expensive



Impact on Operations at CNC3



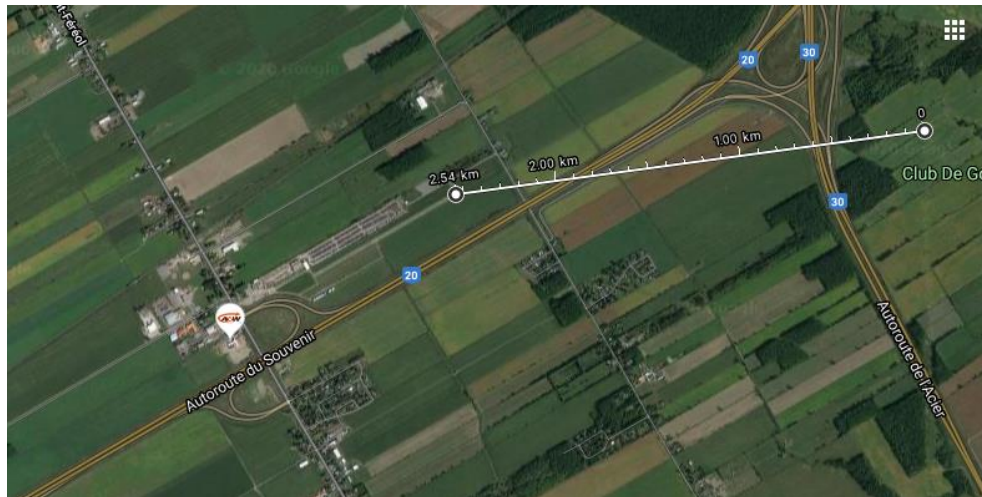
- If the airport continues to operate with the power lines built as proposed, operational safety will be negatively impacted
 - Pilots flying a normal 3° approach will be less than 100 ft above the power lines on runway 33
 - Student pilots, who have not yet mastered the skills to fly a normal approach, may be even closer to the power lines
 - On days with poor visibility and/or strong winds, and at night, the increased pilot workload and reduced ability to see the power lines reduces the margin of error to an unacceptable level.
 - Taking off towards power lines is like taking off towards a wall. In the event of an engine failure at low altitude, there are no options available to the pilot to safely manoeuvre the aircraft back to the ground.



Aircraft and Power Lines Are a Volatile Mix!



- On the evening of Feb 17, 2020 (at night) a light airplane approaching runway 25 at Les Cedres airport (CSS3) near Montreal hit power lines ~2.5 km from the threshold of the runway
 - <https://www.cbc.ca/news/canada/montreal/plane-crash-quebec-1.5466734?fbclid=IwAR36-sQtKy0w5JIRtpj1UrpOVsFTmIRNUFgzlZ93o8T2IUPOcsAYu9O9DIU>
- Site of the accident:





Aircraft and Power Lines Are a Volatile Mix!



- Result of the accident:
 - Two pilots were killed and the airplane was destroyed





Aircraft and Power Lines Are a Volatile Mix!



- Other accidents in Germany and USA:



© AFP/Getty Images



Points for Discussion



- **When, not if**, an aircraft hits one of these power lines, consider the outcry that will follow, and the liability for having knowingly built power lines in the vicinity of an airport.

Options:

- Relocate power lines further from the airport
- Bury the cables in the vicinity of the airport (best choice if the power lines can't be moved to a safe distance from the airport)

Note: reducing the height of the towers is not a viable option since it does not address taking-off towards power lines.



