



Airside Traffic Directives & Airside Vehicle Operator's Permit (AVOP) Manual

Document Number ATD-MAN-001

NOTE:

Refer to Appendix D (1 April 2024) and Appendix E (2 October 2024) for critical updates to the AVOP program and airfield standards

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Acknowledgments

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This manual is reviewed to ensure its continuing relevance to the systems and processes that it describes. A record of contextual additions or omissions is given below.

Amendment Record				
Version	Date	Context	Section	Summary of Amendments
1.0	27OCT2023	Re-issued and Revised	All	Original
1.1	07DEC2023	Re-issued and Revised	2.2.1 4.3 4.3.1 4.4 5.13.2 6.6 7.2 8.3.1	Content corrections and editorial updates

The most current revision of this manual is on The Source and available to download from the AVOP Office website.

It is the responsibility of each company/employer and every individual using this manual, to ensure that all electronic and hard copies are the most current revision.

A printed version of this manual is uncontrolled, and the information contained therein may be invalid.

Section 1

Contact Information, Acronyms, Definitions and Symbols

1 Contact Information, Acronyms, Definitions and Symbols

1.1 Contact Information

Integrated Operations Centre (IOC)	403 735 1300
Pass Control Office	403 735 1320
Manager, Airside Safety	403 735 7001
General Manager, SMS - Safety, Security & Compliance	403 717 2225

AVOP Administration Office

Hours of Operation	Current office hours are posted on yyc.com/calgaryairportauthority/AVOPoffice
Phone Number	403 735 1386
Email	avop@yyc.com
AVOP Office Appointments, All Written & Practical Test Bookings & All FAM Drives	Accessed from the AVOP Office Website: yyc.com/calgaryairportauthority/AVOPoffice
Location	In the walkway, past the +15 and the Delta Hotel, between the Airport Terminal Building & the Airport Corporate Centre building

Safety Compliance Officers

Office Phone Number	403 735 7424
Mobile Phone Number	403 828 5099
Email	sco@yyc.com
Location	Airside, Ramp Level, Adjacent to Gate 35

1.2 Acronyms

ACL	Anti-Collision Light (Beacon)
AOS	Airside Operations Specialist (Airport Authority)
AMC	Airside Maintenance Centre
AME	Aircraft Maintenance Engineer
ASDE	Airport Surface Detection Equipment
AVOP	Airside Vehicle Operator's Permit
CAA	Calgary Airport Authority
CBSA	Canadian Border Services Agency
CPS	Calgary Police Service
CA	Critical Area
DTB	Domestic Terminal Building
EDA	East Deicing Apron
EMS	Emergency Medical Services
ERS	Emergency Response Services
FEC	Field Electrical Centre
FOD	Foreign Object Debris/Damage
GSE	Ground Service Equipment
HOS	Head of Stand
IATA	International Air Transportation Association
ILS	Instrument Landing System
IOC	Integrated Operations Centre
ITB	International Terminal Building
LVOP	Low Visibility Operations Plan
MAD	Manoeuvring Area Delimitation
MHz	Megahertz
MOA	Manager, Operations - Airports
NPS	Non-Passenger Screening
NPS-V	Non-Passenger Screening - Vehicle
RAIC	Restricted Area Identification Card
ROC-A	Restricted Operator's Certificate - Aeronautical
RPA	Runway Protected Area
RVOP	Reduced Visibility Operations Plan
RVR	Runway Visual Range
SCO	Safety Compliance Officer
TOS	Tail of Stand
VSR	Vehicle Service Road
WDA	West Deicing Apron
YYC	Calgary International Airport

Note: Note boxes are used to give additional details and advice to drivers throughout the Airside Traffic Directives.

1.3 Definitions

Advanced Visual Docking and Guidance System (A-VDGS)	A visual display unit at every operational stand on Apron I that provides real-time flight data and accurate aircraft docking guidance information to pilots and ground crew during aircraft arrival 'on-gate.' The system is intended to provide support to aircraft flight crews to dock safely, especially during lightning events.
Airport	An aerodrome for which the government has issued an airport certificate.
Airport Operations Control (AOC)	Airport Operations Control is where AOC Specialists coordinate and manage daily airport activities. Phone the Integrated Operations Center to report any airside or operational incident, accident, event, hazard or safety concern (IOC 403-735-1300), see Integrated Operations Center (IOC).
Airside	The area of an aerodrome (airport) to which access is controlled or restricted, including the movement area, vehicle corridors and all buildings and ground areas within the airfield perimeter.
Airside Traffic Directives	Site-specific (Calgary International Airport) policies, rules and procedures used to govern airside vehicle, pedestrian and aircraft movement, including taxiing or towing procedures for use by non-pilots.
Air Traffic Control (ATC)	<p>The position in the Control Tower, operated by Nav Canada, that provides the following services:</p> <ol style="list-style-type: none">Clearances and instructions for the movement of vehicles and aircraft in the Manoeuvring area at YYC,Information to all traffic within the airport perimeter as it is known and pertinent,Communication on applicable aviation radio frequencies at YYC (Apron Advisory, East Ground, West Ground, etc.)
Airside Vehicle Operator's Permit (AVOP)	A designation issued by the Authority AVOP Coordinator certifying that the person named therein is authorized to operate vehicles airside.
Anti-Collision Light (ACL)	The Anti-Collision Light is a flashing red light, normally on the top or bottom of an aircraft fuselage. On smaller aircraft, the ACL may be on the top of the horizontal stabilizer (tail). The ACL is turned on just before the engines are started and is 'ON' continuously until the engines are shut down.
Apron	The part of an aerodrome, other than the manoeuvring area, which accommodates the loading and unloading of passengers and cargo, the refueling, servicing, maintenance and parking of aircraft, and the movement of aircraft, vehicles and pedestrians.
Apron Advisory	The position in the Control Tower that provides information to persons operating aircraft on Apron I.

Automated Terminal Information Service (ATIS)	Provides airport-specific information including local weather, to arriving and departing aircraft by means of a recorded continuous and repetitive broadcast.
Authority AVOP Coordinator (Calgary Airport Authority AVOP Coordinator)	See AVOP Coordinator.
AVOP Coordinator	The member of the Calgary Airport Authority Safety Department who administers the AVOP program and oversees the Airside Traffic Directives.
Blind Spots	Areas where radio communication cannot be transmitted or received.
Calgary Airport Authority	Also known as CAA or The Authority and is responsible for the operation, management and development of YYC Calgary International Airport (YYC).
Circle of Safety	The Circle of Safety is a protection zone for parked aircraft, drawn as an unmarked circle outside of the aircraft wingtips, nose and tail, intended to prevent damage from GSE being operated in close proximity to the aircraft.
Controlled Area	An area on the airport which cannot be entered unless Air Traffic Control clearance is requested and received (before entering the area).
Critical Area (CA)	The part of the main terminal building that is post-security, including Apron I, and any adjacent area identified by the Aerodrome Operator.
Crosswalk	Any portion of a road, an Apron or any other area designated by a sign or surface marking as a pedestrian crossing.
DA AVOP	A type of Airside Vehicle Operator's Permit which authorizes a vehicle operator to drive on Aprons and service roads but not on Taxiways or Runways. YYC has three types of DA AVOPs.
D AVOP	A type of Airside Vehicle Operator's Permit which authorizes a vehicle operator to drive a vehicle on any hard surface, including taxiways and runways, at Calgary International Airport.
D-AME AVOP	An Airside Vehicle Operator's Permit that authorizes a licensed AME to taxi or tow aircraft in the manoeuvring area at Calgary International Airport. (Ref. 9)

D-Tow AVOP	An Airside Vehicle Operator's Permit that is a combination DA type AVOP and D-Tow type AVOP that authorizes a vehicle operator to tow aircraft in the manoeuvring area at Calgary International Airport, according to their company specific tow program agreement with the Calgary Airport Authority. (Ref. 9)
Employer	Any person, business, organization or company that employees people.
Escort	A qualified AVOP holder who agrees to provide guidance for an unqualified driver on a movement surface (apron, taxiway or runway) or a vehicle service road, or any airside area that is not AVOP exempt, and who assumes all responsibility for safety, security and adherence to correct AVOP rules and procedures, for themselves and for all vehicles they are escorting. (Ref. 3.10)
Expedite	An instruction issued by Air Traffic Control (ATC) to proceed without delay.
Foreign Object Debris/Damage (FOD)	Any material in the manoeuvring areas, such as mud, gravel, glass, nails, tacks, scraps of metal, garbage, chemical substances, paper, plastic, baggage or other materials that may cause damage to an aircraft, vehicle, building or person(s) if not cleared away.
Glide Path Antenna	The component of an instrument landing system (ILS) that provides vertical guidance with respect to the ideal glide slope for an aircraft 'on approach' for landing.
Ground Loading Position	Area where passengers and/or crew board or deplane an aircraft and have to walk on the Apron (ground) between the aircraft and a terminal building.
Groundside	Refers to the non-secure side of the primary security line (PSL). The area of an airport not intended to be used for activities related to aircraft operations and to which the public normally has unrestricted access.
High Speed Taxiway	See Rapid Exit Taxiway.
Holding Bay	A defined area where aircraft can be held, or bypassed, or positioned for run-ups to facilitate efficient movement of aircraft.
Hold Short	An instruction issued by Air Traffic Control (ATC) to hold behind Runway holding position markings while awaiting permission to cross or proceed onto a Runway.
Instrument Landing System (ILS)	A radio navigation approach system that provides aircraft with horizontal and vertical guidance on approach and during landing. The ILS is made up of the glide path antenna and the localizer antenna.

Integrated Operations Center (IOC)	The Integrated Operations Center is where operational staff coordinate and manage all regular daily airport activities and all irregular operations. Phone the IOC to report any airside or operational incident, accident, event, hazard, or safety concern (IOC 403-735-1300).
Localizer	The component of an instrument landing system (ILS) that provides lateral guidance for aircraft 'on approach' for landing, with respect to the Runway center line.
Low Visibility Operations Plan (LVOP)	<p>This plan calls for specific procedures by the Airport Operator and/or Air Traffic Control when the Runway Visual Range (RVR) is below 1200 feet. For vehicle operations, low visibility conditions on any portion of the airport are deemed to be low visibility conditions throughout the entire airport and must be under positive control.</p> <p>Only vehicles essential to the continued operation of the airport are allowed on manoeuvring areas of the airfield during low visibility conditions under positive control. LVOP will be terminated when the RVR is stabilized above 1200 feet.</p>
Manager, Operations - Airports (MOA)	Previously called the Airport Duty Manager (ADM), the Manager of Airports is responsible for all daily operational decisions (Contact the IOC first. The IOC will direct your call to the most appropriate person or department).
Manoeuvring Area	The part of an aerodrome (airport) used for the take-off, landing and taxiing of aircraft, excluding Aprons. The manoeuvring area includes all runways and taxiways.
Markings, Signs and Lights	Paint markings, signs and lights used in throughout the airport and in all airside areas to provide instructions for correct, safe and efficient movement of all aircraft, vehicles and pedestrians.
Mobile Equipment	See Vehicle.
Movement Area	The part of an aerodrome (airport) used for the take-off, landing and taxiing of aircraft. The movement area includes the manoeuvring areas and the Aprons.
No Delay	See Expedite.
Non-Passenger Screening - Vehicle	A facility run by CATSA to provide random screening of vehicles, occupants and their belongings before entering the Critical Area (CA) in order to maintain the security of an airport's CA. Biometric checks are conducted before admittance to the Critical Area.

Off the Runway	Indicates that vehicles are off the Runway surface and Outside the Hold Lines (Ref. 8.4 & 8.5). Never use "Clear of a Runway" as it could be misunderstood as removing snow on a Runway.
Operational Stand	An area of an Apron designated for the parking of aircraft for the purpose of loading and unloading passengers, and providing ground services (commonly referred to as a Gate).
Operator	See Vehicle Operator.
Perimeter Road	A road around the threshold of a Runway primarily used to avoid or reduce vehicle traffic crossing Runways. YYC has a speed limit of 50 km/h on all perimeter roads, <i>unless otherwise posted</i> .
Pilot's License	A Private Pilot Aeroplane, Commercial Pilot Aeroplane, Commercial Pilot Helicopter, Airline Transport Pilot Aeroplane, Airline Transport Pilot Helicopter as defined by Transport Canada or equivalent international agency. A Pilot License must be kept valid and current for use at Calgary International Airport. (Ref. 3.1 and 9.1.1 for use of a pilot's license for taxi/tow operations)
Pushback	A procedure where an aircraft is moved backward by a tug/tractor.
Rapid Exit Taxiway	A Taxiway connected to a Runway at an acute angle and designed to allow landing aircraft to turn off at higher speeds.
Reduced Visibility Operations Plan (RVOP)	This plan calls for specific procedures by the Airport Operator and/or Air Traffic Control when the Runway Visual Range (RVR) is below 2600 feet down to but not less than 1200 feet RVR. For vehicle operations, reduced visibility conditions on any portion of the airport are deemed to be reduced visibility conditions throughout the entire Airport. Only operationally required vehicles are allowed on the manoeuvring areas of the airfield during reduced visibility conditions under positive control. The Reduced Visibility Operations Plan is activated when the RVR is below 2600 feet and must be under positive control.
Restricted Operator's Certificate - Aeronautical (ROC-A)	A document issued by Innovation, Science and Economic Development Canada certifying the holder may operate an aeronautical radio fitted with radio-telephone equipment only, transmitting or receiving on fixed aviation frequencies, not open to public correspondence.
Restricted Area	The area of an aerodrome identified with signs or barriers that only authorized people can enter.

Restricted Area Identification Card (RAIC)	A security clearance identification that is required to work airside at YYC that must be displayed at all times while airside.
Runway	A defined rectangular area on a land aerodrome designated for the take-off and landing of aircraft.
Runway Protected Area (RPA)	The protected area of a surface designated for the landing and take-off of aircraft. This protected area runs between the extended runway Hold Lines, inside and on each side of the localizer antenna arrays, and on each end of the runway. ATC must ensure this area is clear before clearing an aircraft to land or take-off on that runway.
Runway Visual Range (RVR)	An RVR sensor system is used for measuring the visibility along the Runway. It is an instrumentally derived value that represents the horizontal distance a pilot will see down the Runway from the approach end of the Runway. It is based on the sighting of either high intensity Runway lights or the visual contrast of other targets; whichever yields the greater visual range.
Service Road	A paved driving area near Aprons, including cargo roads, etc., accessible only to vehicles. Service roads do not go around a threshold of a Runway. At YYC, the speed limit for service roads is 30 km/h.
Taxiway	The part of an aerodrome used for manoeuvring aircraft and airport equipment between the Apron area and the Runway.
Threshold	The beginning of the portion of the Runway usable for landing.
Uncontrolled Taxiway	A Taxiway on which aircraft do not require permission from the ground controller to use.
Vehicle	Any (motor) vehicle or portable device, either self-propelled or towed, but not including aircraft.
Vehicle Operator	A person responsible for the operation and safety of a vehicle and equipment.
Vehicle Service Road (VSR)	A road on an Apron to provide guidance to traffic and vehicle operators. VSRs are indicated by parallel white lines, with a single broken white center-line. VSRs at YYC have a speed limit of 30 km/h.

Section 2

Introduction

2 Introduction

The airside portion of an airport is a specialized working environment. The Airside Traffic Directives (AVOP Manual) is derived from ICAO, Canadian Aviation Regulations and Transport Canada documentation and requirements and is designed to comply with TP 312 regarding standards and best practices.

The Airside Traffic Directives (AVOP Manual) is designed to provide airside vehicle and traffic rules, policies, and procedures to prevent accidents and eliminate or reduce the risk of personal injury and/or property damage to as low as reasonably practicable.

The Airside Traffic Directives (AVOP Manual) also serves as a framework for airside staff from different companies to work safely and cooperatively within this specialized working environment.

All companies, contractors, and tenants, including all AVOP holders and airside workers at YYC are required to know and comply with all applicable airside policies and procedures.

2.1 Requirements to Operate a Vehicle Airside

All persons operating a vehicle, ground service equipment, or who taxi or tow an aircraft airside beyond a company lease line as part of their company's ground service or maintenance operations, must hold a current and valid Airside Vehicle Operator's Permit (AVOP). The AVOP must be current and valid, specific to that company/employer, and as required and applicable to the duties and responsibilities of the AVOP type.

All persons who work airside or who operate any type of vehicle or ground service equipment airside at Calgary International Airport (YYC) must abide by and comply with the Airside Traffic Directives (AVOP Manual) and all YYC safety and security rules, policies to ensure safe aircraft and vehicle operations at Calgary International Airport (YYC).

All persons working or operating anywhere airside at YYC (including all vehicle drivers and passengers) MUST wear a hi-visibility vest at all times, in accordance with federal and provincial safety legislation and YYC airside safety requirements. Persons staying inside a vehicle with a closed cab are exempt when fully inside the vehicle, however all persons must wear a hi-vis vest every time they exit the vehicle.

2.1.1 AVOP Licensing and Requirements

To support and ensure safe, secure, and efficient airside operations, all airside drivers must have a clear Need and Right to apply, obtain and hold an Airside Vehicle Operator's Permit (AVOP). The AVOP applicant's duties must include an imminent, ongoing, and regular need to drive airside in direct support of aircraft or aviation operations.

Anyone with an infrequent or intermittent need to drive airside (less than several times a month) should not apply, hold or retain an AVOP. Infrequent exposure to this environment increases the safety risk.

AVOP applicants and AVOP holders must:

- a. possess a valid Driver's License (minimum equivalent to an Alberta Class 5 license) at all times when applying for, renewing, replacing and using the Airside Vehicle Operator's Permit (AVOP),
- b. bring all requirement documentation and licenses (including ROC-A and AME licenses) to the AVOP office when applying, renewing or updating an AVOP (as applicable to the AVOP type),
- c. hold and show proof of a current and valid AVOP specific for each company/employer and as applicable to their duties and responsibilities for that employer at all times while driving airside,
- d. follow all YYC Airside Traffic Directives (AVOP Manual) policies, rules and procedures,

- e. continually review and be familiar with the most current Airside Traffic Directives and any changes, amendments and revisions,
- f. immediately report any impaired driving offense under the Criminal Code or any administrative license suspension under provincial law to their supervisor and to the Airport AVOP Coordinator, and
- g. present their AVOP and their Driver's License to the AVOP Administration Office or AVOP Enforcement staff, upon request.

Note: Any person living and/or working in the province of Alberta must obtain a valid Alberta driver's license within three months of their arrival in the province.

2.1.2 Employers Requirements and Responsibilities for AVOPs

All employers whose ground service operations include operating vehicles, ground service equipment, or taxiing or towing aircraft beyond a company lease line (as part of their ground service or maintenance operations), must apply and be approved by the AVOP Coordinator to hold AVOPs at YYC.

All AVOPs are employer (company) specific and applicable to the duties and responsibilities of each AVOP type.

Employers are responsible to:

- a. familiarize themselves with the Airside Traffic Directives (AVOP Manual),
- b. stay current with all ATD Manual updates, including ensuring only the most current manual, application form, training and testing materials are available and in use,
- c. obtain and maintain the required Certificate of Insurance (COI), ([Ref. 3.16](#))
- d. submit a current & valid Certificate of Insurance to the AVOP Administration Office annually,
- e. ensure all employees whose duties require driving vehicles, equipment, taxiing or towing aircraft airside (for ground service operations) apply for, and obtain their AVOP within 30 days from their date-of-hire (or date of change to their new duties),
- f. ensure any employee applying for, or holding an AVOP has a current and valid Driver's License (equivalent to the Alberta Provincial Class 5 license, as a minimum),
- g. ensure all employees whose duties require driving vehicles, equipment, taxiing or towing aircraft airside (for ground service operations) are trained to competency in accordance with the Airside Traffic Directives (AVOP Manual),
- h. ensure all employees whose duties require operating vehicles or GSE airside are aware of all company specific leased parking areas,
- i. for any applicant hired who is already in possession of a valid AVOP, the new employer is responsible to perform a competency assessment to ensure the employee demonstrates appropriate AVOP knowledge and safe airside driving standards prior to the new hire's assumption of operational duties,
- j. ensure all AVOP applicants whose duties include (or may include) operating a radio airside hold a valid Radio Operator's Certificate-Aeronautical (ROC-A) prior to applying for the applicable AVOP (D-Tow, D-AME, push back tow vehicle operator & brake rider),
- k. ensure all D-AME AVOP applicants hold a valid AME License (and valid ROC-A), prior to applying for a D-AME AVOP,

- l. maintain all applicable AVOP records, including Driver's License number, class, expiry and any violation or suspension under the Criminal Code or under provincial law, and well as all AVOP training, testing, currency, expiry, renewals records for a minimum of six years,

Note: Notify the AVOP office within seven (7) calendar days of the last day of employment (or change in duties) for any person who is no longer employed or no longer requires an AVOP to perform their duties.

- m. maintain a record of all employee AVOP violations and infractions, including suspensions, retests, etc. for a minimum of five years,
- n. communicate with employees to ensure they are immediately aware of any violations, infractions, suspensions, retest requirements, etc,
- o. ensure their company Alcohol & Drug Policy and testing policy and procedures meet or exceed the Calgary Airport Authority Alcohol & Drug Policy standards, [\(Ref. 3.11\)](#)
- p. coordinate and participate in all AVOP violation meetings and retest requirements,
- q. ensure all in-house training and testing is done in accordance with Airport Authority approvals, standards, and requirements,
- r. ensure all vehicles and GSE are equipped with all required lights, signs and safety equipment in accordance with the Airside Traffic Directives, [\(Ref. 3.13 through 3.16\)](#)
- s. request and provide current and correct company contact information for the person(s) responsible and authorized to sign AVOP application forms. (The AVOP company signing authority must be in a management position with the authority to confirm the AVOP applicant has a need and right to hold an AVOP and take responsibility for the actions of that person as AVOP holder), and
- t. provide current and correct company contact information to the AVOP Office, including name, position, email and phone number of the person(s) responsible for AVOPs and AVOP training, documentation and record keeping.