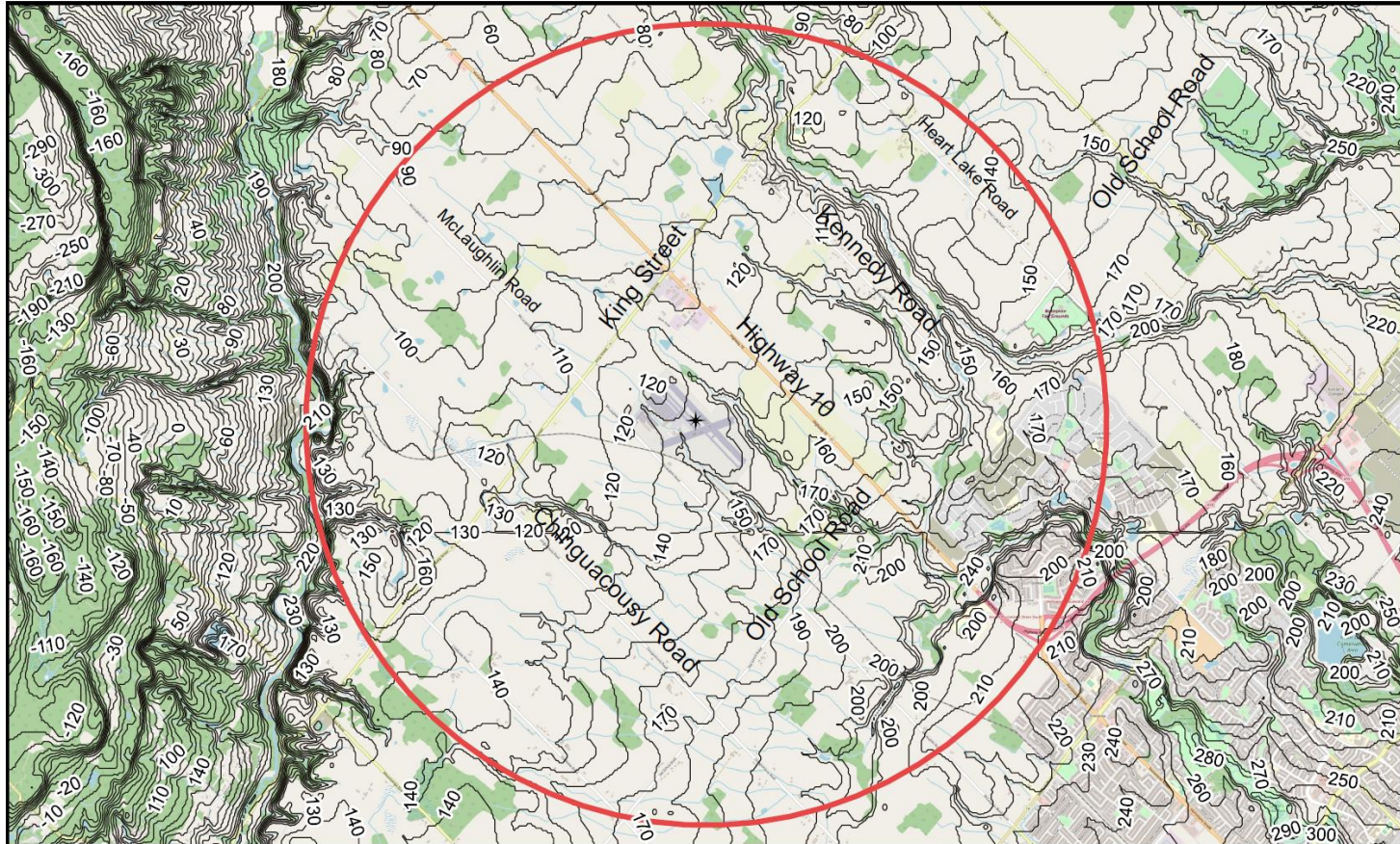
Additional Data



Contour Data



BRAMPTON (CNC3) AREA ELEVATIONS (FT) BELOW 322.2m



Scale

1:70000

500 0 500 1000 1500 m



North Arrow



Notes:

1. All elevations in feet below 322.2m ASL
2. Base map from OpenStreetMap
3. Contour data from Government of Canada Geospatial Data Extraction DEM at a resolution of 0.75 arc seconds (2017)
4. Coordinate data in NAD83 Z17

Legend

- Outer Surface - 4000m from ARP
- Contour Line
- ★ Airport Reference Point (ARP)



Created by: Christina von Bulow for the Brampton Flying Club

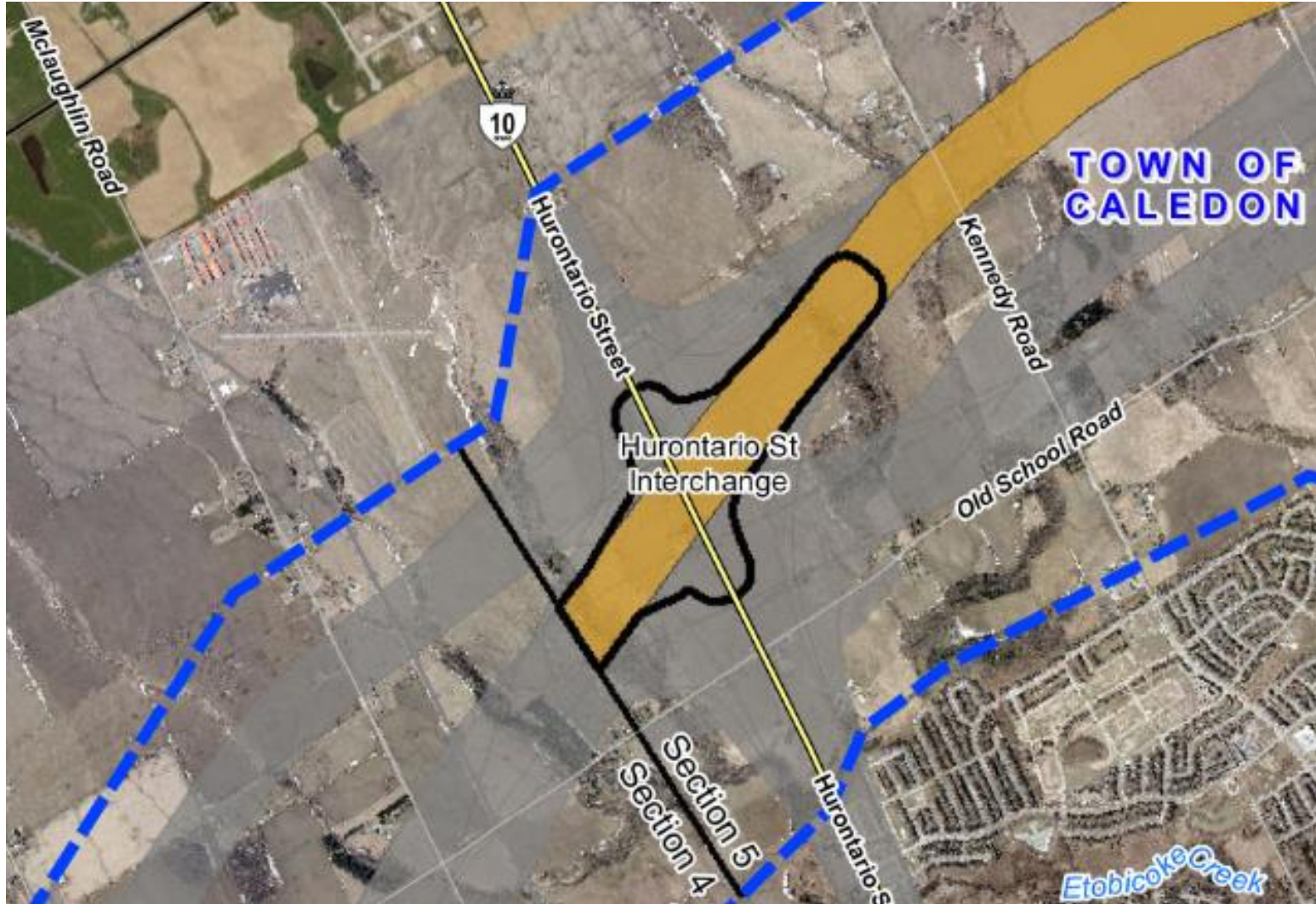


Transmission Corridor (West)