Note: Retention of Training and Testing Records

The employer(s) of an AVOP applicant must keep all applicable records pertaining to records pertaining to the training and testing of the AVOP applicant. Only the AVOP application form and signed test certificate are kept on file by the Authority AVOP Administration Office. All other documents (written tests, practical tests and Competency Check/Night Endorsement) will be verified and entered into the AVOP database, with those paper documents subsequently shredded.

2.2 Airport Security

2.2.1 Airside requirements for AVOP holders.

All AVOP holders and airside workers must:

- a. wear their Restricted Area Identification Card (RAIC) on outer clothing at all times and ensure the RAIC is always visible when in any restricted areas, ([Ref. 1.3](#) for definition)
- b. challenge any person not wearing a visible RAIC,
- c. report any person without a valid RAIC and/or without an escort to the IOC (403-735-1300),
- d. ensure all gates are kept closed and locked to prevent unauthorized personnel or vehicles from accessing the airfield. This includes stopping, watching and waiting for automated gates to fully close behind you,
- e. follow all YYC security protocols and cooperate with security personnel,
- f. know and understand the boundaries and markings for the Apron(s), movement area, and manoeuvring area, and
- g. know and understand where the Critical Area (CA) boundary is located, the areas included within the Critical Area and comply with all rules, policies and procedures for the Critical Area. ([Ref. 10](#))

Apron	The part of an aerodrome (airport), other than the manoeuvring area, which accommodates the loading and unloading of passengers and cargo, the refueling, servicing, maintenance and parking of aircraft, and the movement of aircraft, vehicles and pedestrians.
Manoeuvring Area	The part of an aerodrome (airport) used for the take-off, landing and taxiing of aircraft, excluding Aprons. The manoeuvring area includes all runways and taxiways.
Movement Area	The part of an aerodrome (airport) used for the take-off, landing and taxiing of aircraft. The movement area includes the manoeuvring areas and the Aprons.

2.2.2 Critical Area security requirements

Anyone working or operating in the Critical Area (CA) must present at a Non-Passenger Screening (NPS) point or a Non-Passenger Screening - Vehicle (NPS-V) facility before entering the CA during the course of normal duties. All temporary RAIC holders must present for screening unless stated otherwise in an exemption.

Note: See [Section 10](#) for information, procedures, and maps of the Critical Area (NPS-V North & NPS-V South).

All vehicle operators (AVOP holders) must self-report to the IOC when entering the CA and upon leaving the CA if they:

- enter the CA without clearing NPS-V, (e.g. to pick up FOD, to assist with an aircraft or medical emergency) or,
- unintentionally enter the CA, or enter the CA without authorization (e.g. aircraft avoidance, loss of situational awareness). ([Ref. 10.5.1](#))

2.3 Airside Safety - Foreign Object Debris (FOD)

In conjunction with airside vehicle operations, all persons working and driving airside are responsible to ensure all FOD (garbage) is controlled and disposed of immediately and correctly.

2.3.1 Foreign Object Debris/Damage

Foreign object debris (FOD) ([Ref. 1.3 for definition](#)) can cause significant damage or injury. No person may cause, create, or leave any item, material, equipment, garbage or debris where it can be ingested into an aircraft engine or could be lifted and thrown against buildings, people, vehicles or aircraft by jet blast, prop wash, wind or wind gusts.

All AVOP holders and airside workers are responsible for the loads they are carrying or towing. Loads must be fastened or covered in order to prevent the load from coming loose and posing a danger to aircraft, buildings, vehicles and pedestrians.

AVOP holders and all airside workers must:

- a. ensure FOD, or anything that can become FOD (item, material, equipment, garbage or debris) is NOT left,
- b. pick up and dispose of FOD in a proper FOD, garbage, or WHMIS appropriate container,
- c. remove and correctly dispose of any FOD if they can do so safely, without compromising or risking their own safety or the safety of any other person and without interfering with aircraft or vehicle traffic,
- d. notify the Integrated Operations Center (IOC) of any FOD on an airside surface where assistance is required,
- e. FOD in the manoeuvring area requires a D-Type AVOP to access. Where appropriate, D AVOP holders may retrieve the FOD but must do so only within the limitations of their duties and responsibilities. Where applicable, D AVOP holders must contact Air Traffic Control (ATC) to request permission or advise their intentions, or must call the IOC to request assistance ([Ref. 8.10](#)), and
- f. ensure movement area surfaces are kept clear of debris (FOD), by driving only on hard (paved) surfaces, unless unavoidable. Inspect the vehicle's tires for FOD before operating the vehicle and anytime after leaving the hard surface.

Note: Any FOD, obstruction or potentially hazardous condition on any aircraft movement area that cannot be accessed or removed while operating within the restrictions of your AVOP must be reported to your immediate supervisor. The FOD (nature and location) must also be reported to the Calgary Airport Integrated Operations Center (IOC). ([Ref. 2.3](#))

Note: Airport personnel may not use their airside privileges to post on social media. Airport personnel may not use their airside privileges to watch, photograph, record incidents or accidents unless it is part of their duties. The same is true for privileged access to individuals such as celebrities. This conduct is not within staff's "need" to be airside.

Section 3

Airside Traffic Directives General Requirements

3 General Requirements

3.1 Introduction

Any airside worker whose duties include operating any type of motorized vehicle airside (driving, taxiing, towing, etc.) is required to obtain an Airside Vehicle Operator's Permit (AVOP), as applicable to their employer (company) and as applicable to their duties and responsibilities, within the first 30 days of being hired to do that job.

For seasonal workers, all persons hired at the beginning of the season must be fully trained and AVOP certified for start-up. New hires after initial season start-up must be fully trained and must obtain the applicable AVOP certification within 30 days of date hired (as applicable to their duties and responsibilities).

Any person who operates a vehicle airside at Calgary International Airport, beyond or outside of any leased area (Ref. 3.12.1) MUST:

- a. hold both a valid YYC RAIC and a valid YYC AVOP, specific to their employer and their airside duties, OR
- b. be escorted by a person who holds a valid YYC-specific AVOP, [\(Ref. 3.10\)](#) OR
- c. be authorized by the Airport Authority AVOP Coordinator to do so without the requirement to hold an AVOP, OR
- d. be qualified, trained and authorized to operate the equipment they are using airside.

Any person who taxis or tows an aircraft, airside at Calgary International Airport, beyond or outside of any leased area (Ref. 3.12.1) MUST:

- a. hold a valid YYC and employer specific AVOP that allows for the performance of aircraft taxi or tow operations, OR
- b. be escorted by a person who holds a valid YYC and employer specific AVOP that allows for the performance of aircraft taxi or tow operations [\(Ref. 3.10 and 9.1.1\)](#), OR
- c. be authorized by the Authority AVOP Coordinator to do so without the requirement to hold an AVOP, OR
- d. hold a valid and current pilot's license or be accompanied by a person who holds a valid and current pilot's license and the taxi or tow is for aircraft maintenance purposes only. See Note Box below and [Section 7.1 and 9.1.1](#), OR
- e. be qualified, trained and authorized to operate the aircraft and/or equipment they are using airside.

Note: Any person operating under a pilot's license must hold as a minimum, a current and valid Private Pilot's License with a current and valid Night Rating. Any person operating an aircraft under a pilot's license is not operating under a YYC AVOP. The employer, aircraft owner or operator is fully responsible to ensure the pilot is qualified and insured to operate the aircraft and must ensure the pilot's license is current and valid (including medical requirements).

3.2 Application for an Airside Vehicle Operator's Permit (AVOP)

Note: AVOPs are employer specific. AVOPs are only valid for the employer (or employers) registered on the AVOP card and as recorded in the AVOP database (at the AVOP Office).

The Authority will issue an AVOP if:

- a. the applicant holds a valid driver's license (equivalent to Alberta Class 5, as a minimum),
- b. the applicant holds a valid RAIC for the AVOP specified employer,
- c. the applicant submits a completed AVOP Application form, as follows:
 - the most current revision of the AVOP Application form ([Ref. Appendix A](#)) MUST be used, completed and signed by the applicant, and the company specific employer (the Employer Requesting Authority must be a company manager who has company AVOP signing authority),
 - the correctly signed application form confirms the applicant has a need and a right to obtain an AVOP for that specific company, has been properly trained by the employer and is covered by that company's insurance while driving airside, and
 - page 1 of the AVOP Application form must be completed BEFORE requesting to do the online/written test. Page 2 of the AVOP Application form must be completed BEFORE requesting to do the practical test.
- d. the applicant has successfully passed both the written/online and practical tests ([Ref. 3.2 and 3.3](#)). The practical test must be successfully completed within 60 days of the written test,
- e. the AVOP Application form MUST be submitted to the AVOP Administration Office for all new AVOP applications within 14 calendar days of completing the practical test, ([Ref. 3.2](#), [3.3](#), [3.3.4](#), and [3.3.6](#))
- f. for all applicable AVOP types, including all push-back & towing operations on Apron I, the applicant MUST hold a valid Restricted Operator's Certificate - Aeronautical prior to applying to do the online/written test, ([Ref. 1.3](#) for definition)
- g. for all D-AME AVOPs, the applicant MUST hold a valid Aircraft Maintenance Engineer (AME) license and ROC-A prior to applying to do the online/written test,
- h. the applicant is not currently restricted from having an AVOP at YYC and has met all conditions and requirements of any previous AVOP restriction.

Note: Combination AVOPs (DA-M, DAS-M, DAW-M, DDT & DA, DTN & DA, DTS & DAS) have been discontinued. See [Section 8.3](#) and [8.4](#) for updated information.

At the discretion of the AVOP Coordinator or designated CAA Manager, the Calgary Airport Authority holds the right to request confirmation of a successfully completed English Language Proficiency Exam.

The Authority AVOP Coordinator (or designated CAA Manager) can place a restriction on any AVOP, as applicable, for safety or security reasons.

3.3 Testing, Night Endorsement, Renewal, Retesting and Replacements

Airside Vehicle Operator Permit (AVOP) testing is authorized by the Authority AVOP Coordinator. AVOP testing is done by the AVOP Administration Office Administrator and Safety Compliance Officers. Testing may be done by an authorized employer-specific AVOP tester, if the company has an agreement in place with the Authority AVOP Coordinator for online/written tests, DA-type practical tests and/or Competency Check/Night Endorsements authorized employer-specific AVOP tester.

- Written/Online Tests must be booked using the AVOP Office Online Booking System: yyc.com/avop.
- Practical tests, Competency Check/Night Endorsements, and all Familiarization (FAM) Drives must be booked using the [YYC AVOP Practical Booking Request form](#) on the AVOP Office Website.

Note: The AVOP Office Website contains more detailed instructions:

yyc.com/calgaryairportauthority/avopoffice

3.3.1 Written Tests

The pass mark for all AVOP written tests is 90%.

- a. There is a limit of 3 tries for the written exam.
- b. The applicant must wait a minimum of the next day (minimum 16 hours) for each attempt to provide study time to properly learn the material. (Longer delays between attempts are at the discretion of the AVOP authorized tester/proctor based on test score).
- c. Requests for a fourth attempt for the online/written test must be submitted to the AVOP Coordinator through the AVOP Office or the Safety Compliance Office. Requests will be assessed for approval by the AVOP Coordinator on a case-by-case basis. If approved, any test attempt (beyond 3) must be done at the AVOP Office.

Note: Applicants suspected of, or confirmed as cheating on the AVOP online/written test will be immediately escorted from the room and their test terminated. The applicant will be required to schedule an interview with the AVOP Coordinator (or designate) along with the Employer Representative to request the opportunity to re-sit the test.

3.3.2 Practical Tests

- a. There is a limit of 3 tries for the practical test.
- b. The applicant must wait a minimum of 48 hours between each attempt to provide study and training time to properly learn the material. (Longer delays between attempts are at the discretion of the AVOP Tester based on the applicant's knowledge and practical skills demonstrated during the test).
- c. Requests for a fourth attempt for the practical test must be submitted to the AVOP Coordinator through the AVOP Office or the Safety Compliance Office. Requests will be assessed for approval by the AVOP Coordinator in communication with the applicant's supervisor, on a case-by-case basis. If approved, any test attempt (beyond 3) must be done by Safety Compliance (or a tester assigned by the AVOP Coordinator).

Note: If the AVOP applicant changes companies before successfully completing the process of both the written and practical tests, the applicant must start over with a new application form and must complete and/or redo all tests through the new employer to ensure the applicant is trained to competency according to their new duties and responsibilities (different vehicles & duties, different areas of travel, etc.)

3.3.3 DA AVOP Testing (DA (all aprons), DA South and DA West)

Individuals applying for any DA-type AVOP (new or renewal) will be tested on their knowledge of:

- Sections [1, 2, 3, 4, 5 \(5.1-5.6\), 6, 9, 10](#), and
- Applicable site maps [Section 11](#).
- Sections [13.1, 13.2, 13.3, 13.6, 13.7](#).

Applicants must be able to identify and demonstrate knowledge of:

- all Aprons and access points associated with the Aprons, applicable to the AVOP type,
- all Taxiways and Taxiway Entrances that enter or connect with the Aprons applicable to the AVOP types,
- all signs, lines, lights and markings,
- all applicable airside vehicle roads (VSRs, cargo roads, perimeter roads, service roads, NPS-V locations, etc.),
- all applicable airside access gates,
- all applicable operational stands (gates) and all applicable aircraft parking pads,
- visible signs/indications of Aircraft arriving,
- visible signs/indications of Aircraft pushing back and departing, and
- all traffic rules and procedures, including 'Right-of-Way'.

Sample questions for the written and practical tests are in Sections [12.2, 12.3, 12.4, 12.7, 12.8](#). All Site Maps for the written & practical tests are in [Section 11](#).

3.3.4 D AVOP Testing (D, D-AME and all D-Tow AVOPs)

Individuals applying for a D-type AVOP (new or renewal) will be tested on their knowledge of ALL sections and appendices of this manual and all airside areas.

Applicants must be able to demonstrate knowledge of:

- all applicable Aprons, Taxiways and Runways,
- all signs, lines, lights and markings,
- all applicable airside vehicle roads (VSRs, cargo roads, perimeter roads, service roads, NPS-V locations, etc.),
- all applicable airside access gates,
- all applicable operational stands (gates) and all applicable aircraft parking pads,
- visible signs/indications of Aircraft arriving,
- visible signs/indications of Aircraft pushing back and departing, and
- all traffic rules and procedures, including 'Right-of-Way'.

Sample questions for written and practical tests can be found in:

Sections [12.2](#), [12.3](#), [12.4](#), [12.5](#), [12.6](#), [12.7](#), [12.8](#), [12.9](#), and

Sections [1](#), [13.1](#), [13.2](#), [13.3](#), [13.4](#), [13.5](#), [13.6](#), [13.7](#), [13.8](#).

All Site Maps for the written & practical tests are in [Section 11](#).

Note: AVOPs are not transferable from other airports.

Fully completed AVOP applications for new AVOPs, showing proof of completion of the written and practical tests, including applicable licenses and the written test certificate (signed by the employer authorized tester) are accepted as valid AVOPs for a maximum of 14 calendar days.

The 14 day allowance after the practical test is for NEW AVOP applicants only.

Applications for new AVOPs must be submitted to the AVOP Administration Office within 14 calendar days of completing the (daytime) practical test to be valid. Applications that are more than 14 days old may be rejected at the discretion of the Authority AVOP Coordinator or designate. (See Note Box below and [Section 3.3.6](#) for AVOP renewal application requirements.)

Note: AVOP Renewals

Fully completed and signed AVOP application forms (including the signed Online test certificate) for AVOP renewals MUST be submitted and processed by the AVOP Administration Office within 14 days of the test date AND BEFORE the expiry date of the current AVOP. Failure to do so may result in the AVOP being automatically cancelled. For any cancelled AVOP, a new application must be presented, accompanied by proof of newly completed written and practical tests. ([Ref. 3.3.6](#))

3.3.5 Competency Check/Night Endorsement

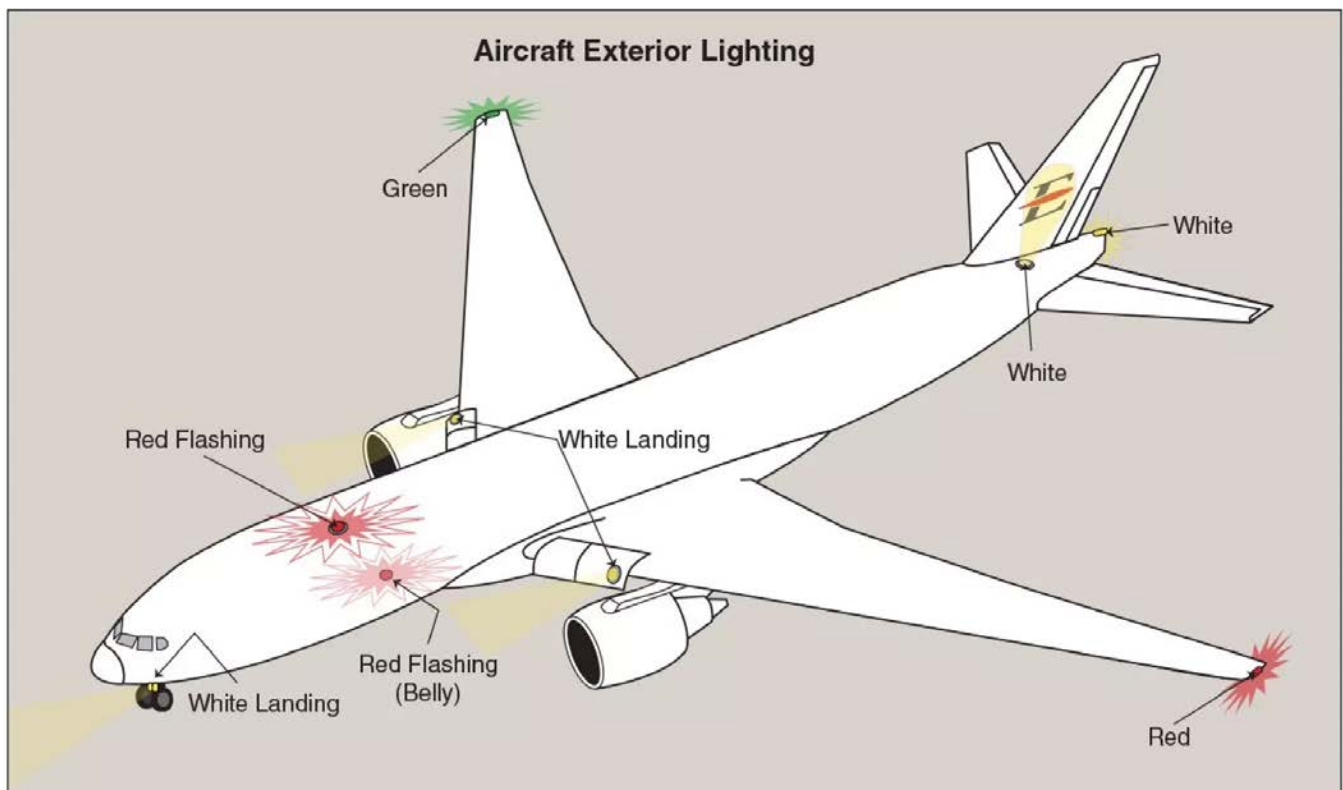
AVOP holders may operate day or night for up to 180 days after the date of issue of their AVOP but must complete a mandatory Competency Check/Night Endorsement within those 180 days and no sooner than 30 days after the date of the practical test.

The 180 days is given primarily to accommodate the reduced hours of darkness from April to August. All AVOP applicants are responsible to plan and complete their Competency Check/Night Endorsement accordingly for hours of darkness, within the maximum 180 days allowed.

Failure to successfully pass the mandatory Competency Check/Night Endorsement, no sooner than 30 days after the practical test AND within 180 calendars from the date of the practical test will result in the automatic cancellation of the AVOP. Reinstatement requires a new application form and retesting (written, practical and competency check/night endorsement).

Note: Competency Check/Night Endorsement: To successfully complete a Competency Check/Night Endorsement, the driver must be able to demonstrate consistent safe airside practical driving skills and knowledge, building on their knowledge and understanding of the AVOP rules and procedures (from the daytime practical test) and utilizing additional knowledge of aircraft lighting (wing tip navigation lights, taxi light and tail lights) to assist with recognition of aircraft and aircraft movement.

The initial practical test can be done at night, but a combination day and night test is not allowed. All Applicants must complete three separate test, a written test, an initial practical test, and a competency check/night endorsement.



3.3.6 Renewals

All AVOPs are now valid for three years.

Renewal requires a completed AVOP application form, a valid RAIC and Driver's License, a valid ROC-A and AME license (as applicable), and successful completion of all application tests.

If the applicant holds multiple AVOPs, a separate completed application form is required for every AVOP.

Note: Existing AVOPs are valid and accepted as is. Effective October 1, 2023 all AVOPs will change to a 3-year issue and renewal cycle. All new AVOPs will be issued with a maximum 3-year expiry date. All existing AVOPs will change to the 3-year cycle upon renewal, reissue, reinstatement, including all AVOPs reinstated after an AVOP Violation Retest.

Renewal requirements are as follows, including all details in the Note below:

- a. All renewals require a correctly completed and signed AVOP Application Form.
- b. DA, DAS & DAW AVOPs - renewal requires written test (as a minimum).
- c. D AVOPs - renewal requires written and practical tests (as a minimum).
- d. D-AME AVOPs - renewal requires written and practical tests (as a minimum).
- e. D-Tow AVOPs (DTN, DTS, DDT) - renewals requires written and practical tests (as a minimum).
- f. Combination AVOPs (AME & D-Tow types) are no longer issued. All previously combined AVOP types must be applied for separately and will be issued and tracked independently.

Note: Fully completed and signed AVOP application forms (including the signed Online test certificate) for AVOP renewals **MUST** be submitted & processed by the AVOP Office **WITHIN** 14 DAYS of the test date and **BEFORE** the expiry date of the current AVOP.

3.3.6.1 AVOP Authorized Tester renewals

The Authority AVOP Coordinator licenses all AVOP testers on a three-year cycle. Testing and retesting of examiners can only be done by the Authority AVOP Coordinator or designate. Approved testers must submit to a Tester Audit when requested by the AVOP Coordinator or designate (Safety Compliance).