Transmission Corridor (East)

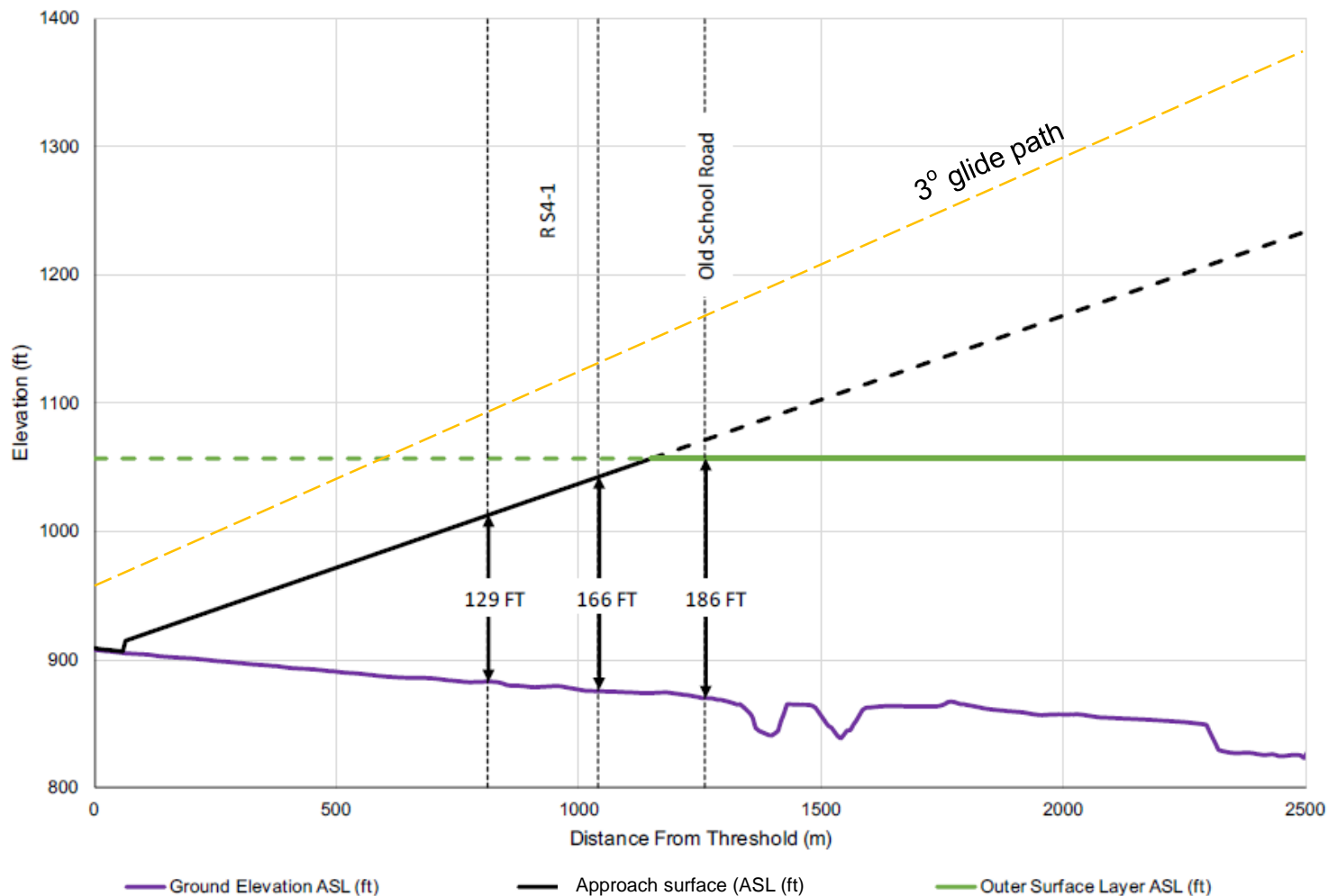




Runway 33 Approach