Authorized AVOP testers must abide by the policies and procedures in the AVOP Tester Manual and/or AVOP Online Proctor Manual. An examiner who is in breach of Airport Authority testing policies, procedures, protocols or requirements, has an infraction, or fails their AVOP test or renewal, may have their tester designation revoked at the discretion of the AVOP Coordinator or designate. **(see AVOP Tester Manual for AVOP Tester procedures & protocols)**

Note: AVOP testers must hold an equivalent (or higher level) AVOP and must successfully complete their AVOP written tests and renewals in the AVOP office and their practical tests and renewals with Safety Compliance.

3.3.7 Returning after an Absence

Same employer AND less than one year absence

When returning to the same employer after an absence of more than four consecutive months (but less than one year), all AVOP holders must successfully pass a practical check ride with a designated AVOP tester to ensure they have current knowledge of the Airside Traffic Directives, before they resume their duties to drive airside (with the same employer).

New employer after any absence

When returning after an absence and starting with a new employer, the application will be treated as a new AVOP or may qualify for a Change of Employer. ([Ref. 3.8](#))

More than one year absence

For all AVOPs, the AVOP is cancelled after an absence of more than 12 months. To obtain an AVOP, the applicant must submit a completed AVOP application form and successfully pass the written and practical tests, as well as a Competency Check/Night Endorsement with the following exception.

Any person returning to work who held a valid AVOP in good standing may not be required to complete a new Night Endorsement when applying for an equivalent or lesser AVOP type for up to 3 years, calculated from the test date of their previous AVOP.

Note: An absence is AVOP and employer specific and is defined as ‘an absence or time away from driving in the areas prescribed by your AVOP license.’ This includes absences due to seasonal work, temporary changes in duties, illness, leave of absence, vacation or holidays, etc.

3.4 Lost, stolen or replacement AVOP cards

Replacement cards can be obtained at the AVOP Office as long as their AVOP is still current and valid. Drivers MUST make an appointment at the AVOP Office and MUST present a valid Driver’s License and a valid employer-specific RAIC when requesting a replacement AVOP card.

3.5 Cancelled, Expired, Suspended or Revoked AVOPs

An AVOP is automatically cancelled or revoked when:

- a. the Driver’s License of an AVOP holder is no longer valid or has been revoked, or suspended for any reason under Provincial Law or the Criminal Code,
- b. the expiry date of the AVOP is reached, ([Ref. 3.3.6](#))
- c. the RAIC of the AVOP holder has been revoked, suspended or is no longer valid,
- d. the AVOP is cancelled or suspended by the employer, and
- e. the AVOP is suspended, cancelled or revoked by the Authority AVOP Coordinator (or designate) for safety or security reasons.
- f. the AVOP is cancelled when the AVOP holder no longer works for the employer listed or authorized on their AVOP

When an AVOP is cancelled, expired, suspended or revoked, the AVOP card must be returned to the AVOP Administration Office within 14 days and the last day of employment must be provided. (The last day of employment is required for record keeping to facilitate any future request for reinstatement or change of employer).

Note: The Authority AVOP Coordinator or designate may suspend an AVOP when it is in the public interest to do so, and may be done immediately as non-punitive, for safety, security or investigative reasons.

3.6 Reinstatement

Any AVOP holder whose driving privileges were in good standing when their AVOP privileges were cancelled can be reinstated if the following conditions are met:

- a. the AVOP was cancelled less than 30 calendar days before the request to reinstate is made AND a completed AVOP application form is submitted to the AVOP office, and
- b. the AVOP holder was successfully tested less than three years before the reinstatement request.

3.7 Restricted Operator's Certificate – Aeronautical (ROC-A)

Any person who is required to establish radio communications on an aeronautical frequency must have a valid ROC-A, which must be presented upon request to the authority having jurisdiction. ([Ref. 2.1.2](#))

- A valid ROC-A is required for all D, D-AME, DTN, DTS and DDT AVOP applicants.
- Effective October 1, 2023, a valid ROC-A is also required for all DA AVOP holders whose duties include push-back or tow operations on Apron I (including brake riders).
 - All current DA AVOP holders and/or brake riders whose duties include push-backs or tow operations on Apron I MUST obtain their ROC-A by December 31, 2023.

Note: The study guide for the Restricted Operator's Certificate is a stand-alone publication and is not a part of the Airside Traffic Directives.

The study material for the ROC-A is contained in the Study Guide for the Restricted Operator's Certificate - Aeronautical. The study guide can be obtained from the Innovation, Science and Economic Development Canada website. (Ref. Innovation, Science and Economic Development Canada website www.ised-isde.canada.ca)

3.8 Change of Employer

When changing employers, an AVOP may be eligible for transfer IF the following minimum conditions are met:

- a. The AVOP required for the new employer is equivalent (or less)
- b. The applicant holds a valid RAIC for the new employer (company)
- c. The new employer (company) is eligible and authorized to hold AVOPs.
- d. The applicant submits a fully completed application form, signed by the new employer and the applicant
- e. The AVOP Application Form is submitted within 30 calendar days from the AVOP cancellation date (the last day of work with the previous employer)
- f. The AVOP holder was successfully tested less than three years before the transfer request
- g. D-Tow AVOPs (DTN, DTS & DDT) are not transferable unless approved by the AVOP Coordinator, and the company has an approved D-Tow program for an equivalent or lesser D-Tow AVOP type, and unless all conditions are met. ([Ref. 7.4](#))

Note: If the application to transfer an AVOP is not submitted to the AVOP office within 30 days of the last day of previous employment, the AVOP is automatically cancelled and the individual must apply for a new AVOP and successfully complete all applicable tests.

If the AVOP required is a different type, a new application form and all applicable tests are required.

For any applicant hired who is already in possession of a valid AVOP, the new employer is responsible to perform a competency assessment to ensure the employee demonstrates appropriate AVOP knowledge and safe airside driving standards prior to the new hire's assumption of operational duties.

3.9 Multiple Employers

AVOPs are specific and valid to each individual employer. If an AVOP holder has one class of AVOP for one employer and a different class of AVOP for another employer, the higher class AVOP cannot be used for the other employer.

Note: The AVOP holder/applicant is not authorized to drive for the added (second, third, etc.) employer until their documentation is complete, submitted and processed at the AVOP Office.

An AVOP may be valid and used for more than one employer if:

- a. The applicant holds a valid multi-employer RAIC for all applicable employers.
- b. The applicant has submitted a completed and signed AVOP application form and completed all applicable AVOP tests for each AVOP and each employer.

Example: If an AVOP holder has a DAS for 'Employer Y-Air' and a D for 'Employer Z-Air', they cannot use the D AVOP when working/driving for 'Employer Y-Air'.

Note: Notification of an AVOP violation ticket incurred by an AVOP holder will be sent to every employer of that AVOP holder and will remain on their record as applicable to the violation. ([Ref. 4.1, 4.6 and 4.7](#))

3.10 Escorting a Non-AVOP Holder

Escorting protocols are intended for short-term or temporary airside operations only. Escorting procedures are not intended for vehicle, equipment or AVOP training, or as a substitute for obtaining an AVOP.

Note: Any airside worker being escorted to accommodate their regular airside duties or tenant operations on a continuous bases are required to obtain an AVOP. ([Ref. 3.1](#))

Only a qualified AVOP holder with a permanent (red) RAIC is authorized to escort another vehicle driven by a non-AVOP holder. As an escort, the AVOP and Red RAIC holder is responsible for all actions of the non-AVOP holder. Any safety or security violation, incident or accident by the operator of the vehicle under escort are the responsibility of the AVOP holder (escort).

The person acting as an escort assumes all liability for safety and security for the duration of the trip and for the entire time that vehicle and operator are airside. Escorts are responsible to ensure safe aircraft and vehicle operations by allowing MORE THAN enough time and space for all vehicles under their care and control. All other operators (pilots, equipment operators, etc.) must feel confident there is "ample" room.

If the driver of the vehicle under escort is uncooperative for any reason, the escort has the right to refuse entry to the airfield for that driver. If the conflict arises after entry to the airfield escort the driver back to the airside gate and resolve the issue in a safe area. If assistance is required, contact the IOC and request Security to assist in dealing with the uncooperative driver.

The maximum ratio is 1 to 3. One escort vehicle to a maximum of three vehicles under escort. The maximum distance between the escort vehicle and the vehicle under escort (and every additional vehicle) is four (4) seconds. (This distance may be adjusted according to weather, visibility, stopping performance of vehicles or traffic.)

An AVOP holder who escorts another vehicle airside must conduct a briefing with the driver of the vehicle and discuss (as a minimum):

- a. The route to be taken
- b. Speed limits along the route
- c. Appropriate following distance
- d. Stop Sign procedures (Only the escort/AVOP holder stops at a stop sign. All vehicles under escort follow as if they are attached like C-train cars.)
- e. NPS-V procedures, as applicable ([Ref. 10.3 and 10.4](#))
- f. Evasive or unexpected actions in case of an unexpected change of route or conflict with traffic (e.g. to give Right-of-Way)
- g. Aircraft have the right-of-way at all times

Note: See [10.4.2](#) for escorting through NPS-V South and the J/E Underpass and sections [6.6](#), [6.8.2](#) and [10.5.1](#) for escorting emergency vehicles with red lights flashing.

Private vehicles and vehicles operated by non-AVOP holders are allowed airside only if they:

- a. Are under escort by a qualified AVOP holder with a permanent (red) RAIC, OR
- b. Have permission to be airside from the Authority AVOP Coordinator or designate and meet all insurance and alcohol and drug policy requirements. ([Ref. 3.16](#))

3.11 Alcohol & Drug Policy

All companies, contractors, tenants, and vehicle operators, including vehicle operators under escort must have and comply with an Alcohol and Drug policy that meets or exceeds the Airport Authority Alcohol and Drug Policy. (The Authority A&D Policy is available on The Source)

In accordance with the Authority Alcohol & Drug Policy, all persons working at Calgary International Airport must report Fit for Duty and remain Fit for Duty at all times while engaged in Airport Business or working on Airport Premises, operating vehicles and equipment, and when on paid standby. The Authority Alcohol & Drug Policy includes the following standards.

All persons working at YYC are prohibited from:

- Use, possession, distribution, offering or sale of illegal drugs, recreational cannabis, beverage alcohol, illegal drugs or other mood-altering substances or related drug paraphernalia
- Reporting to work or being at work while not Fit for Duty because of the use of illegal drugs, recreational cannabis, beverage alcohol, or other Mood-Altering Substances
- Consumption of any product containing recreational cannabis or Alcohol during the workday or shift, including during meals or other breaks.

Note: The Airside Traffic Directives recognizes a Blood Alcohol Content (BAC) of greater than 0.02 as under the influence of alcohol. There is zero tolerance for those driving airside who are under the influence.

A positive Drug test result through the testing program is considered NOT Fit for Duty.

The use of legally prescribed medication while working is permitted, provided it has been prescribed or authorized for use for that person, and it is being used as prescribed or authorized, and it does not cause the employee to be not Fit for Duty.

3.11.1 Alcohol & Drugs

AVOP holders may be subject to Alcohol & Drug testing requirements in the following circumstances.

Post Incident: In alignment with the Authority Alcohol & Drug policy, each company, tenant or contractor is responsible to ensure any AVOP holder (or worker) involved in an AVOP work-related incident is automatically sent for an Alcohol & Drug test, when the incident results in, or has the potential to result in:

- A runway incursion
- A fatality
- An injury to individual(s) that requires medical attention or positive transport to hospital

Reasonable Cause: Where there are reasonable grounds to believe that the actions, appearance or conduct of an individual while on duty are indicative of the use of alcohol, drugs, a full investigation will take place.

Note: Arrangements for testing are the responsibility of the employer. Testing should be done immediately unless this is impossible because medical attention is required.

In all situations, an AVOP investigation will be conducted to verify that a Policy violation has occurred to ensure applicable corrective actions are assessed and implemented.

3.11.2 Smoking Airside

Smoking, smoking devices and/or the consumption of Cannabis, Illegal Drugs, or other Mood-Altering Substance is not allowed airside, including inside or outside of vehicles. ([Ref. 3.11.1 for A&D policy](#))

Smoking of tobacco-based substances (cigarettes & e-cigarettes) is allowed airside, in designated smoking shelters only.

Smoking shelters are located in the following areas:

- a. Concourse A - northeast corner beside Breezeway A,
- b. Between Concourse B - east end of Breezeway B,
- c. Beside Breezeway D - across from Gates 72/73,
- d. Beside Breezeway E - across from Gates 80/81.

3.12 Requirements for all AVOP Exempt Areas

General

- a. All YYC security and safety requirements, including all alcohol and drug, and all smoking and distracted driving policies and procedures are in effect, regardless of AVOP exemptions,
- b. All AVOP rules, policies and procedures, including the Hierarchy of the right-of-way, and all signs, lights, markings and all speed limits remain in effect, regardless of AVOP exemptions,
- c. The Authority AVOP Coordinator may create or withdraw an AVOP exemption at any time.

3.12.1 Leased Areas

Leased areas are company-specific private property operational areas whose boundary(s) are marked by two parallel white lines. ([Ref. 5.3.5](#))

- a. An employer has an AVOP exemption for the area located within the boundaries of the employer's leased space. An AVOP exemption is granted to an employer only. If the employer and the leaseholder are two different entities, then the leaseholder must agree to provide the employer with permission for the AVOP exemption on the leased property.
- b. The AVOP exemption applies only to the employees and visitors under the direct supervision of the employer, and they must restrict their driving activities to within the boundaries of the employer's leased area. AVOP holders who are not employees of the leaseholder must have permission to enter and cannot enter a leased area unless operationally required.

3.12.2 Gate 306A Roads

The AVOP Exemption applies to the service road from Gate 306A west to West Deicing Apron, south along the cargo buildings, and both east and west along the cargo buildings. The service road between Gate 303 and the T-intersection immediately south of Taxiway J is also exempt.

Note: Anyone airside, including anyone operating in lease areas must comply with all YYC Security procedures, including having a valid RAIC, or being under the direct supervision of someone with a valid RAIC.

Note: The West & East Deicing Apron are leased areas and are restricted to persons with a valid, employer-specific DA AVOP involved in Deicing operations. ([Ref. 6.2](#)) Prior approval from the Lease Holder (or CAA) is required.

3.12.3 Gate 420 to Gate 321

The AVOP Exemption applies to the service road from Gate 420, through NPS-V North, the perimeter road around the threshold of Runway 17R, past the buildings associated with the North Retention Pond, north and west (left) past the Lav Dump station/glycol station, through to Gate 321.

3.12.4 Airside Maintenance Center (AMC)

The Airside Maintenance Centre is an Airport Authority leased area. Due to the large vehicles, equipment and significant pedestrian traffic at the AMC, DA drivers are not permitted in this area unless they have permission and specific business at the AMC.

The AMC Apron is an AVOP exempt area to facilitate access to Airport Authority approved contractors and subcontractors. The exemption applies to the AMC Apron area, located inside the security fence, west to the STOP lines that separate the AMC area from Taxiway A, and south to the beginning of the perimeter road around the threshold of Runway 08.

Note: The AMC is considered an Apron with a speed limit of 30 km/h. The AMC Apron can be accessed from airside areas by D AVOP holders only. All other drivers must access the AMC using public (ground side) roads, then access the AMC Apron (with permission) through controlled access gates.

3.12.5 Gate 234 Roads

The Gate 234 road AVOP Exemption applies to the service road leading from Gate 234 to the aircraft storage area, the mock-up site, the transmitter site, and up to, but not including Apron X (Deicing Pad).

3.13 Vehicles & GSE: Licensing, Safety Requirements & Markings

3.13.1 Licensing Requirements

No person may operate a vehicle, any ground service equipment (GSE), taxi or tow an aircraft at Calgary International Airport unless the driver and vehicle are in compliance with all licenses, permits and insurance required by the Province of Alberta and the Calgary Airport Authority.

No person may operate a vehicle, GSE, taxi or tow an aircraft at Calgary International Airport while under prohibition from operating a vehicle as imposed by a court or a judge. All AVOP holders must report the suspension of their Driver's License immediately to their supervisor and to the Airport Authority AVOP Coordinator. ([Ref. 2.1.1\(a\)](#))

3.13.2 Vehicle & GSE Safety Requirements

Vehicle and ground service equipment (GSE) must be maintained to manufacturer's specifications, in a safe and serviceable condition to a standard that reflects the professionalism and public image of the Calgary International Airport (YYC).

All vehicles (with the exception of escorted vehicles) driven airside (beyond the company leased area) must be equipped with and operate the following:

- a. Company markings.
- b. Beacon (vehicles with cabs only).
- c. Seat belts for all vehicles, with or without an enclosed operator's cab.
- d. Vehicle height placards clearly visible to the operator for all vehicles, including vehicles with equipment or accessories (platforms, ladders, etc.) over 2.1 m (7 feet).
- e. Unique and legible identification numbers. ([Ref. 3.13.3](#))
- f. Aeronautical radio (manoeuvring area only).
- g. Unique transponder (manoeuvring area only).

3.13.3 Vehicle Markings

All airside vehicles, unless under escort, must have company markings (i.e. company name) visibly displayed on the vehicle. Magnetic signs are acceptable. Companies with more than two of the same sized vehicle operating on Apron I must also visibly display unique vehicle identification numbers.

All vehicles entering the manoeuvring area, unless under escort, must have company name and a unique and legible vehicle identifier number visibly displayed.

Company name and identification must be of sufficient size and contrast to be visible and readable from a minimum distance of 15 meters. (example: Large trucks (lift trucks/catering trucks) must have numbers a minimum of 30 cm (12 inches) high on both sides of the vehicle.



3.13.4 Beacons and Lights

All self-powered (gas or battery-powered) vehicles with a cab must be equipped with fully functioning headlights, tail lights, and parking lights. Vehicles without a cab must be equipped with fully functioning parking and tail lights that can flash on and off in unison.

Note: All vehicles and drivers operating ground side (off-airport) must comply with all municipal and provincial requirements, including a valid provincial license plate, registration, insurance and license plate lamp.

Airside vehicles with a cab must be equipped with a yellow beacon mounted so it can be seen from a 360 degree angle – even during daylight. The warning light must be an “aviation yellow” (amber) rooftop, omnidirectional beacon and meet the requirements laid out in the Society of Automotive Engineers (SAE) J845 mandate for Class 2 beacons. (Class 2 “Blocking Traffic” = 4500 cd-s/m [Candela-Seconds/Minute]). In addition to the yellow beacon, airport emergency vehicles may be equipped with red and/or blue warning lights as required. Large trucks (e.g., fuel tanker trucks) with an overall height greater than 3.4 meters are allowed to have an additional 360 degree beacon to the rear of the vehicle to provide adequate visibility of the moving vehicle.

Note: All staff working from a vehicle with a fully enclosed driver’s compartment must wear high-visibility clothing with reflective bands anytime they step outside of their vehicle when working or present airside.

Beacons are intended to function as a warning that the vehicle is in use and moving. The beacon must be ON and functioning when the vehicle is in use anywhere airside. The beacon must be OFF when vehicles are parked within the perimeter of an operational stand for the purpose of servicing an aircraft. (Improper use of beacons can be distracting for taxiing aircraft.)

Beacons and headlights should be OFF when the vehicle is parked at an airside building or when the vehicle is parked 60 meters or more away from a Taxiway Center Line or Apron on the outer edge of the airfield, or 150 meters or more away from a Runway. Vehicles equipped with headlights must have the headlights ON whenever it is being driven airside.

Headlights and non-flashing tail lights must be operated during hours of darkness and reduced visibility. All vehicle lights must be turned off when the vehicle is parked in a designated parking area.

Note: Operators of vehicles equipped with turn signals must use them whenever they change direction, including at all VSR intersections.

3.13.5 Non-motorized Ground Service Equipment (GSE) Requirements

All non-motorized Ground Service Equipment (GSE) (e.g. baggage carts, dollies, etc) are required to have reflectors of sufficient size, spaced evenly on the sides and the back of the equipment. The company can choose the reflector’s color, size (minimum 5 cm), shape (round, rectangular or square), and maximum spacing. The material used must be reflective enough to be seen from a distance and to detect the vehicle as an obstruction.

The presence of unlit mobile equipment on airport Aprons can be a significant hazard to taxiing aircraft. Each company must ensure that vehicle lighting and reflective markings are installed, maintained and replaced in a timely manner.

Over-height placards are required for all GSE and equipment over 2.1 m (7 feet). Placards must be of sufficient size, number and location to be clearly visible to the operator.

3.14 Unacceptable Vehicles and Equipment

The use of chains, cables or studded tires is forbidden on any airside paved surface.

Bicycles, Segways, motorcycles, skateboards, in-line skates, scooters, or any other similar means of transportation are not allowed airside. An exemption is granted to allow Calgary Police Service (CPS) or Emergency Medical Services (EMS) personnel to use bicycles or Segways, but only in certain areas and only for use during an Emergency Response.

3.14.1 Bag Halls and Buildings

All self-propelled mobile equipment, including all vehicles entering or used within all bag halls (ITB & DTB, inclusive) are restricted to non-hydrocarbon (electric) vehicles only. (This does not include the inbound baggage sheds.)

Hydrocarbon vehicles are not allowed to enter or operate inside the terminal building in any bag hall. Designated baggage vehicle staging areas near the baggage hall access points are provided, and must be used to transfer baggage between non-hydrocarbon (electric) and hydrocarbon (gas or diesel) vehicles.

3.15 Aircraft Safety and Equipment Display Markings

All aircraft being taxied or towed must be equipped with, and operated with the following:

- a. Navigation lights
- b. Anti-Collision light(s)
- c. Aeronautical radio
- d. Transponder set to Squawk code as assigned by ATC to the aircraft or the tow vehicle (or set to 1000 MHz if no specific code is assigned)
- e. Unique aircraft civil registration number

All aircraft markings must be functional and properly displayed.

Note: Navigational lights must be turned on while an aircraft is being taxied or towed. Aircraft operators have the option of using factory aircraft navigational lights or an independent system that mimics the aircraft navigational lighting system with approval from the Authority AVOP Coordinator. ([Ref. 3.3.5](#) for aircraft exterior lighting.)

3.16 Insurance Requirements

The company covenants and agrees that at all times during which the company or any person for whom the company is responsible at law (including, but not limited to, the company's agents, servants, officers, directors, employees, contractors, guests, and visitors) has access to or is airside, it must purchase, provide and maintain, or cause to be provided and maintained, at its sole expense, the Insurance as set out in this *section 3.16*.

The company must provide to the Airport Authority AVOP Coordinator, a Certificate of Insurance (a 'COI') issued by the insurer(s) or their authorized agent(s), evidencing that all insurance required pursuant to [Section 3.16](#) is in effect before being authorized to obtain AVOPs and/or operate vehicles airside. An updated COI must be provided to the Airport Authority AVOP Coordinator annually prior to the expiry date listed on the COI.

3.16.1 Details

- a. Automobile Liability Insurance for licensed vehicles for an amount of not less than five million dollars (\$5,000,000) per occurrence, AND
- b. Aviation Liability Insurance for bodily injury and property damage or loss for an amount not less than ten million dollars (\$10,000,000) per occurrence. The Aviation Liability Insurance must include coverage for liability arising from airside operation of motor vehicles and mobile equipment.

3.16.2 Such insurance must also specify:

- a. The Calgary Airport Authority, the Crown and their respective officers, employees or the Additional Insured on an active airport,
- b. No exclusions or reduction in coverage for any risks associated with the activities for the company or the Insured on an active airport,
- c. A cross liability clause and a severability of interest clause, and
- d. Occurrence Basis Coverage,

Nothing contained in the insurance requirements may limit or restrict the liability of the company. Failing to obtain or maintain the required insurance coverage as set out in this [Section 3.16](#) or failure to provide the Authority with initial and annual proof of insurance as set out in [Section 3.16.2](#) will result in the immediate suspension of AVOP privileges for all AVOP holders working for the company.

Section 4

AVOP Violations

4 AVOP Violations

Safety is key when working airside, especially when operating a vehicle, GSE or aircraft. At no time do operational considerations, such as time pressures allow AVOP holders to disobey the Airside Traffic Directives. Any action which compromises airfield safety or security may result in a warning or violation ticket to document the event.

A warning or violation is treated as an infraction under the violation record-keeping point system and is assigned a combination of points and time to document, assess and track the level of risk associated with the violation. More serious violations are assessed as having a greater likelihood or potential to lead to a serious incident or accident and will therefore be assigned a greater number of points and a longer duration. (Deliberate acts will be treated more seriously than unintentional acts regardless of the outcome.)

Documentation and the violation record-keeping point system allows for tracking of incidents, accidents and near misses, thereby providing an opportunity to follow up with further education, testing or other corrective actions, with the goal to improve knowledge, understanding and overall safety.

Note: Any RAIC holder operating a vehicle airside without a valid AVOP is also violating the RAIC terms and conditions of use.

4.1 Monitoring and Enforcement

Enforcement of the Airside Traffic Directives is the responsibility of the Calgary Airport Authority or their designate. AVOP enforcement personnel includes the Authority, CPS, the Authority Airside Operations Specialists (AOS), the Security Airside Patroller, Safety Compliance Officers (SCO) and any other designated person(s).

AVOP holders must comply at all times with instructions from AVOP enforcement personnel.

The Authority uses a system of warnings, violation tickets and a record-keeping point system for non-compliance with the Airside Traffic Directives. A copy of the violation ticket is given to the employee and a copy of the violation/infraction letter is sent to the employee c/o their employer(s). ([Ref. 3.9](#))

Note: Airport Authority AVOP testers are authorized to undertake airside spot checks and competency tests, both randomly and for cause.

4.2 Self-Reporting of AVOP Incidents

In the interests of promoting safe airside operations, The Calgary Airport Authority encourages all AVOP permit holders to self-report any incidents, violations or conflicts they may be involved in. The Authority has a Non-Punitive Safety Reporting Policy for its staff that guarantees that no disciplinary action will be taken for the act of reporting an incident, accident, or hazard, and we extend that policy to the AVOP Program.

For AVOP holders who self-report an incident, elimination of violation points may be considered by the Safety Compliance Officer when handling the incident. The incident will still be fully investigated and should corrective action such as additional training and testing be indicated, those actions will be taken. A record of the violation will remain on the on the driver's AVOP record for the prescribed time, however the points for that individual violation may not be added to the AVOP holders total points.

This policy does not include incidents involving willful negligence, substance abuse, or criminal intent.

Warnings and violation tickets will be sent to the Authority AVOP Coordinator for review. If required, an interview with the AVOP Coordinator (or designated person) will take place and appropriate corrective action will be taken ([Ref. 4.5 and 4.6](#)). The Airside Traffic Directives at YYC are structured to be a non-punitive system that focuses on driver education, improving their skills and increasing their situational awareness through use of the AVOP manual, employer training, and testing.

AVOP holders who receive a warning or violation ticket are given opportunities to improve their airside driving knowledge and skills through discussion and/or further training or testing. Those AVOP holders that show a repeated or deliberate disregard for airfield safety demonstrated by a pattern of behavior of disobeying the Airside Traffic Directives and becoming an unacceptable safety or security risk for airfield users will ultimately have their airside driving privileges at YYC revoked.

Note: Written warnings (zero record keeping points) can only be considered for Category I infractions. Written warnings will remain on the AVOP holder's record for a minimum of 12 months from the date of the incident. Written warnings are subject to the cumulative effect.

4.3 Unsafe or Dangerous Driving

No person may operate a vehicle airside in a manner that, regarding all circumstances including the amount of traffic, is unsafe or is dangerous to aircraft, equipment, buildings, vehicles, operators, airport workers or pedestrians. Any person operating a vehicle airside in a manner that is considered unsafe or dangerous may be issued a violation (or multiple violations) as applicable to the event. ([Ref. 4](#))

4.3.1 Distracted Driving

YYC's distracted driving policy mirrors the Province of Alberta's guidance.

*A violation may be issued if a **driver** is observed doing any of the following:*

- a. Using hand-held cell phones.
- b. Texting or emailing.
- c. Using electronic devices such as laptop computers, video games, cameras, video entertainment displays and programmable portable devices, with or without earphones or a headset.
- d. Entering information on electronic devices.
- e. Reading printed materials in the vehicle.
- f. Writing, print or sketching.
- g. Personal grooming.

An AVOP holder may be issued a distracted driving violation, even if their driving performance does not appear to be affected. An AVOP holder who commits a moving violation while distracted may receive two tickets – one for distracted driving and one for the moving violation.

Furthermore, people actively working airside may NOT use cell phones or any personal audio/video/gaming or similar devices, with or without earphones or a headset.

Note: AVOP holders may use cell phones ONLY when the vehicle is parked in a safe location.

Earbuds are considered part of an electronic device. Earbuds are NOT considered PPE or hearing protection.

4.4 Violations

CATEGORY I - MINOR INFRACTIONS (2 Points Each)

- a. Depositing, creating or failure to retrieve FOD, including tracking FOD onto movement areas.
- b. Failure to wear a hi-visibility safety vest airside.
- c. Failure to secure load(s).
- d. Failure to apply brakes for parked vehicles, chock wheels, carts, etc.
- e. Failure to display proper safety or company markings.
- f. Failure to obey a STOP sign.
- g. Failure to wear a seatbelt.
- h. Failure to comply with Airside Traffic Directives (ATDs).
- i. Failure to produce a valid AVOP or a valid driver's license (must be shown to the Authority AVOP Coordinator [or designate] within 24 hours).
- j. Failure to properly display correct vehicle or aircraft markings or equipment.
- k. Failure to use the VSR.
- l. Failure to YIELD to traffic within VSR.
- m. Operating vehicle with headlights, beacons or other required lights not used or not working.
- n. Parking in Unauthorized or No Parking locations.
- o. Speeding: 1-10 km/h over the limit.
- p. Towing more than the allowed number of dollies/carts at one time (e.g. more than four cargo pallet dollies/carts, more than six baggage dollies/carts on the Apron, or more than four baggage dollies/carts inside the ITB bag halls).
- q. Traveling the wrong way on a one way VSR.

CATEGORY II - INTERMEDIATE INFRACTIONS (5 Points Each)

- a. Distracted driving: using cell phones or personal audio/video/gaming devices while driving airside. ([Ref. 4.3](#))
- b. Driving in an unsafe manner.
- c. Entering a construction area, an emergency site, or a dignitary area without a need and right, or Authority approval.
- d. Failure to give right-of-way to marshallers and/or the push tractor returning to the building upon completion of a Push-back or to pedestrians in designated walkways.
- e. Failure to give right-of-way to snow, ice and FOD control vehicles, glycol recovery or spray vehicles in performance of their duties, or to fuel trucks manoeuvring into or backing out of an operational stand.
- f. Failure to immediately report or remain at the scene of a vehicle accident.
- g. Improper parking of vehicle/equipment causing or resulting in damage.
- h. Speeding: 1-10 km/h over the limit in a breezeway on Apron I or in a Bag hall on Apron I.
- i. Failure to use designated push-back (or tow) procedures.

CATEGORY III - MAJOR INFRACTIONS (8 Points Each)

- a. Driving between an aircraft and a marshaller.
- b. Driving between an Aircraft and an Emergency Vehicle(s) with red lights flashing (during an Emergency Response) ([Ref. 6.13.1](#))
- c. Driving between the terminal building or airside bus and a parked aircraft at a ground loading position.

- d. Driving without a valid AVOP (includes driving in unauthorized areas or areas not applicable to AVOP type).
- e. Failure to comply with AVOP enforcement personnel.
- f. Failure to give right-of-way to aircraft whether under its own power, tow or during Pushback.
- g. Failure to give right-of-way to emergency response vehicles with a red beacon flashing.
- h. Failure to maintain care & control of vehicle(s) under escort.
- i. Failure to monitor or use the appropriate radio frequency while operating radio equipped vehicles in the manoeuvring area.
- j. Failure to report a suspension of a Provincial Driver's License.
- k. Failure to use designated push-back (or tow) procedures resulting in jet-blast (to persons, equipment, buildings or aircraft), damage or other safety event.
- l. Obstructing emergency egress from buildings or access to emergency equipment (e.g., fuel shut-off valves, wheeled fire extinguishers, stand pipes).
- m. Operating an unsafe vehicle.
- n. Speeding: 11-20 km/h over the limit.
- o. Speeding: 11-15 km/h over the limit in a breezeway on Apron I.
- p. Taxiway incursion or manoeuvring area incursion.
- q. Unduly crossing Runways/thresholds.

CATEGORY IV - GROSS MISCONDUCT (12 Points Each)

- a. Crossing a lit red STOP bar.
- b. Driving airside under the influence of drugs and/or alcohol.
- c. Driving recklessly or dangerously.
- d. Driving with a suspended AVOP.
- e. Driving without a valid driver's license.
- f. Failure to obtain correct permission(s) or obey instructions from ATC (Air Traffic Control (ATC)).
- g. Runway incursion.
- h. Speeding: 21 km/h or more over the limit.
- i. Speeding: 16 km/h or more over the limit in a breezeway on Apron I.
- j. Using a D-Tow AVOP (DTN, DTS or DDT) for a purpose incompatible with its terms and conditions of issue.
- k. Using any personal, electronic or distractive device(s) resulting in personal injury, property damage, or a serious risk to aviation.

Note: Runway incursions are a serious safety incident and must be reported immediately to the IOC and your supervisor. Any person involved in a runway incursion must follow their employer's procedures for a serious safety incident, and is expected to fully participate in the investigation by the Authority Safety representative.

CATEGORY V - OTHER INFRACTIONS

Includes only violations of the Airside Traffic Directives that are not mentioned in [Section 4.4](#).

4.5 Corrective Action

Note: AVOP testers are authorized to undertake airside spot checks and competency tests, both randomly and for cause.

CATEGORY I - MINOR INFRACTIONS (2 Record Keeping Points Each)

- a. On employee's record for 12 months from date of AVOP violation ticket notification.
- b. Possible interview with the Authority AVOP Coordinator or designate upon request by the employee. Interview must be requested within 14 days from the date of the infraction.

CATEGORY II - INTERMEDIATE INFRACTIONS (5 Record Keeping Points Each)

- a. On employee's record for 18 months from date of AVOP violation ticket notification.
- b. Possible interview with the Authority AVOP Coordinator or designate upon request by the employee. Interview must be requested within 14 days from the date of the infraction letter.
- c. Possibility of one to five working day suspension of driving privileges.

Note: Anyone whose AVOP is suspended is not authorized to drive airside (including not allowed to drive under escort) until all corrective actions and requirements have been successfully completed.

CATEGORY III - MAJOR INFRACTIONS (8 Record Keeping Points Each)

- a. On employee's record for 24 months from date of AVOP violation ticket notification.
- b. Mandatory interview with the Authority AVOP Coordinator or designate.
- c. Possible practical retest administered by the Authority AVOP Coordinator (or designate) within the assigned time frame. **(See Note at end of this section.)**
- d. Possibility of immediate AVOP suspension by the Authority AVOP Coordinator or designate (SCO, IOC, AOS or CPS).
- e. Possibility of five to ten working day suspension of driving privileges.

CATEGORY IV - GROSS MISCONDUCT (12 Record Keeping Points Each)

- a. On employee's record for 36 months from date of AVOP violation ticket notification.
- b. Mandatory interview the Authority Coordinator or designate.
- c. Possible practical retest administered by the Authority AVOP Coordinator (or designate) within the assigned time frame. **(See Note at end of this section.)**
- d. Possibility of immediate AVOP suspension by the Authority AVOP Coordinator or designate (SCO, IOC, AOS or CPS).
- e. Possibility of up to 20 working day suspension of driving privileges.

CATEGORY V - OTHER INFRACTIONS

- a. Dependent on the gravity of the infraction and will be determined by the Authority AVOP Coordinator.
- b. Mandatory interview with the Authority AVOP Coordinator.

Note: Practical retests for AVOP violations are limited to a maximum of two attempts. If unsuccessful, the AVOP Coordinator may cancel the AVOP or permanently suspend or ban the AVOP holder from obtaining an AVOP at YYC.

4.6 Cumulative Effect

If the total number of record keeping points equals or exceeds the number of points for a more severe category of infraction, then the provisions of the higher category of infraction will apply (see the example below).

Example:

Driver A has three minor infractions (failure to wear a seat belt on January 15, 2020; failure to obey a STOP sign on April 13, 2020; failure to use the VSR on June 14, 2020).

Infraction 1: 2 record keeping points, on record until January 15, 2021 (12 months from date of infraction).

Infraction 2: 2 record keeping points, on record until April 13, 2021 (12 months from date of infraction). Cumulative total of the 2 infractions is 4 record keeping points, both on record for 12 months (from date of individual infractions).

Infraction 3: 2 record keeping points. Cumulative total of the 3 infractions is 6 record keeping points, moving all 3 infractions from Category I to Category II and changing the expiry to 18 months from the date of each individual infraction (All provisions of a Category II corrective action may apply).

4.7 Appeal

- a. Employees who have received an AVOP violation ticket where they are required (or have requested) to meet with Authority AVOP Coordinator or designate to review the violation must be accompanied by an employer representative. This meeting is requested and scheduled at the discretion of the Authority AVOP Coordinator (or designate). ([Ref. 4.5](#))
- b. If the employee disagrees with the violation sent out in the AVOP violation ticket notification, they may appeal the ticket within 14 calendar days of the date of the infraction. An appeal may result in confirmation, reduction or an increase in the ticketed violation.
- c. A second level of appeal may be requested from the Authority AVOP Coordinator and may confirm or modify the decision rendered by the first level appeal. The employee and their employer(s) will be notified of the result of the second appeal in writing within 14 calendar days. The AVOP record of the employee will be modified accordingly, based on the results of an appeal.

All Category I, II, III, IV and V infractions will automatically be expunged from the operator's electronic AVOP record at the end of the 12, 18, 24 or 36 months, or other period mentioned in [Section 4.6](#). However, written records for Category III and IV, as well as Category V (depending on the gravity of the infraction), will be retained for a period of time not less than 10 years from the date of the AVOP violation ticket.

Section 5

Markings, Signs and Lights

5 Markings, Signs and Lights

5.1 General

Both vehicle and aircraft movement on airside movement areas are guided by pavement markings, lights and signs that are different from those used on roads and highways.

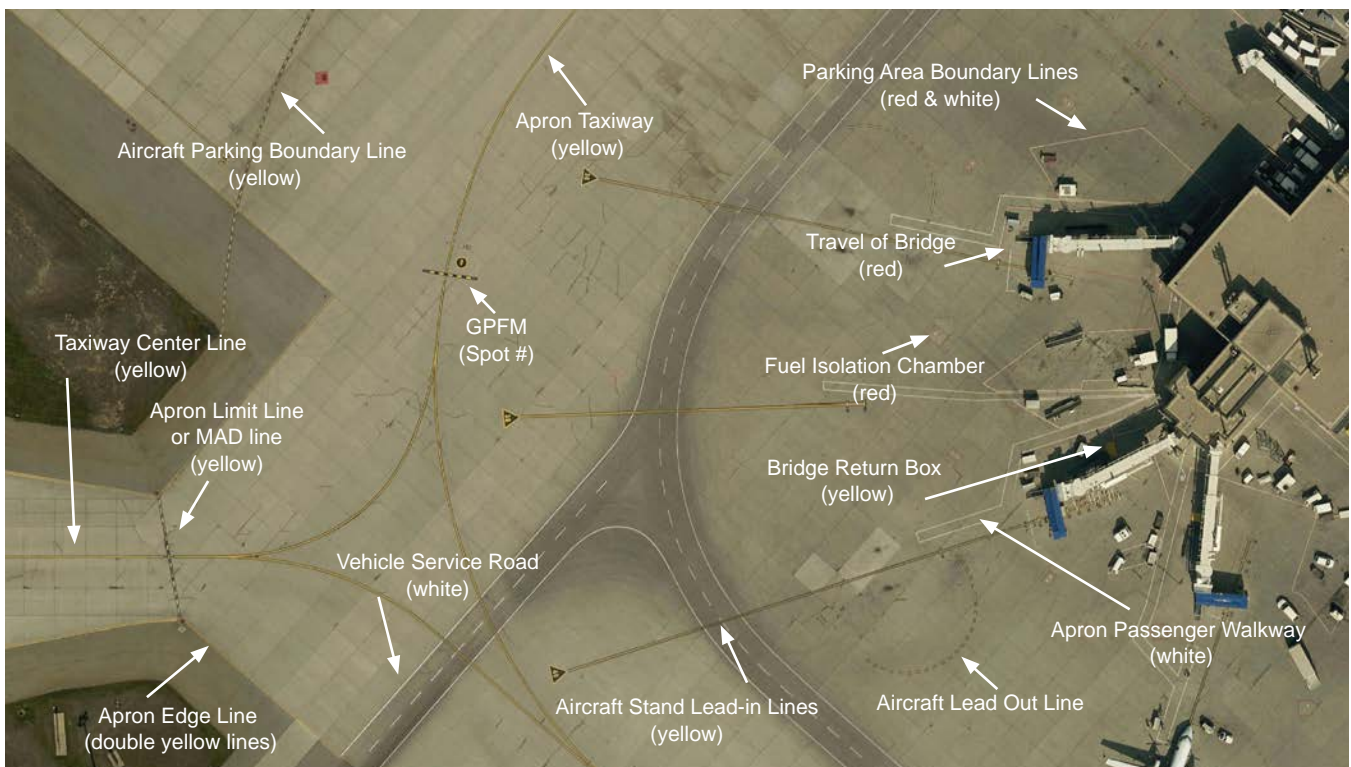
Apron Markings Overview

At YYC, Apron markings are generally color coded:

Yellow = aircraft movements

White = vehicle movements and pedestrian movements

Red = restricted access



5.2 Yellow Apron Markings

5.2.1 Aircraft Stand Lead-in Lines



A long single solid yellow line in the middle of an aircraft operational stand that guides aircraft into the parking position. The nose wheel of the aircraft is centered on these lines to ensure the wings do not hit any known obstructions. On the end nearest to the passenger loading bridge there are markings to indicate where the nose wheel of specific aircraft should STOP for the aircraft door to meet the bridge properly. On the opposite end is the number of the operational stand/gate.

5.2.2 Apron Taxiway / Aircraft Stand Taxilane



A single solid yellow line located on an Apron. The Apron Taxiway is a portion of an Apron designated as a taxiway providing a through taxi route across the Apron. The Aircraft Stand Taxilane is a portion of an Apron providing access to aircraft stands. The nose wheel of the aircraft is centered on this line to ensure that the main wheels are on the pavement and the wings do not make contact with any known obstructions.

5.2.3 Apron Limit Line



The Apron Limit Line indicates the intersection of a Taxiway and an Apron. The Apron Limit Line can be a single broken yellow line or the reinforced marking (previously called the Manoeuvring Area Delimitation/MAD marking) consisting of two parallel yellow lines, one solid line and one broken line with the solid line on the Apron side.

Apron Limit Line [also called Manoeuvring Area Delimitation (MAD) Marking].



DA AVOP holders must not cross the Apron Limit Line (MAD Marking) to exit an Apron onto a Taxiway unless under escort by a D AVOP holder. D-Tow operators must never cross the Apron Limit Line (MAD Marking) with the tow vehicle or any part of an aircraft without permission from Air Traffic Control (ATC).

5.2.4 Aircraft Parking Boundary Lines



An Aircraft Parking Boundary Line is a single yellow broken line, often parallel to the Apron Taxiway and is used to outline aircraft parking pads. Aircraft are parked behind Aircraft Parking Boundary Lines to ensure they are safely separated and clear of taxiing aircraft.

5.2.5 Geographical Position Fix Marking (Spots)



Geographical Position Fix Markings (also called 'Spots') are yellow circles with a number inside and a broken yellow line nearby. These 'Spots' are on the Apron near the exits to Taxiways and are used by Air Traffic Control (ATC) to help direct aircraft taxiing and aircraft under tow transition between the Apron and a Taxiway. The broken yellow line at a 'Spot' acts as a preliminary Hold Line for aircraft exiting the Apron.

5.2.6 Aircraft Lead Out Lines



Aircraft Lead Out Lines are a single broken yellow line and are used to guide the aircraft as it taxis out of its Ground Loading parking position. This is the route an aircraft takes when leaving a Ground Loading Operational Stand under power.