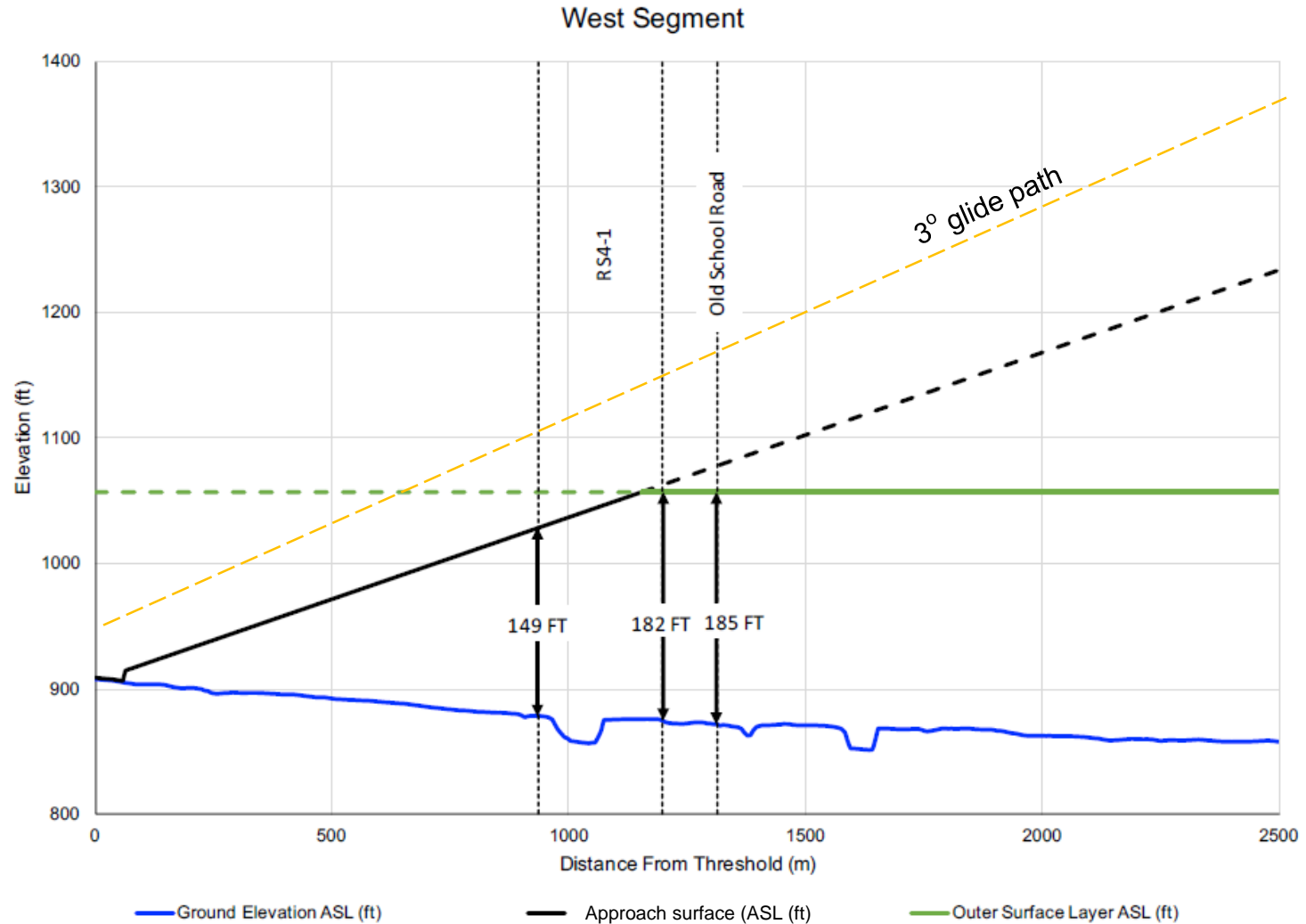


East Segment





Runway 33 Approach

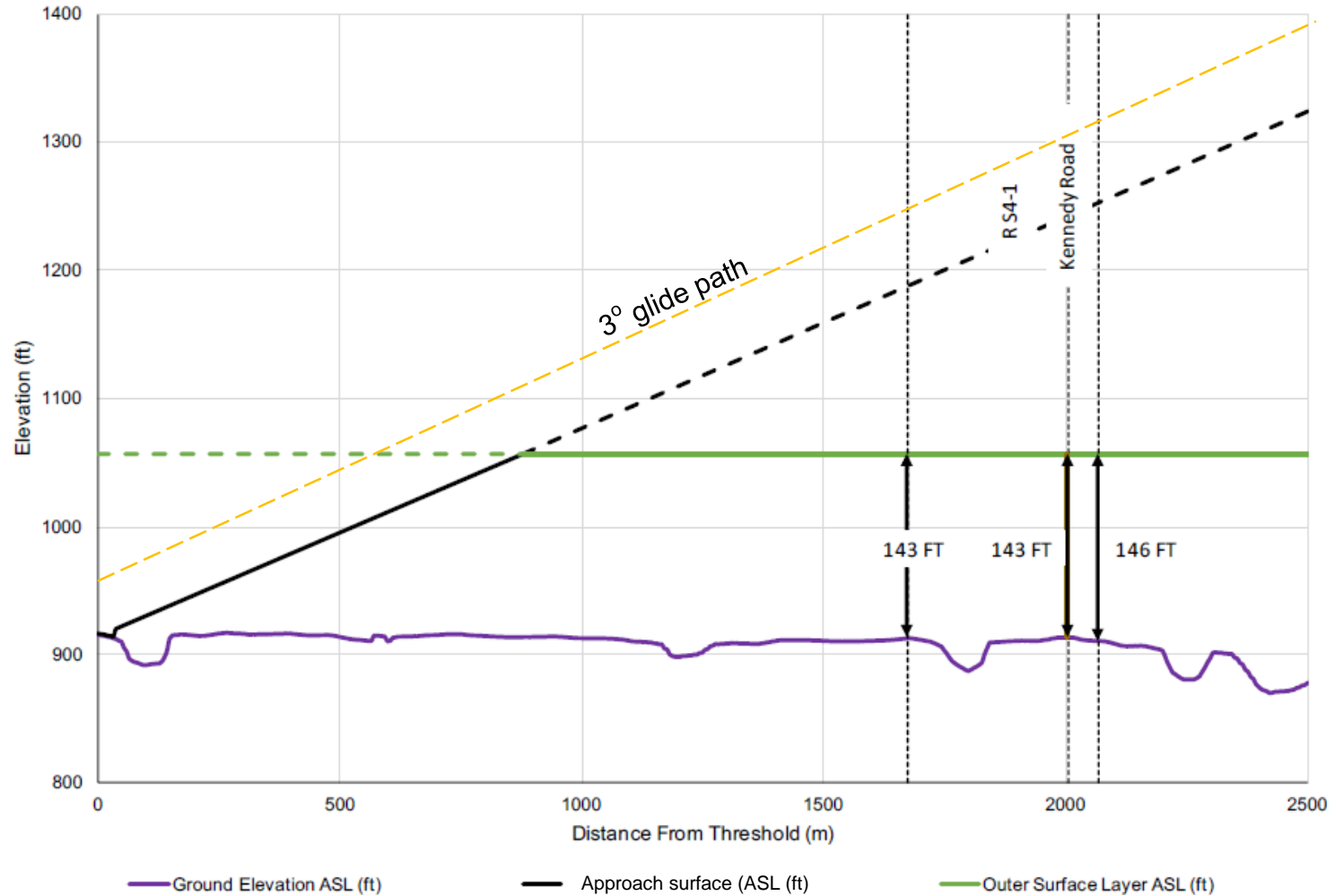




Runway 26 Approach



North Segment





Runway 26 Approach



South Segment