5.2.7 Apron Edge Lines



Apron Edge Lines are double solid yellow lines. Apron Edge Lines and the co-located single blue lights. Apron Edge Lines and the co-located single blue lights are used to indicate the edge of an Apron and the edge of a Taxiway. Paved surfaces outside of the Apron Edge Lines are not designed as weight bearing surfaces adequate for aircraft. Vehicles and equipment parked or operating outside of the Apron Edge Lines are NOT guaranteed safe clearance from aircraft.

5.2.8 Maximum Wingspan Marking



A Maximum Wingspan Marking is information denoting the maximum aircraft wingspan allowed in that area. The wingspan of an aircraft is always measured in a straight line, from wingtip to wingtip, independently of wing shape or sweep. The Maximum Wingspan Marking is located across the surface of a Taxiway/Apron Taxiway centerline.

Note: The area on Apron I between Taxiway EA and Taxiway BC has a Max Wing Span of 36 meters (36M) and is restricted to AGNIII aircraft (B737, A321) or smaller. Larger aircraft cannot manoeuvre through this area and must use Taxiways outside of Apron I. When towing, appropriate D-AVOPs are required.

Larger aircraft can be parked on the East Aircraft Parking Pad (E190's), but must enter through Taxiway BA.

5.3 White Apron Markings

5.3.1 Vehicles and Ground Service Equipment

Staging and Parking Area Boundary Lines



Vehicle & GSE Staging and Parking Area Boundary Lines are parallel solid white and red lines that define the areas intended for use to stage or park ground service equipment and are intended to provide safe separation from aircraft at an operational stand. These lines take into account the wingspan of aircraft. Approved vehicle parking is on the white side of the line.

5.3.2 Vehicle Service Roads (VSRs)



Vehicle Service Roads (VSRs) are indicated by two solid white lines at least 7.5 meters apart with a single broken center line. VSRs may be two-way traffic, or one-way traffic. ([Ref. 6.7](#) for VSR right-of-way rules)

5.3.3 STOP Lines



STOP Lines are a single solid white line and are used to indicate a MANDATORY STOP to the driver. A STOP sign is typically installed at a STOP line. All drivers are expected to STOP at a STOP line whether or not there is a STOP sign.

A few stop lines on the airfield are not mandatory (e.g. the stop lines on the perimeter road between Apron VII and Apron IX). These particular STOP lines indicate where you MUST STOP to ensure safe clearance anytime Runway 11/29 is active.

5.3.4 Pedestrian crossings/Pedestrian walkways



Pedestrian Crossings are indicated by two parallel white lines. Pedestrian Crossings indicate where people are allowed to walk on an Apron, such as when crossing breezeways or between the aircraft stand and the terminal building at a Ground Loading Operational Stand. Pedestrians in marked crossings (or walkways) have the right-of-way over vehicles.

Note: Pedestrian walkways include the Non-Conveyables walkway beside the ITB, starting with roll-up door 554, by MU 300, MU 400 & MU 500. All walkways must be kept clear of any obstructions.

5.3.5 Lease Lines



Lease Lines are two white (or yellow) parallel lines with the word "Lease" (or a company name). Lease Lines are used to outline the area of an Apron surface that has been leased to a company. An AVOP is not required for company employees or company authorized persons to operate vehicles, equipment or aircraft inside the leased area.

5.3.6 CBSA Apron



The CBSA Apron is marked with two parallel white lines with the words "Customs Only". The CBSA Apron outlines the airside parking area in front of the CBSA building on the North end of Apron VI. It is prohibited to drive through this area when an aircraft is parked in the CBSA area ([Ref. 6.4](#)). Vehicles can only enter the CBSA Apron when aircraft are present with specific authorization from CBSA.

5.4 Red Apron Markings

5.4.1 Fuel Isolation Valve Chambers



A red square indicates an underground fuel valve that is used when refueling aircraft. Parking is not allowed over or within 2 meters of Fuel Isolation Valve Chambers (Fuel Vaults).

5.4.2 Travel of Bridge



A single red line outlines the boundary of the bridge movement area. Parking is not allowed within the marked area where the bridge can travel unless the aircraft is parked on gate and the vehicle is being used to actively service that aircraft.

5.4.3 No Parking Areas



A red square with a “no parking” symbol indicates an area where no parking is allowed. Parking is not allowed in front of, or in any way blocking:

- Emergency Exit Doors
- Emergency Fuel Shut-Offs (EFSO)
- Fire Fighting Equipment
- Access Doors, Baggage Hall Doors, Bay Doors, etc.

No Parking Emergency Exit



No Parking Emergency Fuel Shut Off (EFSO)



Emergency Fuel Shut Off buttons must not be blocked. There must also be a clear line of sight to facilitate easy access and quick response.

5.4.4 Bridge Return Boxes



A yellow rectangle outlined in red indicates the area on the Apron where a bridge's wheels are parked when the bridge is not in use. Parking is not allowed in this area.

5.4.5 Bridge Staging Box



A Bridge Staging Box is a white or red U-shaped marking and is used to indicate where the bridge wheels may be pre-positioned, while still providing clearance for specific aircraft entering the operational stand. The outer red line indicates No Parking in this area.

5.5 Apron Signs

5.5.1 Standard Traffic Signs

Common traffic and information signs used on Aprons and airside roads are generally the same signs as those used on provincial roads. All vehicle operators on airside roads are required to comply with these signs. Examples include STOP, No Parking, YIELD, Speed Limit, Height Restriction, and No Entry.

a. Stop Signs



STOP signs and STOP lines are positioned to provide safe clearance for vehicle traffic and safe clearance for aircraft (wingtip & taxi clearance).

b. Other Traffic Signs - no entry, entry, speed limit, no parking emergency exit



Enter and Do Not Enter signs are used to ensure safety by providing one-way traffic control in the bag halls. Do Not Enter signs are also used anywhere entry is restricted.



All vehicle operators must obey all airside speed limits. [\(Ref. 7.5\)](#)
All breezeways are 10 km/h (maximum speed).



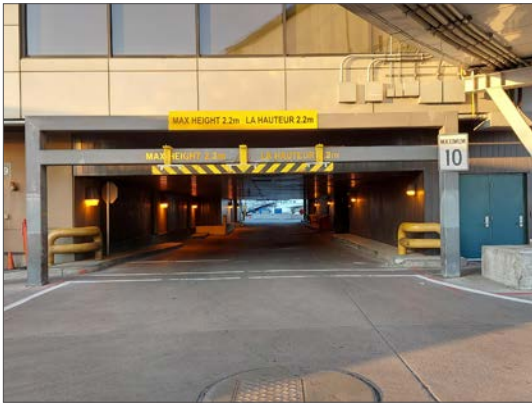
No Parking signs are used to ensure various areas are kept clear at all times, including emergency exits, fire extinguisher access, emergency fuel shut-offs, etc.

c. Height Restriction



Height restriction barriers for the ITB head-of-stand VSR are 2.9 meters.

Height restrictions vary at other locations (breezeways, underpass, etc).



Apron I, Breezeway A (Concourse A) has the lowest height restriction of 2.2 meters.



The J/E (Juliet/Echo) Underpass height restriction is 4.7 meters.

5.5.2 Other Signs

a. STOP - YIELD to Aircraft



These smaller STOP signs tell drivers to STOP and YIELD to all aircraft or vehicle traffic, allowing them to pass safely. A good example of this sign is on the perimeter road of the Threshold of Runway 35L. Before proceeding to the VSR adjacent to Apron VI, vehicle operators must stop and look for aircraft. Vehicle operators must give right-of-way to all aircraft and wait until the aircraft is clear and it is safe to proceed.

b. STOP - Active Runway



These signs are designed to control traffic entering the threshold of Runway 26. DA, DAS and DAW AVOP holders are not allowed past this sign.

D AVOP holders must call and request permission from Air Traffic Control (ATC) before proceeding past this sign.

c. Perimeter Road of Runway 11 YIELD Sign



These signs tell drivers to STOP at the stop line by the YIELD sign on the perimeter road of Runway 11 parallel to Taxiway W when large aircraft are taxiing on Taxiway W. There is not sufficient clearance for vehicles to use this perimeter road when large aircraft are on Taxiway W. Any aircraft larger than a Boeing 737 is considered a large aircraft. If in doubt of the size of the aircraft a driver must YIELD to aircraft until it is off the section of Taxiway W between the threshold of Runway 11 and Apron VII. Jet blast may also be a consideration.

d. Advanced Visual Docking and Guidance System (A-VDGS)



The A-VDGS ([Ref. 1.3 for definition](#)) provides aircraft with accurate guidance into the gate and real time data through the display unit. The system allows aircraft to dock safely thereby allowing passengers to deplane without the need for marshallers, thereby minimizing the risk to ground personnel during lightning events. The A-VDGS is intended primarily for use during lightning events, and may be used at anytime, at the discretion of the air carrier/operator.

5.5.3 Information Signs, Direction Signs and Location Signs

a. Directional signs

Directional signs (black writing on yellow) have an arrow indicating the direction to proceed to get to the specified Apron, Taxiway or Runway.



b. Location signs

Location signs (yellow writing on black) identify (by letter) the Taxiway the aircraft (or vehicle) is on.



Note: Directional signs also indicate the set-back for the intersection ahead.
([Ref. 5.9.5](#))

Note: For convenience, some sign examples demonstrate daytime conditions (on the left) and for night-time conditions (on the right). The Authority is currently changing airfield signs to backlit models so the new signs will appear the same day and night. Some locations still have the old fibre-optic signs in place. Images of those signs have been provided below.



c. Information signs

Black writing on yellow: provide information primarily used by aircraft operators. The information is also helpful for vehicle operators when entering the manoeuvring area.



d. Distance Remaining Sign



These signs are located only on Runway 17L/35R. Distance Remaining Signs (white numbers on a black background) indicate the number of feet in 1000 foot increments to the end of the Runway. This sign is used to warn pilots of the remaining length of the Runway (also known as thousand foot markers).

5.6 Apron Lights

5.6.1 Lighting for Aircraft Surfaces

Different colored lights are used to indicate the edge of various aircraft movement surfaces.

a. Single Blue Light



Single blue lights are used along the edges of Aprons and Taxiways.

b. Double Amber Lights



Double amber lights (Aviation Yellow) are used at the intersection of Aprons and Taxiways.

Note: A combination of double amber (Aviation Yellow) lights, an Apron Limit Line or a MAD line ([Ref. 5.2.3](#)) and direction, location and information signs ([Ref. 5.5.3](#)) marks the boundary between an Apron and a Taxiway. DA, DAW & DAS AVOP holders may not cross this boundary (except onto uncontrolled Taxiway P on the South side of the airfield).

5.6.2 Juliet/Echo (J/E) Underpass STOP Light



Traffic lights at the entrances to the Juliet/Echo (J/E) Underpass warn drivers when the underpass is unsafe to use. The red light could be lit when there is an unsafe buildup of exhaust in the underpass or if the underpass becomes impassable due to flooding. Do not enter the underpass when the light is red. The green light will be lit when the underpass is safe to use. The Authority will provide an escort if the underpass becomes unusable. Companies can reference 'The Source' – Underpass J Closure Emergency procedures.

Note: [Sections 5.7 to 5.13](#) are not testable material for DA AVOP holders, however, it is recommended that DA AVOP holders be familiar with the information in those sections.

5.7 Runway and Taxiway Markings

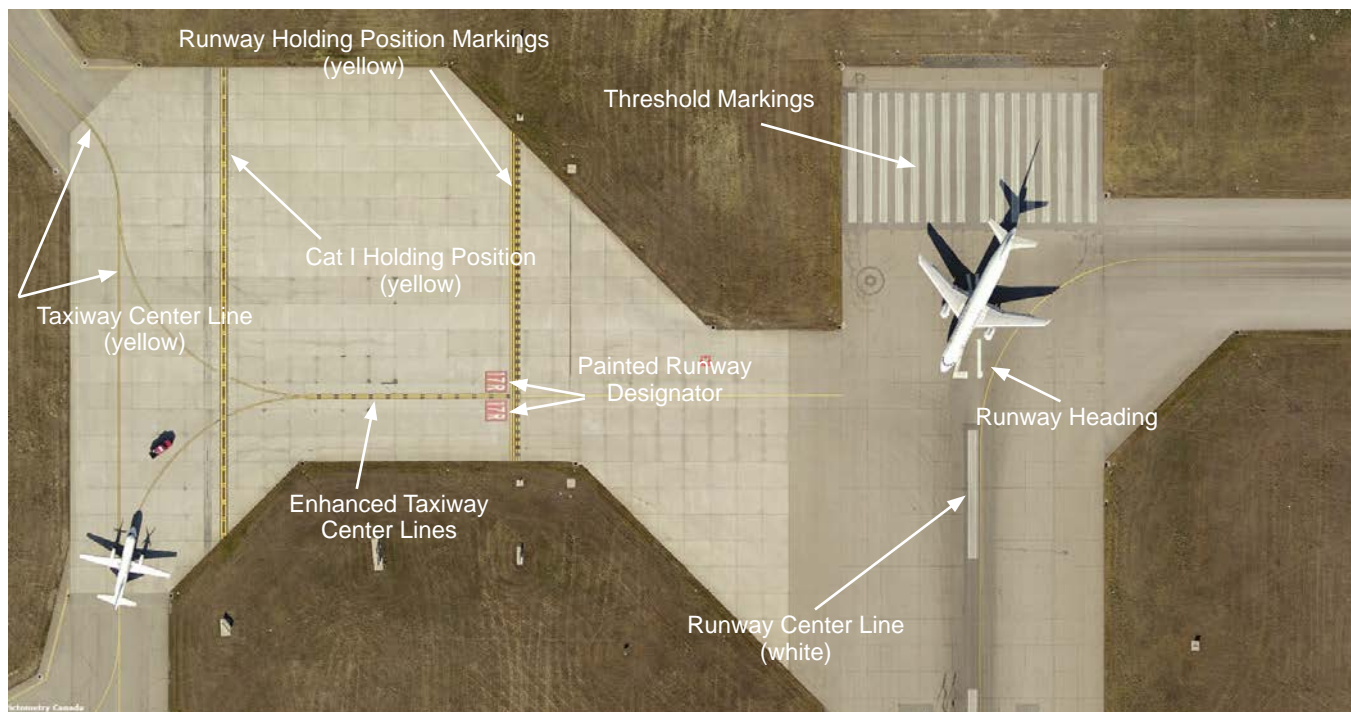
Runway and Taxiway Markings Overview

Paint markings on Runways and Taxiways are regulated by Transport Canada. Paint markings in the manoeuvring area are color coded:

White = runway markings

Yellow = aircraft movement

Red = restricted access



5.8 White Runway Markings

5.8.1 Runway Designation (Heading) Marking



Each end of a Runway is numbered with the Runway Heading, in tens of degrees, corresponding to the direction of the Runway in relation to a magnetic compass. The compass of an aircraft will read 260 degrees when approaching the end of a Runway marked with the number 26. The numbers are painted in white and face towards the end of the Runway. YYC Runway headings are 08, 11, 17R, 17L, 26, 29, 35R, and 35L.

5.8.2 Runway Center Line



The center of a Runway is marked with broken white lines composed of several lines close together. Each group is 30 meters in length with 30 meters in between.

5.8.3 Threshold Markings



Threshold Markings indicate the beginning of the usable part of the Runway for aircraft landing. Threshold Markings are a series of solid white lines in groups that run parallel to the length of the Runway. The number of lines in a group and the total number of groups of lines is dependent on the width of the Runway.

5.8.4 Displaced Threshold Markings

Displaced Threshold Markings are used when the beginning of the Runway paved surface and the beginning of the usable part of the Runway are not in the same place. Lines are painted close together to form arrows pointing to a bar across the Runway. The bar across the Runway indicates the beginning of the Runway that is usable for aircraft.

Currently, there are no displaced threshold markings at the Calgary International Airport. Displaced Threshold Markings would typically be used for construction purposes at YYC.

5.9 Yellow Airfield Markings

5.9.1 Taxiway Center Line



The Taxiway Center Line is a single solid yellow line on a Taxiway and is used to provide guidance for aircraft to taxi from the Runway center line to a point on the Apron where aircraft operational stand markings begin. The nose wheel of the aircraft is centered on this line to ensure that the main wheels are on the pavement and the wings will not make contact with any known obstructions.

5.9.2 Enhanced Taxiway Center Lines



Enhanced Taxiway Center Lines are Taxiway Center Lines that are enhanced for 47.5 meters leading up to the Runway Holding Position Markings, by the addition of broken yellow lines on either side of the solid yellow center line.

5.9.3 Runway Holding Position Markings



Runway Holding Position markings consist of two solid and two broken yellow lines across the width of a Taxiway with the broken lines closest to the Runway to indicate a Runway holding position.

Vehicles **MUST STOP** behind the solid lines with enough room to turn around. Both vehicles and aircraft cannot proceed across Runway Holding Position Markings until given permission to do so by Air Traffic Control (ATC). (Some Runway holding position markings are straight lines while others are bent lines.)

Note: Runway holding position markings do not always extend into the paved shoulder surfaces beyond the edge of a Taxiway (e.g., Taxiway J2).

5.9.4 CAT I Hold Line



A Cat I Hold Line consists of two parallel yellow lines containing several pairs of yellow lines between them. CAT I Hold Lines are located across the width of a Taxiway and are placed further from the Runway than the standard Runway Holding Position Markings in the Hold Bay of Runway 17R and Runway 29. CAT I Hold Lines prevent aircraft and vehicles from entering the Instrument Landing System (ILS) critical area (glide path and localizer).

Vehicle operators **MUST** always **HOLD SHORT** of a CAT I Hold Line until given permission by ATC. When under positive control, Air Traffic Control (ATC) will provide instructions and designate "hold short" or "hold short on the CAT I Hold Line." When instructed to "hold short," the driver would pull up to the conventional Hold Line.

5.9.5 Taxiway Intersection Marking



A Taxiway Intersection Marking consists of a single broken yellow line (e.g. at the intersections of Taxiways C and J). A Taxiway Intersection Marking is located at such a position that a holding aircraft or vehicle would not protrude into the intersecting taxiway strip. An aircraft or vehicle instructed to hold short of a Taxiway Intersection Marking must remain behind this line. These markings are co-located with Location/ Directional signs.

Note: Not all intersections are marked with the Taxiway Intersection Marking. If there is no Taxiway Intersection Marking, drivers must Hold Short behind the directional signs.

5.9.6 Taxiway Edge Lines



Taxiway Edge Lines consist of double solid yellow lines. The double solid yellow lines along with a series of single blue lights on a Taxiway are used to indicate the edge of the usable portion of the Taxiway. Paved surfaces outside the lines are not designed for aircraft.

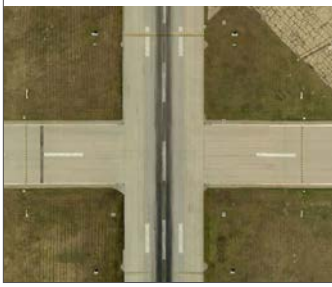
5.9.7 Taxiway Safety Area Marking



Taxiway Safety Area Markings consist of single parallel solid yellow lines that appear in the shoulder of Taxiways above underpasses. Vehicles and pedestrians may not enter these areas due to an unprotected drop-off.

5.10 Intersection Indicators

5.10.1 Runway/Runway



Runway to Runway Indicators at the intersection of Runway 08/26 and Runway 17R/35L are:

- Runway holding position markings ([Ref. 5.9.3 and 5.9.4](#)),
- Runway designator sign ([Ref. 5.12.1\(a\)](#)),
- Runway Guard Lights ([Ref. 5.13.1](#)).

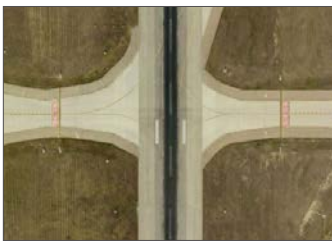
5.10.2 Runway/Taxiway



Runway to Taxiway Indicators at this location (Runway 17R/35L and Taxiway U) are:

- Taxiway center line (exiting left or right to the Taxiway) ([Ref. 5.9.1](#)),
- Directional signs ([Ref. 5.5.3\[a\]](#)).

5.10.3 Taxiway/Runway



Taxiway to Runway Indicators at this location (Runway 17R/35L to Taxiway J) are:

- Enhanced Taxiway Center Lines ([Ref. 5.9.2](#)),
- Painted Runway Designator ([Ref. 5.11](#)),
- Runway holding position markings ([Ref. 5.9.3](#)),
- Runway Guard Lights ([Ref. 5.13.1](#)),
- Taxiway Center Line (entering the runway) ([Ref. 5.9.1](#)).

5.10.4 Runway Protected Area (RPA)



The protected area of a surface designated for the landing and take-off of aircraft. This protected area runs between the extended runway Hold Lines on each side and inside the localizer antenna arrays on each end of the runway. ATC must ensure this area is clear before clearing an aircraft to land or take-off on that runway.

5.11 Red Runway Markings

Painted Runway Designator



A red rectangle with the Runway designation painted in white lettering is co-located with Runway Holding Position markings at the entrance to a Runway from a Taxiway.

5.12 Manoeuvring Area Signs – Mandatory Instruction Signs

5.12.1 Runway Designator Signs



Runway Designator Signs indicate either one Runway heading or both Runway headings. They have white lettering on a red background. Runway Designator Signs carry the combined message to “Hold Short” of the Runway and the Runway’s designation. In addition, a Runway designator sign at a Taxiway/Runway intersection is accompanied by a Location Sign [\(Ref. 5.5.3 \[b\]\)](#) in the outboard (furthest from the Taxiway) position. Runway Designator Signs with only one heading are only found at Thresholds.

5.12.2 CAT I Hold Sign



CAT I Hold Signs indicate the location of a CAT I Hold Line.

All AVOP holders (vehicles and aircraft) must STOP at the associated CAT I Holding Position Marking until permission is given by ATC to proceed.

5.12.3 No Entry Signs



“No Entry” signs are found at the Apron entrances of Taxiway G and Taxiway GB, and of Taxiway G and Taxiway GD. These signs are intended for aircraft direction of travel.

Note: The West Deicing Apron is a lease area. All vehicles and vehicle operators require permission to access or enter the WDA.

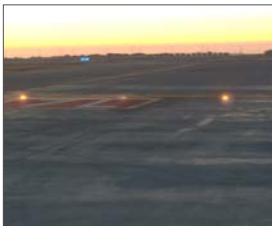
5.13 Manoeuvring Area Lights

Lighting for Aircraft Surfaces

Different colored lights indicate the edge of various aircraft movement surfaces. The lights can be alone or in groups. Even if the distance between lights is regulated, they may be closer than required (even side by side) to improve visibility or for operational requirements.

5.13.1 Lighting at Taxiway/Runway Intersections

- a. Runway Guard Lights (WigWag Lights) are found at every Runway Holding Position, holding short of the Runway on a Taxiway.



- Elevated Runway Guard Lights are located on the shoulder of the Taxiway beside the Runway Holding Position Markings and act as a warning.
- Inset Runway Guard Lights are co-located with Elevated Runway Guard Lights and reinforce the warning but they are only located beside the Runway Holding Position Markings for Runway 17L/35R.
- Runway Guard Lights are located at every Taxiway/Runway intersection but they are NOT located at every Runway/Runway intersection

- b. STOP bar lights are elevated red lights on the shoulder of the Taxiway, co-located with the inset red lights at the Runway Holding Position Markings for Runway 17L/35R.

STOP Bar Lights are used during Reduced and Low Visibility Operations ([Ref. 8.9](#)). These lights act as a restriction for vehicles and aircraft to stop them from entering the Runway. Vehicles and aircraft are prohibited from crossing when the STOP bar lights are active. Air Traffic Control (ATC) cannot give verbal permission to vehicles or aircraft to cross when the STOP bar lights are active.



- Elevated STOP Bar Lights
- Inset STOP Bar Lights

Note: If you approach a Runway Holding Position at a Threshold under LVOP, the yellow Guard Lights will be off and the solid red STOP bar lights will be lit. When permission to enter the Runway is given by ATC, the controller will turn off the STOP bar lights (at that location only) and turn on the green centerline lighting, thereby allowing the vehicle or aircraft to proceed.

Operators must never enter a Runway anytime the red STOP bar lights are active.

5.13.2 Lighting on Runways and Taxiways

a. Runway Edge Lights



Runway Edge Lights are single white lights used along the edges of Runways. Runway 17L-35R has lights with a two-color head. The last 600 meters (2000 feet) of lights are yellow on one side and white on the other. The yellow lights act as a warning to pilots that the Runway is about to end.

When the white Runway lights flash on and off, all vehicles must leave the Runway immediately.

Note: Do not confuse the flashing on and off of white Runway lights (leave Runway immediately) with the flashing white light from the tower (return to starting point on the airport - [Ref. 8.8](#)).

b. Runway Threshold Lights



Runway Threshold Lights are two-sided lights, half red, half-green, and are used at the threshold of a Runway. The red half faces the Runway to indicate the end of the Runway and the green half faces the approach for the pilot to see when coming in to land an aircraft.

c. Runway Center Line Lights



Runway Center Line Lights are inset white lights that run along the Runway center line with directional red lights at the extremities of the Runway. The last 300 meters of the center line lights are red, and the lights between 300 meters and 900 meters alternate between red and white. This system of red and white lights act as a warning to pilots that the Runway is about to end. Runway Center Line lights are located only on Runway 17L-35R.

d. Touch Down Zone Lights



Touchdown Zone Lights are a series of three inset parallel white lights that run between the Runway center line and the Runway edge for 900 meters. Touchdown Zone lights are available for use in low visibility conditions to mark the aircraft landing/ touchdown zone. Touchdown zone lights are located only on Runway 17L-35R.

e. Rapid Exit Center Line Lighting



Rapid Exit Center Line lights are a series of inset alternating green and yellow lights. Rapid Exit Center Line lights mark the high-speed exits from a Runway to a Taxiway. The inset lights are two-directional so that the alternating colours show only when exiting the Runway and only if the lights are green from the Taxiway onto the Runway. Rapid Exit Center Line lights are located only on Runway 17L-35R.

f. Taxiway Center Line Lights



Taxiway Center Line lights are green lights co-located with the Taxiway Center Line. Taxiway Center Line lights are located on the East airfield and on the Apron Taxiway on Apron I near the ITB. Taxiway Center Line lights indicate the location of the Taxiway center line as well as permission for aircraft to progress along the Taxiway. These lights are used during reduced and low visibility operations for aircraft movements. [\(Ref. 8.9\)](#)

When the white Runway lights flash on and off, all vehicles must leave the Runway immediately.

5.13.3 One-way Taxiway Lights



In addition to single blue lights on the edge of most Taxiways, one-way Taxiways have half-blue and half-red lights. The red half of the lights are seen when traveling on the Taxiway in what would be the wrong direction for aircraft.

5.13.4 Single Red Lights



Single red lights are sometimes used to indicate the end of a paved surface.

5.13.5 Double Red Lights



Double Red Lights are used to indicate Fall Hazard Areas:

- Located on Taxiway J above the J/E Underpass and on Taxiway R where it passes over the roadway.

Section 6

DA Requirements

6 DA Requirements

6.1 AVOP Holders - Vehicle & GSE responsibilities

Anyone operating a vehicle or equipment airside at YYC is responsible to do a pre-trip walk-around to ensure the vehicle is in good working order and safe to use.

Anyone operating a vehicle or equipment airside is responsible for all loads carried or towed and must ensure such loads are securely fastened, covered, do not spill, and do not pose a danger to aircraft, vehicles or pedestrians.

All vehicle operators must:

- a. inspect and ensure their vehicle has the required safety equipment and markings,
- b. ensure their vehicle's required safety equipment is functioning properly,
- c. notify their supervisor immediately of any vehicle, equipment, or aircraft malfunctions, and
- d. secure, tag-out, and immediately remove any malfunctioning or deficient vehicle, equipment or aircraft from service according to safety regulations and company procedures.

All AVOP holders and airside workers must ensure that all vehicles and equipment not in use are parked in designated parking areas or in their company specific lease areas only.

All AVOP holders and airside workers must ensure that all GSE, including chocks and pylons are picked up, moved and stored neatly in an appropriate location, to facilitate access and use by all operators and to facilitate snow clearing during winter operations.

6.2 DA-type AVOP General Requirements

DA, DA-South and DA-West AVOP holders:

- a. DA (all aprons) - allows driving on Aprons I, III, IV, V, VI, VII, VIII and IX. A DA (all aprons) may provide access to Apron X via gate 235, and may also provide access to the West Deice Apron for seasonal operations with prior permission from the lease-holder or the AVOP Coordinator. A DA (all aprons) is the only DA AVOP that allows driving on Apron I.
- b. DA South (DAS) - allows driving on Aprons III through X only.
- c. DA West (DAW) - allows driving on Aprons VII and IX only.

Specific regulations apply to each DA AVOP type as follows, and as described in [Section 6.3 DA AVOP \(all aprons\)](#), [Section 6.4 DA South \(DAS\)](#) and [Section 6.5 DA West \(DAW\)](#).

Under no circumstances may a DA, DAS or DAW AVOP holder drive on a designated Taxiway or Runway, unless escorted by a D AVOP holder or unless authorized with a specific exemption granted by the AVOP Coordinator. (See [Section 6.3](#) for the exemption regarding Taxiway P and for the requirement for approval from the AVOP Coordinator regarding any exemption to cross Taxiway N.)

Note: A Taxiway Incursion or Manoeuvring Area Incursion occurs when any part of a vehicle crosses the Apron Limit Line into the manoeuvring area, or crosses onto a Taxiway without the proper AVOP license, or when any part of a vehicle or aircraft crosses an Apron Limit Line without authorization from ATC, as applicable to the operation and AVOP type.

All Taxiway, Runway and Manoeuvring area incursions must be reported immediately. ([Ref. 8.5](#) for Runway Incursion)

All Aprons at YYC are uncontrolled, however any vehicle equipped with an aeronautical radio must always monitor the appropriate Air Traffic Control (ATC) or Apron Advisory frequency ([Ref. 8.3](#)) when on the Apron.

The East and West Deicing Aprons are Aero Mag leased areas. Any vehicle (other than Aero Mag vehicles) must contact Aero Mag in advance and obtain permission to enter the Deicing Apron(s).

6.3 DA AVOP (all aprons)

DA AVOP holders may operate on Apron I, III, IV, V, VI, VII, VIII, IX and the perimeter roads around the threshold of Runway 17R and Runway 11 in a vehicle that is not equipped with an aeronautical radio. A DA AVOP may provide access to Apron X via gate 235, and may also provide access to the West Deice Apron for seasonal operations with prior permission from the lease-holder or the AVOP Coordinator.

Note: The perimeter road on the east airfield (around Runway 17L/35R) and the gravel road on the west airfield that parallels Taxiway A, between Apron VII and the AMC are restricted to D AVOP only.

DA AVOP holders MUST use the Juliet/Echo Underpass as their ONLY route between Apron I and the facilities south of Taxiway J.

Note: DA-type AVOP holders may NOT cross Taxiway J, nor tow aircraft anywhere in the manoeuvring area unless escorted by a D-type AVOP holder. See [Section 9.2 and 9.3](#) for towing of aircraft in the manoeuvring area.

DA AVOP holders may drive under a fixed bridge at an operational stand IF there is adequate clearance, after taking into account available height and other obstructions. The vehicle operator is solely responsible to ensure safe clearance at all times.

Driving under the mobile section of bridges requires extra caution and should be avoided whenever possible because the height clearance is inconsistent. Caution must be used as there are high voltage lines and mechanical units hanging from the bottom of the bridges.

Note: Driver's must err on the side of caution and follow all AVOP and company procedures. Some company operational procedures do not allow driving under bridges.

6.4 DA South (DAS)

DA South AVOP holders may operate on Aprons III through X and on 'uncontrolled' Taxiway P in a vehicle that is not equipped with an aeronautical radio. DA South AVOP holders are also authorized to operate in DA West AVOP authorized areas.

Vehicle operators must use only the service roads to travel between Aprons III, IV and V and must remain situationally aware at all times. Vehicle traffic must stop at all stop lines.

Extra caution must be used when approaching and operating near the intersection of Taxiways M, Y & YB.

DA South AVOP holders operating on Apron IV must use caution at all times. Apron IV is a multi-lease area with no marked VSR or service road on the Apron. Vehicle operators must give right-of-way to aircraft and must give more than enough clearance, especially for aircraft taxiing on the Apron. Best practice is to stop and wait behind lease lines, stop lines, or other designated safe clearance lines, signs and markings.

Southside Aprons are frequently used for helicopter traffic. AVOP holders must be aware of airborne helicopters that are landing or taking off from Aprons as well as when taxiing or hover taxiing.

Note: STARS Safety Cone Procedures:

Mission or Maintenance: If the STARS helicopter is going to perform a maintenance run for longer than 5 minutes, a striped green and white barrel pylon will be positioned between the STARS helicopter and the VSR to indicate to vehicle traffic it is safe to proceed.

All vehicles must give right-of-way to the STARS helicopter (aircraft) in accordance with the Hierarchy of the right-of-way, including anytime there is no Safety Cone present.

DA South AVOP holders are allowed to use the perimeter road around the thresholds of runway 35L. All vehicle operators must exercise caution when travelling from the perimeter road around the threshold of Runway 35L, past Apron III, Taxiway C and Taxiway Y. Vehicle operators must ensure they do not cross the Apron Limit Line onto the taxiway, runway holding bay or threshold; and must also ensure they give right-of-way to aircraft with more than enough safe clearance for aircraft taxiing to/from the Runway threshold, and safe clearance from jet blast. ([Ref. 6.11.2](#))

There is an exemption in place for DA South AVOP holders to cross Taxiway N and use the perimeter road around the threshold of runway 26 to access the aircraft storage area, **however any company wanting to operate under this exemption must request and receive prior approval from the AVOP Coordinator.** AVOP holders operating under this exemption must use extreme caution to ensure they do NOT enter Taxiway M and extra caution must be used to ensure all rights-of-way are given to aircraft, helicopters, and all vehicles according to the Hierarchy of the right-of-way ([Ref. 6.8](#)). Anyone accessing the aircraft storage area is NOT allowed to exit north onto Taxiway U and must remain a minimum of 51 metres back from the taxiway center line at all times to ensure safe clearance for aircraft.

6.4.1 DA South Area Restrictions

DA South AVOP holders are NOT authorized to operate on Apron I.

It is prohibited for any vehicle operator to drive through the airside parking area in front of the CBSA satellite office when an aircraft is parked in the CBSA lease area.

DA and DA South AVOP holders are NOT allowed to drive on Taxiway L and therefore NOT allowed to use the perimeter road around the threshold of Runway 08 (leading to the AMC).

DA and DA South AVOP holders are NOT allowed to enter or use the road between the threshold of Runway 26 and the perimeter road of Runway 26.

6.5 DA West (DAW)

DA West AVOP holders may operate on Apron VII, Apron IX, the Apron IX De-Icing Pad, the perimeter roads of Runway 11 and Runway 17R in a vehicle that is not equipped with an aeronautical radio.

Vehicle operators must use the Head of Stand (HOS) VSR on Aprons VII and IX whenever possible.

DA West AVOP holders are NOT authorized to operate on Apron I.

DA West AVOP holders are allowed to operate a vehicle on Taxiway W, for the sole purpose of driving directly to or from an aircraft that requires towing or other operational servicing. Vehicle operators must give right-of-way to aircraft and must give more than enough clearance, especially for aircraft taxiing on the Apron. Best practice is to stop and wait behind the Apron Limit Line, stop lines, or other designated safe clearance lines, signs and markings.

Note: DA West AVOP holders can proceed through NPS-V North and use the perimeter road around the threshold of Runway 17R to access the AVOP exempt roads and facilities north of Apron I near Gate 321. ([Ref. 3.12.3](#))

6.6 Speed Limits

All vehicle operators driving airside must maintain a safe driving speed at all times, taking into account factors such as weather, road conditions, visibility, traffic congestion, proximity to aircraft, vehicles, GSE, bridges, infrastructure, pedestrian areas, etc.

Maximum speed limits are:

Area	Speed Limit
Baggage Halls and inside GSE Storage Areas	Walking Speed
NPS-V Facilities	5 km/h
Breezeways	10 km/h
All Aprons	30 km/h
Aircraft Circle of Safety	5 km/h
Cargo and Service Roads	30 km/h
Head-of-Stand (HOS) VSR & Tail-of-Stand (TOS) VSR	30 km/h
Juliet/Echo Underpass	30 km/h
Perimeter Roads	50 km/h unless otherwise posted
Taxiway 'P' Uncontrolled	30 km/h
Taxiways (other than Taxiway P) - recommended speed	40 - 60 km/h

The speed limit inside all buildings, baggage halls, GSE Storage areas, is walking speed to ensure the safety of all staff and equipment. Walking speed is defined as 5 km/h or less.

Emergency vehicles with red flashing beacons responding to a call may exceed the speed limit this includes the escort vehicle).

6.7 Traffic Safety Rules, Policies & Procedures

Airside traffic rules, policies and procedures are designed to be similar to ground-side traffic rules.

6.7.1 Seat Belts

Seat belts are mandatory for all vehicles, with or without an enclosed operator's cab. All occupants traveling in any vehicle airside are required to wear a seat belt at all times, with one exception. Seat belts are not required to be worn when actively servicing an aircraft at an operational stand (inside the aircraft circle of safety).

To aid in compliance it is recommended that seat belts for open cab vehicles be fitted with a high visibility seat belt or high visibility seat belt cover.

6.7.2 General Traffic Safety Rules

All vehicle operators must make maximum use of all designated vehicle service roads (VSRs), cargo roads, and perimeter roads. All vehicle operators must drive in the right lane of all VSRs, cargo roads and perimeter roads.

Vehicle operators must remain on a designated road (VSR) unless proceeding directly into or out of an operational stand (gate) to service an aircraft at that operational stand. (Cutting through an operational stand is not allowed). See [Section 6.11](#) for Operational Stands.

Vehicle operators must, as much as possible, use the Head of Stand (HOS) VSR around the International Terminal Building, unless the vehicle height exceeds 2.9 meters. This reduces traffic on the Tail of Stand (TOS) VSR, thereby minimizing traffic on the aircraft movement areas.

Vehicle operators do not need to use the VSR when their duties require them to move only to the adjacent (next) gate or operational stand. Example: Driving from Gate 50 to Gate 52, IF actively working and servicing the aircraft on Gate 50, then immediately working and servicing the aircraft on Gate 52 (same example going from Operational Stand 903 to 904).

If paint markings are faded, obscured, snow covered, or difficult to see for any reason, vehicle operators must approximate and drive as closely as possible to where the designated roadway would be if the markings were visible.

Note: Access to the Menzies Fuel vehicle gas station is one-way. All vehicles entering the re-fueling area must enter from the south VSR and exit using the north VSR. Vehicle operators are NOT ALLOWED to drive beside the grass between the entrance and exit to Menzies. There is no VSR and driving beside the grass (outside of the apron edge lines) does NOT provide or guarantee safe wingtip clearance from aircraft.

A train of cargo pallet dollies cannot exceed four dollies at any time. A train of baggage carts (or baggage dollies) cannot exceed six carts when being operated outside (outdoors) and can never exceed four baggage carts (or baggage dollies) when being towed inside, in the ITB.

Slow moving vehicles (e.g., a container loader or lift traveling at a speed of 5 km/h) may be passed on the left in a VSR, but only when it is safe to do so and only if it can be done without exceeding the speed limit.

Vehicle operators may not enter or use any leased areas to turn around, including the Air Canada hangar apron, the Butler building entrance, and the West Deicing Apron.

After driving through the Juliet/Echo (J/E) Underpass intersection heading west towards Gate 306A, vehicle operators with small vehicles may make a U-Turn around the jersey barriers, but only IF and when it is safe to do so. Best practice is to wait to do a U-Turn at Gate 306A. All large vehicle operators MUST wait and do a U-Turn only in the wider area near Gate 306A.

6.7.3 VSR - Emergency & Authority Vehicle Exemptions

Emergency and Authority vehicles with flashing red beacons (and vehicles escorting emergency vehicles) may operate outside of vehicle service roads while in the performance of emergency related duties.

Vehicles involved in snow and ice removal, glycol operations, FOD control and line painting that require access to other areas of the Apron while performing their duties may operate outside designated vehicle roads.

6.8 Right-of-Way

Aircraft under their own power or under tow always have the right-of-way and must be given first priority over all other traffic. All vehicle operators MUST give right-of-way to all aircraft at all times.

Hierarchy of the Right-of-Way:

1. **Aircraft under their own power or under tow**
2. **Emergency vehicles (red lights flashing)**
3. **Airport snow, ice, line painting and FOD control equipment (while performing their duties)**
4. **Marshallers and tractors during aircraft arrival, push-back, and when returning from a push-back**
5. **Fuel trucks and fuel carts engaged in fueling operations, including when manoeuvring into or backing out of an operational stand**
6. **Pedestrians in walkways, crosswalks, bag halls and load sheds**
7. **All other vehicles**

6.8.1 Right-of-Way, Aircraft

All vehicle operators must watch for aircraft to ensure there are no aircraft approaching, arriving, departing or getting ready to depart. Vehicle operators MUST come to a complete STOP and MUST ensure they give more than enough clearance for the aircraft and for all aircraft operations, including arrivals, push backs, air-starts, taxiing, towing, and powering into or out of an operational stand or gate.

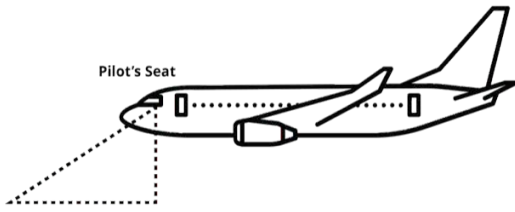
Vehicle operators are NOT allowed to drive through any part of an operational stand during push-backs or arrivals. (Ref. 6.11)

Any time a taxiing, stopped or parked aircraft approaches or encroaches a designated vehicle road, all vehicle operators must immediately give right-of-way to the aircraft by stopping in the VSR at a safe distance, or by safely leaving and returning to the VSR as soon as it is safe to do so. Vehicle operators must also stop or leave the VSR to give right-of-way to other priority traffic (e.g. Emergency Vehicles with their red lights flashing, or Authority Maintenance vehicles in performance of their duties.)

Note: Jet Engine Air-Start on-gate:

Aircraft engines may be started when the aircraft are parked at a gate using an external air compressor. Due to the risk of jet blast, at least one marshaller is expected to be present to provide safe vehicle operations in the vicinity. During an air-start, all vehicle operators must stop at a safe distance and wait until the marshaller signals it is safe to pass behind the aircraft.

Pilots cannot see anything directly below or close to the nose of the aircraft. The pilot must feel confident there is MORE than enough distance for safe clearance.



Aircraft Type	Distance From Pilot's Seat (m)	Distance From Pilot's Seat (ft)
A330	16 m	52.5 ft
777	15.5 m	51 ft
737 Max	14.5 m	47.5 ft
787	14 m	46 ft

6.8.2 Right-of-Way, Emergency Vehicles

All vehicle & GSE operators must give the right-of-way to emergency vehicles with red flashing beacons. Similar to interacting with emergency vehicles when driving groundside, all vehicle & GSE operators are responsible to give right-of-way by safely moving out of the way of emergency vehicles as quickly and safely as possible.

6.8.3 Right-of-Way, Authority Maintenance Vehicles

Vehicle & GSE operators must give right-of-way to all airport maintenance equipment when actively in performance of their duties. This includes snow & ice removal, FOD control, painting, or any other airport maintenance task or duty.

6.8.4 Right-of-Way, Marshalls & Push Tractors

Vehicle & GSE operators cannot drive between a marshaller, their equipment, and the aircraft, or proceed behind the aircraft, unless cleared by the marshaller. Vehicle operators may only proceed once the aircraft and marshaling crews are completely clear of the VSR.

6.8.5 Right-of Way, Fuel Trucks & Fuel Carts

Vehicle & GSE operators must give right-of-way to all fuel tanker trucks or fuel carts engaged in fueling operations or manoeuvring in or out of an operational stand.

6.8.6 Right-of-Way, Pedestrians

Vehicle & GSE operators must give the right-of-way to pedestrians in all indoor areas (including bag halls, load sheds, GSE storage areas, etc.) and in all designated crosswalks, including crosswalks between an aircraft and the terminal building, at any ground loading position, and to marshalls upon completion of an aircraft push-back.

Pedestrians must abide by the Hierarchy of the Right-of-Way at all times. Pedestrians (other than marshalls actively involved in aircraft operations) must give right-of-way to all traffic when walking airside, anywhere outside of designated crosswalks.

Note: Pedestrians are discouraged from walking across Aprons, particularly Apron I. Pedestrians are not allowed on Taxiways and Runways unless they possess a D AVOP or are escorted and are required to do so in the performance of their duties. A radio watch must be maintained at all times, while on or in the vicinity of Taxiways and Runways, whether inside or outside of a vehicle.

6.8.7 Right-of-Way, All Other Vehicles

Vehicle & GSE operators must give the right-of-way to any other vehicle already established on designated VSRs or any other road. Anywhere two or more VSRs intersect with no signage must be treated as an uncontrolled intersection and the vehicle on the right has the right-of-way.

Vehicle & GSE operators must:

- Obey all signage
- Stop when exiting baggage halls and make sure the way is clear before proceeding
- NOT park or leave an unattended vehicle on a VSR

Note: Operators of vehicles equipped with turn signals must use them whenever they change direction, including at all VSR intersections.

6.9 Vehicle & GSE Staging and Parking

Vehicles and GSE must be staged or parked in designated areas only. All unattended, staged, or parked vehicles must have the parking brakes on, or the wheels chocked.

Vehicles and GSE must be parked airside in the following areas only:

- Within the boundaries of designated company lease areas
- In marked parking stalls/areas

Vehicles and GSE may be staged in the following areas only:

- Inside red & white parking area boundary lines adjacent to operational stands
- In staging areas for the specific purpose of actively servicing aircraft

Note: The majority of operational stand (on gate) designated “parking” areas are considered to be designated staging areas only.

The beacon should be OFF for all parked vehicles and for all unattended vehicles in designated staging or parking areas. The beacon must be ON whenever the vehicle is actively being driven airside or is in stopped in a non-designated staging or parking area.

Whenever possible, vehicles should be parked facing out (facing away) from the terminal building, when parking near a building, near loading bridges and other heavy traffic areas.

6.9.1 Staging & Parking Restrictions

Vehicles parked in any unapproved parking area may be towed at the company’s or driver’s expense and an AVOP violation ticket may be issued.

Vehicle operators must not park, nor leave any unattended vehicles or equipment:

- In front of blast walls.
- On any aircraft taxiing area or aircraft movement area.
- On the area identified as the travel of a passenger boarding bridge. ([Ref. 5.4.2](#))
- On aircraft lead-in lines.
- On designated Aircraft Parking Pads.
- On any VSR, cargo road, or perimeter road. ([Ref. 1.3](#) for definition)
- In a way that blocks any area of the airport designated by a “No Parking” sign, or any reserved, marked or leased area unless authorized.
- In a way that blocks emergency egress from the building (through emergency exits).

- In a way that blocks access to emergency equipment (e.g., fuel shut-off valves, wheeled fire extinguishers, standpipes).
- Vehicle operators must not leave vehicles idling close to air intakes, inside baggage halls, or inside any building or enclosed space.

Vehicles and equipment must not restrict fuel truck access and exit routes. During set-up and active hydrant fueling, all vehicles and GSE must remain a minimum distance of 2 meters away from fuel trucks, fuel carts and fuel pits.

Vehicle operators must not park fuel tanker trucks within 15 meters from the building (windows & doors) (Ref. 6.15) and must not leave fuel tanker trucks unattended unless parked in areas that are specifically designated for that purpose.

All vehicles, equipment and objects must be more than one meter away from a security fence when airside, and more than three meters away from a security fence groundside.

6.9.2 Chocks, Cones and Tow Bars



Chocks, cones and tow bars must be removed from the bridge manoeuvring area immediately after push-back and departure. Store them neatly in designated areas (where available), or near the terminal building close to the base of the bridge pedestal (structural pivot point) when not actively in use.

All GSE, including chocks, cones and tow bars must be stored so they do not block, interfere, or create an obstacle or hazard for other vehicles or equipment, including Authority vehicles in performance of their duties (snow clearing, line painting, etc.).

6.10 Aircraft Parking

Aircraft may only be parked in assigned operational stands, in assigned leased areas or on designated aircraft parking pads.

Reminder: All vehicle operators must yield to aircraft at all times and must observe Circle of Safety procedures when approaching to service parked aircraft. (Ref. 6.11.3)

The designated aircraft parking pads on Apron I include:

North pad 110 - 111	By the North Blast Wall
West pad 120 - 129	Between taxiway entrances HB and HD
South pad 140 - 146	Past the end of Concourse C near taxiway entrance G
East pad 180 - 183	Between taxiway entrance EA and taxiway B
East pad 190 - 194	East end of Concourse E

The Aircraft Parking Boundary line is used to outline aircraft parking pads and provide safe clearance between parked and taxiing aircraft. ([Ref. 5.2.4](#))

All vehicles and GSE must remain behind the Aircraft Parking Boundary Line when servicing aircraft and must not block or obstruct line-of-sight for direction, location and information signs.

Note: Aircraft Parking pads are not designated parking areas for vehicles or equipment. All vehicles and GSE must be removed unless actively in use to service an aircraft at that location.

All vehicles and GSE must not block active aircraft operations. All vehicle and GSE operators must give right-of-way to aircraft at all times.

6.11 Operational Stands (Gates)

The servicing and turn-around of aircraft must be done safely and efficiently for all workers and the aircraft. Personnel from multiple companies must work together in close quarters in an operational stand. Cooperation, courtesy, respect and compliance of “safety first” with an emphasis on people and “life safety” makes everyone’s job safer and easier.

6.11.1 Operational Stand Safety Procedures

Vehicle & GSE operators must not drive onto or across an operational stand (gate), unless their duties and tasks include working on that operational stand. ([Ref. 1.3](#) for definition)

Vehicle & GSE operators are not permitted to drive on, off, or through, an operational stand when an aircraft is arriving, during push-back, when the aircraft’s anti-collision lights are on, or when the aircraft’s engines are running.

Vehicle & GSE operators are never allowed to drive between the marshaller and an aircraft.

Vehicle & GSE operators must never drive between an aircraft and a terminal building or between an aircraft and the airside buses at any ground loading position. This includes all ground loading areas on all Aprons.

Note: Ground Loading positions are any area on any Apron where passengers and/or crew board or deplane an aircraft by walking on the Apron (ground) between the aircraft and a terminal building. This includes all Aprons (I through X).

Vehicle & GSE operators must never drive over any electrical power cables, fuel hoses, air hoses, wheel chocks, etc.

Any time a vehicle is driven in reverse airside, best practice is to have another person marshal the vehicle operator. A marshaller is required when reversing within the aircraft circle of safety. ([Ref. 6.11.3](#))

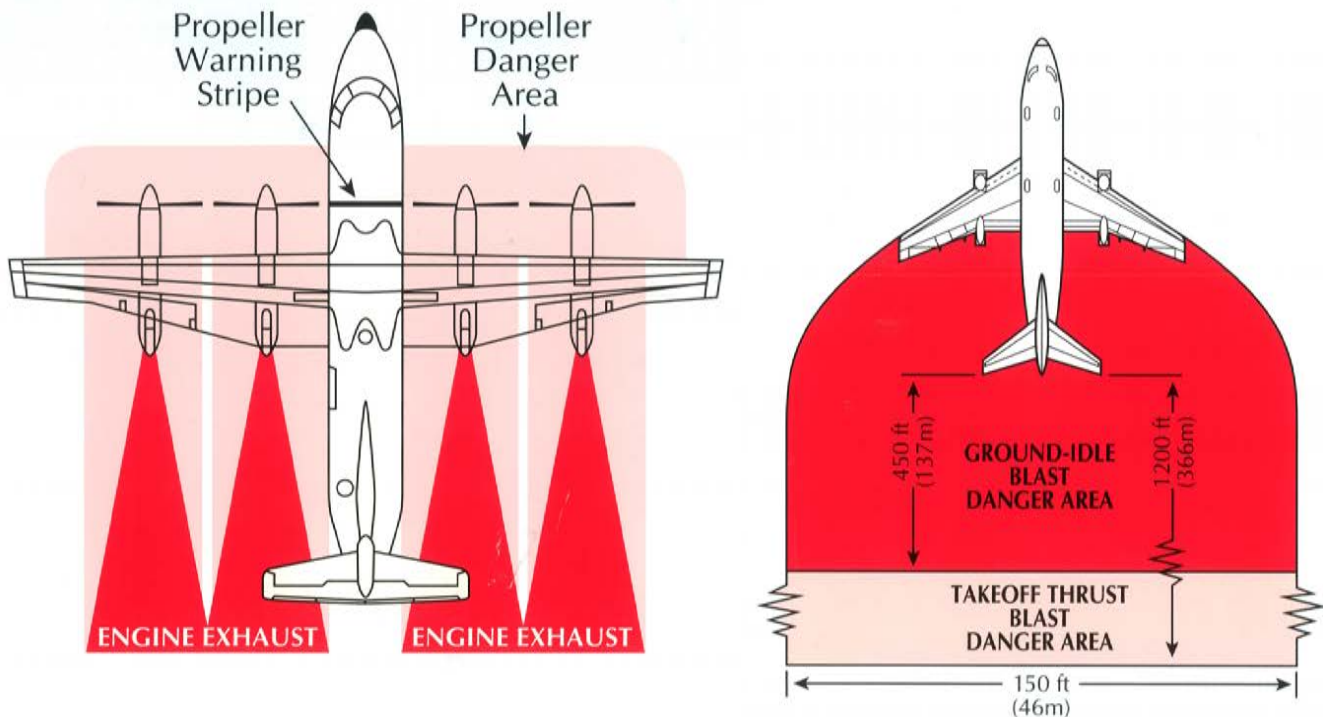
6.11.2 Jet Blast, Prop Wash, Engine Ingestion

Jet blast and prop wash can be considerable and can be dangerous. Vehicle operators must stop a safe distance away from any aircraft with engines running to ensure they remain safe and clear of jet blast or prop wash. Always slow down or stop to observe aircraft status. Aircraft parked at a gate may have their engines running when they have just arrived, are ready to depart, or during air-starts or engine run-ups.

Do **NOT** pass closely in front of, or closely behind any aircraft with engines running unless the marshaller waves permission, or unless the front wheel is chocked, the engine is spooled down and the Anti-Collision Light (ACL) is off. The one exception is that it is permissible to drive behind a propeller or turbo-prop aircraft like a Q400 'on gate', but the nose wheel **MUST** be chocked, the final engine must be powering down (feathering the prop), or only one engine is running and it is at idle.

To avoid the possibility of engine ingestion, jet blast or prop wash hazards, the driver may choose to take an alternate route, avoiding the operational stand entirely.

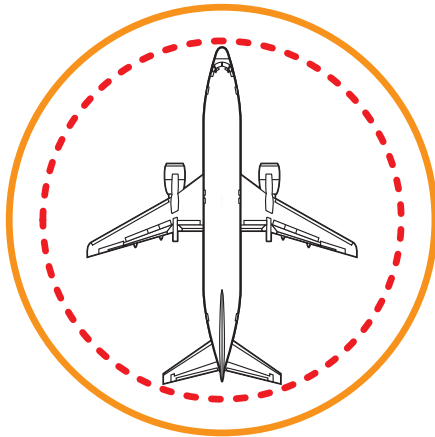
Note: Marshallers are responsible to “wave” drivers past stationary aircraft whenever it is safe to do so. This helps keep our Apron operations running smoothly and efficiently by keeping vehicles moving and reducing potential line-ups that may block access to other gates or operational areas.



6.11.3 Circle of Safety

All vehicle operators must use caution when approaching, driving, and working around aircraft.

Circles of Safety



Not to scale

- Test brakes
- - - Stop before proceeding slowly

Each parked aircraft has unmarked protection zones, defined as a circle outside of the wingtips, nose and tail, called "Circles of Safety" that are intended to prevent damage from vehicles and GSE.

Only vehicles actively involved in servicing the parked aircraft are allowed to enter the operational stand and the aircraft's circle of safety.

The maximum speed limit within the aircraft Circle of Safety is 5 km/h. All vehicles and ground service equipment (GSE) in transit within the circle of safety must maintain a minimum one-meter safe clearance around the aircraft.

The outer circle of safety extends 5 meters (16 feet) from the aircraft. Vehicle operators must stop and test the vehicle's brakes before crossing the imaginary boundary of the outer circle of safety.

The inner circle of safety is 2 meters (7 feet) from the aircraft and indicates where drivers must stop a second time before resuming their approach to the aircraft at a slow speed (defined as walking speed 5 km/h or less).

Note: Any contact with an aircraft must be reported to your employer supervisor and to the aircraft operator immediately. The operator must be informed as soon as possible to be able to check the aircraft for visible and non-visible damage to make sure it is safe to fly.

6.11.4 Bridge Movement Areas

Vehicles and equipment must not be parked in the area identified by paint markings indicating the travel of a bridge ([Ref. 6.9 and 5.4.2](#)). Ground service providers may stage vehicles or equipment in the travel of a bridge area, at their own risk, immediately before the arrival of an aircraft, but only if they have control over the operation of a bridge.

This is acceptable only if the ground service provider takes the appropriate steps to ensure all vehicles and equipment remain clear of the bridge to avoid contact, and that all vehicles and equipment are clear. All vehicle operators are responsible to give aircraft the right-of-way at all times.

The bridge operator assumes all responsibility for damage to the bridge or equipment. The vehicle operator assumes all responsibility for damage to the vehicle and GSE anytime they park within the PBB movement area.

Note: Vehicle & GSE operators may be issued a violation for "Improper parking of a vehicle/equipment causing or resulting in damage". ([Ref. 4.4](#))

6.12 Aircraft Arrivals and Push-backs

Vehicle operators must know and clearly identify the signs that indicate an aircraft is arriving or departing. Vehicle operators are responsible to know when they have more than enough time to proceed safely and know when and where they must stop to give right-of-way and safe clearance for the aircraft and marshallers. Vehicle operators escorting other vehicles or GSE must ensure there is more than enough time for everyone under escort to proceed safely.

6.12.1 Aircraft Arrivals

Signs of an aircraft arriving 'on gate' include:

- GSE (tow tractor, baggage carts, chocks and pylons) is present or arriving
- Marshaller (or marshallers) may be present
 - Marshallers may not be obvious or visible as some airlines use the A-VDGS instead of actively or visibly marshaling the aircraft
- Bridge is staged
- A-VDGS may be 'active' ([Ref. 5.5.2\(d\)](#))

Reminder: Vehicles and GSE must NOT be parked or moving in the safety areas of the operational stand in the 10 minutes prior to the displayed aircraft arrival time. The A-VDGS is actively scanning for obstructions at this time.

6.12.2 Aircraft Departures/Push-Backs

Signs of an aircraft Pushback include:

- Tow Tractor is hooked up
- Aircraft wheels not chocked
- Bridge is retracted
- Anti-Collision Lights (ACL) ON
- Doors, hatches and cargo holds closed
- All service vehicles are gone
- Marshallers present
- Pylons (cones) removed
- Engine(s) may be running

6.12.3 Tow operations

The tow tractor operator (driver) is the AVOP holder responsible and in control of all tow operations and all tow procedures.

Note: ATC instructions that include "at your discretion" requires the operator to proceed only when it is safe to do so, in coordination, consideration and with respect for all other operations in the area.

For all departures, all tow vehicle operators must push the aircraft back from a gate or operational stand to the designated disconnect box according to the YYC Gate Matrix. ([Ref. 6.12.2](#) and The Swing Gate Matrix document located on connect.yyc.com's 'The Source')

All other tow movements, including returning to the gate after push-back and all tow movements done without marshallers, must be done towing forward, with the tow bar and/ or aircraft attached and towed behind the tow vehicle for safety and maximum visibility and control by the tow tractor operator.

6.12.4 Gate Matrix

Every gate, operational stand (gate) and ground loading position on Apron I has a YYC Gate Matrix designated push-back procedure, including push-back path and designated disconnect point(s). All Gate Matrix push-back procedures are designed to maintain safe clearance between aircraft moving on the Apron, including safe clearance for factors such as jet blast, wingtip clearance and aircraft turn capabilities.

All YYC Gate Matrix push-back procedures MUST be followed every time an aircraft is pushed back from a gate, operational stand or ground loading position for departure, tow or repositioning on Apron I. All operators and all companies with push-back operations on Apron I are required to stay current by checking 'The Source' regularly for updates and revisions.

Note: The Gate Matrix document is located on 'The Source', YYC's document library. Each company must request and obtain access to 'The Source' by emailing the Calgary Airport Authority at thesource@yyc.com. The AVOP Office is not able to grant or provide access to 'The Source'.

6.13 Operating Procedures – Temporarily Inaccessible Areas

6.13.1 Airside Emergency Response

When responding to an emergency on the airfield, Emergency vehicles with flashing red lights need clear space to respond, approach and work around the aircraft or building involved in the emergency. Unless specifically instructed, no other airport vehicles or workers may approach the scene or pass between emergency vehicles and an aircraft (the hot zone).

Anytime there are emergency vehicles at or near an operational stand with red lights flashing, no other vehicles or workers may approach the aircraft. The area between emergency vehicles and the aircraft (the hot zone) needs to be free and clear for the safety of the emergency workers.

Any airside workers or vehicles who arrive on scene before emergency vehicles arrive are required to stay back a safe distance. All vehicles and workers must remain clear of the aircraft and the area to not impede emergency response to an incident, and to avoid putting themselves in harm's way.

Airside vehicles and workers must not approach the aircraft until after all emergency vehicles have changed back (from red) to amber lights. Only after all emergency vehicles have changed back to amber lights is it considered safe to approach the aircraft to start or resume regular duties.

Note: All airport vehicles and workers are required to follow the direction of emergency personnel at the scene of an emergency, at all times.

6.13.2 Fire, Aircraft Accident, Restricted Areas

No person or vehicles are allowed at the scene of a fire, an aircraft accident, or near an aircraft known to be carrying distinguished visitors, unless they are authorized and have a specific duty that requires their presence.

6.13.3 Construction Areas

No person or vehicles are allowed access in or access through construction areas, unless in connection with the construction or as authorized by the IOC, project manager or designate.

6.14 Vehicle Collision

AVOP holders involved in an accident with another vehicle, aircraft, ground service equipment or other object must immediately report the collision to their supervisor and the Integrated Operations Center (IOC 403-735-1300).

Whenever possible, all vehicles, equipment, aircraft or objects must be left in place until the supervisor and the IOC have been informed and an authorized person has arrived on scene and completed an initial assessment, including pictures.

Note: Failure to immediately report a vehicle accident is classified as an Intermediate AVOP Violation.

6.15 Operating Procedures – Fuel Tanker Trucks

Flammable liquids in slip tanks that are being transported must conform to the requirements as contained in the Transport Canada Transportation of Dangerous Goods Regulations.

Aircraft fuel handling is normally conducted from underground hydrant fuel systems near the terminal building. When fueling is carried out by fuel tanker trucks, it must be conducted at least 15 meters away from any airport building that has windows or doors in any exposed walls. ([Ref. 6.9.1](#))

Vehicle operators must not leave fuel tanker trucks unattended unless parked in areas that are specifically designated for that purpose. ([Ref. 6.9.1](#))

Fuel tanker trucks carrying flammable materials are forbidden to pass through any breezeway and forbidden to drive on the Head of Stand (HOS) VSR.

Vehicles containing slip tanks are allowed to drive through breezeways and use the HOS VSR.

Section 7

D Requirements

7 D Requirements

Operation of vehicles and mobile equipment, including taxiing or towing aircraft in the manoeuvring area requires the operator to possess a valid, YYC employer specific D-type AVOP, with one exception. A pilot with a current and valid pilot's license may taxi or tow an aircraft if authorized by their employer, and may do so for maintenance purposes only. See [Section 3.1](#) and [Section 9.1.1](#) for pilot license requirements.

Specific regulations apply to each D AVOP type as follows and as described in sections [7.1](#), [7.2](#), [7.3](#), and [7.4](#).

7.1 D AVOP Descriptions

- a. **The D-AVOP** allows vehicle operators to drive vehicles on all airfield surfaces. The D AVOP is the only AVOP that allows for driving vehicles on controlled Taxiways and Runways. D AVOP holders may operate vehicles on Taxiways, Runways, airfield roads, and off hard surfaces. If operations require driving off hard surfaces, the vehicle operator is solely responsible to ensure FOD is NOT tracked onto hard surfaces.
- b. **The D-AME AVOP** allows operators to taxi or tow aircraft on all airfield surfaces but does NOT allow driving a vehicle. ([Ref. 7.3 and 7.4](#))
- c. **The D-Tow AVOP** types (**D-Tow North (DTN)**, **D-Tow South (DTS)** and **DDT**) allow operators to tow aircraft under positive control, on specific areas of the airfield, as per each individual company-specific tow operation agreement with the Airport Authority.

Note: Combination type AVOPs (D-AME with DA and D-Tow with DA) were discontinued, effective November 30, 2022. All combination type AVOPs will be phased out as they expire. All AVOPs (DA, DTN, DTS, DDT, D-AME) must be applied for separately to ensure accurate tracking of the application, all tests, and expiry date.

7.2 D, D-AME & D-Tow AVOP Procedures

When a vehicle operator is giving way to an aircraft in the manoeuvring area, the pilots should feel confident there is "ample" room between their aircraft and the vehicle, not "just enough" room from the vehicle operator's perspective.

Vehicle operators must stop behind the taxiway intersection marking (minimum 51.0 m). Operators can use the visual cues of the 51.0 meter distance from the Taxiway centerline to the edge of the Taxiway to assist in determining safe clearance. Best practice is to consider the aircraft as the center of a circle and remain a minimum of 51.0 m away, in all directions.

All AVOP holders MUST minimize Runway crossings.

All AVOP holders must minimize driving on taxiways and runways, and must therefore make maximum use of airfield perimeter roads and vehicle service roads at all times, when driving airside. Vehicle operators not actively involved in the performance of airside related duties must avoid all movement areas, and whenever possible, use ground side roads and routes, or airside perimeter roads.

Unless operationally required when responding to an emergency, performing airfield maintenance, AVOP testing or approved training, vehicle operators must use the perimeter roads around the thresholds of all Runways instead of requesting permission from Calgary Ground

to cross these Runways. When vehicle operators must cross a Runway, they must, whenever possible, cross at the thresholds. Perimeter roads are located around the threshold of Runways 08, 11, 17R, 17L, 26, 29, 35R and 35L. Perimeter roads must be used to minimize runway crossings whenever possible.

When a vehicle operator must proceed to a specific airside location in an emergency (e.g., Response Gate East), the requirement to use the perimeter roads is waived, however the vehicle operator must avoid crossing the Runway designated for use in the Emergency Response (until required and instructed by ATC). [\(Ref. 8.5\)](#)

Note: When exiting an Apron going onto a Taxiway, vehicle operators must always monitor the correct radio frequency for aircraft traffic. It is best practice to slow down and stop before exiting an Apron to visually confirm that no aircraft is approaching.

To avoid interference with an Instrument Landing System (ILS), no vehicle may proceed closer than 150 meters to any localizer, glide path antenna or shack except with permission from Calgary Ground.

7.2.1 Manoeuvring Area Speed Limits

All AVOP holders MUST drive to the conditions and obey all speed limits, lights, signs and markings.

The recommended and best practice vehicle speed limit for Taxiways and Runways is 40-60 km/h to mesh with aircraft traffic. Under ideal conditions, the maximum speed for Taxiways is 80 km/h. The only exception is during Emergency Response. [\(Ref. 8.4\)](#)

The vehicle speed limit on the Taxiways that cross the underpasses is 50 km/h. (This includes the areas where Twy J and Twy E cross over the J/E underpass, and where Twy R crosses over McCall Way.)

Perimeter roads around the threshold of Runway 08 and Runway 29 may only be used by a D AVOP holder and, like all perimeter roads, has a maximum speed limit of 50 km/h **unless otherwise posted**.

Note: Slow moving vehicles in the manoeuvring area must be under positive control and must advise ATC on their speed limit and intended route to ensure they remain clear of aircraft and all other traffic.

Abnormal vehicle operations (i.e. high-speed testing, especially near Runway Hold Lines) must be conducted in coordination with ATC to prevent conflict.

7.2.2 Manoeuvring Area Restrictions

All Aprons at the Calgary International Airport are uncontrolled. Most Taxiways and all Runways are controlled. Taxiway P is uncontrolled and requires a DAS AVOP (as a minimum) for vehicle operations.

Taxiways GB and GD are uncontrolled and are one-way for aircraft traffic exiting the West Deicing Apron (WDA) only. Notwithstanding the “No Entry” signs going from Taxiway G to Taxiway GB and Taxiway G to Taxiways GD, D AVOP holders operating vehicles may only enter these areas for operational, emergency response and maintenance purposes and MUST have prior permission from the lease holder (Aero Mag).

Vehicle operators are not allowed to operate on the shoulders of Taxiway R, J or E above the underpasses marked with Taxiway Safety Area markings ([Ref. 5.9.7](#)) except for pre-authorized maintenance duties or, as authorized by the Authority AVOP Coordinator. Retrieving FOD located in the shoulders of the Taxiway R, J or E above the underpasses requires specialized equipment. Contact the Integrated Operations center to notify them of any safety concerns in these areas. The IOC will notify and dispatch personnel who are authorized to work in this area. ([Ref. 2.3\[e\]](#))

Note: Emergency Response: Runway 17R– 35L is the preferential emergency runway. When possible, emergency landings will occur on this Runway.

Note: Taxiway S is operationally important because the largest aircraft, such as the Airbus A380, can be on this Taxiway and still allow aircraft to land on Runway 29. If they were on Taxiway Q or B at the threshold, they would be an obstacle for the approach of Runway 29.

Response Gate East and Response Gate West are the primary response gates used for declared aircraft emergencies. Response Gate 306A is currently being used as Response Gate East. (Response Gate East is currently closed). Gate 340 is used for other types of airside incidents, including medical emergencies on Apron I or the East or West Deicing Aprons.

Note: The all-weather emergency access road to Runway 17L/35R at Taxiway Z is for emergency use only. The road has flashing red STOP lights, a STOP sign, white transverse pavement markings, and safe hit delineators to mark the road as restricted during normal operations.

The IOC determines the Muster Point for emergency vehicles and coordinates with 911 and AHS.

Note: When a vehicle is giving way to an aircraft in the manoeuvring area, the pilots should feel confident there is “ample” room between their aircraft and the vehicle, not “just enough” room from the vehicle operator’s perspective. Vehicle operators must stop behind the taxiway intersection marking (minimum 51.0 m), and can use the visual cues of the 51.0 meter distance from the Taxiway centerline to the edge of the Taxiway to assist in determining safe clearance. Safe clearance distances for Runways are listed in [Section 8.4](#) of this manual.

7.3 D-AME AVOPs

Only licensed Aircraft Maintenance Engineers (AMEs) are allowed to apply for and obtain a D-AME AVOP. If an individual does not maintain their AME license, their D-AME AVOP will be revoked. It is the employer’s responsibility to inform the Authority AVOP Coordinator if operators do not maintain their AME license.

D-AME AVOP holders may taxi and tow aircraft (past their company lease line) on all Aprons, all Taxiways and all Runways under positive control by ATC. They are also allowed to taxi and tow aircraft on all airfield roads and off hard surfaces where it is appropriate.

D-AME AVOP holders are NOT allowed to drive vehicles outside of their leased property. To operate a vehicle outside of their company leased areas, D-AME AVOP holders must successfully apply for, and successfully complete all tests for the appropriate DA AVOP (DA (all aprons), DA South, DA West) in addition to their D-AME permit. (Combination AVOPs were discontinued effective November 30, 2022.)

7.4 D-Tow Type AVOPs

D-Tow programs are company and operationally specific. D-Tow programs must be assessed and authorized by the AVOP Coordinator prior to anyone from that company applying for, or obtaining a D-Tow type AVOP. Each company D-Tow program includes an individual agreement designed to minimize the use of Taxiways and Runways.

D-Tow AVOP holders (D-Tow North, D-Tow South, DDT) may tow aircraft on specific Aprons, Taxiways and Runways as applicable to the AVOP type, and where appropriate may tow aircraft on specific airfield roads and off hard surfaces according to the terms and conditions of the company D-Tow program as authorized by the AVOP Coordinator (with the exception of Taxiway P - [Ref. 6.4](#)).

Note: Combination AVOPs were discontinued effective November 30, 2022. All D-Tow type AVOP holders must also hold a valid DA, DAS, or DAW. (as applicable to their vehicle operations.)

Note: While D-AME, D-Tow North and D-Tow South AVOP holders are authorized to tow an aircraft on specified Taxiways or Runways under positive control by ATC, their AVOP does not allow driving a vehicle on Taxiways or Runways unless specifically authorized by the Airport Authority within the terms of the company-specific D-Tow program.

7.5 Operational Cautionary Areas

Cautionary areas due to obstructed sight lines:

- a. Taxiway W to Taxiway A - watch for traffic taxiing south on Taxiway A crossing Runway 29, and for traffic exiting Runway 17R/35L on Taxiway A1.
- b. South at Threshold of Runway 29 - watching for traffic coming westbound on Taxiway R.
- c. Traveling Taxiway G to Taxiway F - due to buildings along the way.
- d. Traffic in and around the intersection of Taxiways C, H and J due to restricted visibility and obstructed sight-lines from buildings in the area.

Cautionary areas known as "Hot spots":

- a. The intersections of Taxiways C, G, H and J.

Cautionary area due to radio frequency change:

- a. Traveling west on Taxiway J passing Taxiways JS and JT, watch and listen for traffic northbound on Taxiway C and G. Be aware that northbound traffic may have received their clearance early (while still south of Runway 11/29).
- b. At the intersection of Taxiways F and R.

Section 8

**Air Traffic Control and
Radio Procedures**

8 Air Traffic Control and Radio Procedures

Everyone who operates or may need to operate a radio for aviation purposes at YYC must be trained, licensed, and must communicate correctly according to Industry Canada radio operator standards, including use of correct phraseology when communicating with Air Traffic Control (ATC).

Note: All D, D-AME and D-Tow AVOP applicants MUST obtain their ROC-A license BEFORE applying for their AVOP.

Effective December 31, 2023, all push-back tow crew members and brake riders who operate (or may need to operate) a radio to assist with push-back or tow operations MUST obtain their ROC-A license BEFORE they are allowed to operate a radio or use their AVOP for aircraft push-back or tow operations.

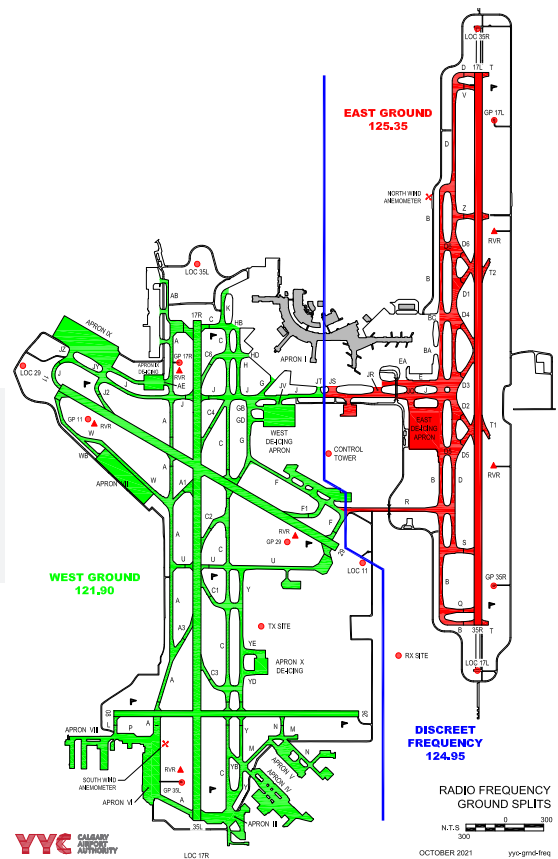
8.1 Aeronautical Radio Calls

Radio calls (transmission) must be done on the correct Ground Control frequency ([Ref. 8.3](#)) and must be kept to a minimum. Radio operators must ensure they have selected the proper frequency and must listen first, to avoid interfering with other transmissions before transmitting on any radio frequency. ([Ref. 8.3.1](#)) Operators must monitor the appropriate frequencies at all times while in the manoeuvring area.

Note: See [8.10.4](#) for phraseology and radio call examples. Additional Radio Phraseology information and examples can be found in the NavCanada Ground Traffic Phraseology Guide publication (2018).

The radio operator (AVOP holder) must state the company name or vehicle call sign (Sweeper, Blower, Electrical, Staff, etc.), the vehicle number, the aircraft identifier (737, 787 Heavy, Q400, etc.), current location and intentions when making the initial radio call to request to change locations and when requesting permission to cross a Runway. ([Ref. 8.10.4](#))

Tow operations best practice is to use the company tow vehicle name, vehicle number and aircraft identifier. If the tow vehicle does not have a unique number, tow operators on Aprons may use the tow vehicle company name followed by the word "Tow" (e.g. Air Canada Tow 531 or Air Canada Tow with the aircraft civil registration C-GABC). Tow operations may use the vehicle's unique call sign as a reference to the tow (e.g. Staff 22 plus tow). For taxi operations, anyone other than a pilot taxiing aircraft for active flight operations must use the aircraft's civil identification. (Flight numbers are only allowed when an aircraft is taxiing as part of the flight operation.)



A readback of all radio permissions from ATC is required. The readback is a required and legally binding acknowledgement that ensures the vehicle operator has received, understood, and will follow all instructions and permissions exactly as given by ATC. The mandatory readback must include all instructions, ending with the operator/vehicle call sign. Replying to instructions using only "Roger," only "Affirmative," or the only the vehicle call sign is incomplete and unacceptable.

If you need to ask ATC to repeat the instructions, the correct phraseology is "Say again" or "Confirm." All communication is legally binding and must be clear and concise.

Note: When told by ATC to 'Stand by' the operator is to wait and monitor the frequency. The operator cannot proceed beyond their clearance. ATC will re-establish contact when they are able.

If required, telephones or other appropriate means of communication must be used instead of carrying out extensive radio conversations.

8.2 Apron Advisory

All Aprons at the Calgary International Airport are uncontrolled, however, Apron Advisory (121.3 MHz) must be contacted before all aircraft movements on Apron I. Between the hours of 0100-0500 when Nav Canada is not monitoring Apron Advisory, taxi and tow operators must still announce their intentions on Apron Advisory (121.3 MHz) using correct radio phraseology.

ATC may advise the person in charge of the aircraft taxi or tow operation to proceed at their discretion. "At your discretion" means to proceed only when it is safe to do so, in cooperation and with consideration of all other aircraft traffic, and in compliance with all other policies and procedures, including all AVOP and Gate Matrix procedures.

Note: Aircraft traffic is not sorted by what taxiway or runway is closest to the aircraft's gate (or Apron destination). Aircraft traffic and traffic flow is controlled with the 'ground sort' done according to operational requirements, including the active runways and deicing operations.

Operators are expected to follow directional instructions from Apron Advisory. Pay close attention to instructions as they may be different from what you expect.

8.3 Dual Ground Control Frequency

Vehicles and aircraft operating in the **manoeuvring area** must have radios that can operate on all YYC ATC Ground Control frequencies.

ATC uses two main frequencies to control aircraft and vehicles in the manoeuvring area. All Ground transmission on the east airfield are on the East Ground frequency 125.35 MHz ([Ref. 8.12 map - red areas](#)), and all transmissions on the west airfield are on the West Ground frequency 121.9 MHz ([Ref. 8.12 map - green areas](#)). Alternate frequencies such as 124.95 may be used by ATC.

The boundary between East and West Ground frequencies is on Taxiway J between Taxiway JS and Taxiway JT, and at the intersection of Taxiway F and Taxiway R. ([Ref. 8.12](#))

Nav Canada controls aircraft and vehicles as follows:

- a. East Ground:
 - Runway 17L/35R
 - All Taxiways east of Taxiway JT and east of Taxiway F
- b. West Ground:
 - Runway 17R/35L
 - Runway 11/29
 - Runway 08/26
 - All Taxiways west of Taxiway JS and west of Taxiway R

Note: Operators driving when NOT under positive control must switch between East and West Ground Frequencies even when the frequencies are coupled with one ATC controller operating multiple frequencies. (Operators under positive control must wait until instructed by ATC to change frequencies.)

Best practice is to switch ground frequencies when entering the perimeter road around the threshold of Runway 29 to provide time to listen and monitor communications before exiting the road onto an active Taxiway.

8.3.1 Airside Radio Frequencies

Area	Frequency
East Ground	125.35
West Ground	121.90
ATIS	128.225
Apron 1	121.30
West Deice Apron Pad Control	122.350
East Deice Apron Pad Control	129.125
East Tower	118.70
West Tower	118.40
Emergency/Alternate	124.95

8.4 Manoeuvring Areas

ATC provides positive control to aircraft and vehicles operating in the manoeuvring area. All AVOP holders MUST obey instructions and permissions given by ATC at all times.

ATC and vehicle operators have developed several terms and phrases to improve communication when vehicle operators are performing work in the manoeuvring area. These terms and phrases are site-specific for both the airfield operational and maintenance concerns of the Calgary Airport. The terms and phrases ([Ref. 8.10](#)) are required knowledge for individuals who perform specific airfield jobs.

While in the manoeuvring area, D AVOP holders:

- a. Must ensure the vehicle Veelo or transponder is on. ATC may instruct the operator to vacate the manoeuvring area if the Veelo or transponder is non-functional.
- b. Must ensure the radio is on and functioning properly (receiving & transmitting before entering the manoeuvring area).
- c. Must always monitor & maintain a listening watch on the correct ATC Ground Radio Frequency. When under positive control, operators will NOT change frequency unless instructed to do so by ATC.
- d. Must acknowledge & comply with any instructions from ATC as understood, or request that the instructions be said again if not understood (“Say Again”).
- e. Must request, obtain permission from ATC and complete their read back before entering or crossing a Runway.
- f. Must request, obtain permission from ATC and complete their read back before passing within the Runway Holding Position Markings.
- g. Must request, obtain permission from ATC and complete their read back before entering or passing within a Runway Protected Area (RPA). ([Ref. 5.9.2 and 8.5](#))
- h. Must inform ATC immediately if they are “unable to comply” with ATC instructions.

Note: It is best practice for all light vehicle operators departing an Apron to slow down and YIELD, or come to a complete STOP before entering a Taxiway. This will allow the operator time to look for aircraft and gain situational awareness prior to entering the manoeuvring area.

8.4.1 Manoeuvring Area Restrictions

Any vehicle not equipped with a radio and transponder (Veelo) cannot enter the manoeuvring area unless they are escorted by a radio equipped escort vehicle, operated by a D AVOP holder. The escort is responsible for all the safety and security of the vehicle under escort and is also responsible to make all required radio calls, including requesting permission, acknowledging and following all ATC instructions.

If a vehicle has a radio but no transponder and the vehicle operator holds a valid D AVOP and ROC-A, they may request to operate in the manoeuvring area but must communicate and receive permission in advance and must be under positive control by ATC at all times.

8.4.2 Safe Distances Off Runways & Taxiways

The minimum safe distance off each Runway (distance from the Runway Center Line to the Runway Holding Position Marking) at YYC is as follows:

Runway	Distance Off
Runway 08/26	90 m
Runway 11/29	105 m
Runway 17R/35L	105 m
Runway 17L/35R	110 m

The minimum safe distance off each Taxiway (distance from the Taxiway Center Line) at YYC is 51.0 meters.

Pilots should always feel confident there is “ample” room, rather than “just enough” room between their aircraft and the vehicle or obstruction.

For any construction activities, or when a vehicle is parked, safe distances become greater. Runway Strip Widths of 122 meters apply for all construction activities and are dependent upon equipment types and height. These distances must be determined before the work starts.

Minimum safe distance will be determined in the Project Plan and must be provided to all drivers, including all escorts.

8.5 Crossing or Entering Runways

AVOP holders must contact ATC and request permission to cross or proceed onto an open or closed Runway or to cross a CAT I Hold Line to enter a holding bay. AVOP holders must perform a visual check before call-up to ensure they will not interfere with aircraft (flight) operations.

Whenever an AVOP holder is approaching a Hold Line, is instructed to hold short of a Runway, a CAT I Hold Line, or is waiting for permission to cross or to proceed onto a Runway, the operator must come to a complete stop and hold the vehicle a minimum of two vehicle lengths before the applicable Holding Position markings. Once stopped, the operator must call ATC to obtain permission to cross (or enter) the Runway. Permission from ATC must be given and the readback of all instructions must be complete and correct before the vehicle moves, touches or crosses the Runway Holding Position Marking or CAT I Hold Line. ([Ref. 5.9.3](#))

On occasion, ATC may give a vehicle permission to cross a Runway before the vehicle/radio operator makes the radio call. The vehicle/radio operator must acknowledge all instructions from ATC as understood, or request that the instructions be said again if not understood. ([Ref. 8.1 and 8.4](#))

Note: Best practice is to be prepared to stop at any Hold Line or Taxiway Intersection marking a minimum of two vehicle lengths before the hold line or intersection marking. This distance provides full view of the signs, lights and markings and allows enough space for vehicles to make a U-turn away from the Runway or Taxiway intersection, if required.

When told to hold short of a Runway, the operator must respond with: “Holding Short Runway ##” followed by their call sign.

Note: Permission to cross a Runway is Runway specific. It is acceptable to use either Runway heading, however the 'active' Runway heading is preferred.

Do NOT use both Runway numbers in the radio call. See [8.10.4](#) for examples of correct phraseology and readback procedures.

If ATC permission is given for an incorrect Runway, call and use the word "Confirm" to clarify the Runway. Do **NOT** proceed or cross until correct clearance is given by ATC and your read-back is complete.

If an AVOP holder must cross one or more Runways, or requires priority access in an emergency situation, they must use the words "Responding to" followed by the specific location and request in their initial call to ATC. Routing will be provided by ATC, including use of applicable Taxiways and permission to cross Runway(s), as appropriate, and with consideration for other traffic.

To enter a Runway for any reason, including Runway inspections (RSC), FOD removal, wildlife management or electrical inspections and repairs, vehicle operators must:

- a. Notify ATC (ground or tower controller as applicable) when approaching a runway to perform a specific task.
- b. Hold short of the Runway, behind the Runway Holding Position markings until Tower instructs the vehicle operator to enter the Runway.
- c. The vehicle/radio operator must stay with Tower under positive control, including if the inspection cannot be completed in one pass and the vehicle is pulled off the Runway to an appropriate Taxiway.
- d. The vehicle/radio operator must call and confirm "OFF the Runway" including their location when the inspection/task is complete, and the vehicle has exited the Runway.
- e. After exiting the Runway and changing to driving NOT under positive control, the vehicle/radio operator must switch and monitor the appropriate ground frequency.

When instructed to leave the Runway, AVOP holders must acknowledge instructions and proceed to the required safe distance from the Runway, as measured from the centerline, for each Runway. Operators must call ATC when "OFF" the Runway and give their exact location.

Note: When leaving a Runway, it is very important to tell ATC when you are OFF the Runway and your location. Never use the word 'clear' of the Runway. Always say you are 'OFF' the Runway.

8.5.1 Runway Restrictions

Vehicle operators must minimize Runway crossings and call-ups to ATC. Unless operationally required to cross or enter a runway, vehicle operators must use the perimeter or threshold roads. (i.e. Instead of crossing Runway 17R-35L at Taxiway A, vehicle operators must use the west perimeter road.)

Vehicle and aircraft operators are prohibited from entering a Runway when the red STOP Bar Lights are active, even if they have verbal permission from ATC. If the STOP Bar lights become active (ON) part-way through a group of vehicles (e.g. a group of sweepers crossing the Runway Holding Position Markings), the next driver may **NOT** cross. The driver must STOP before the Runway Holding Position Markings. There are no circumstances when an AVOP holder is allowed to enter a Runway when the red STOP Bar Lights are ON.

Note: A Runway Incursion (AVOP Violation) occurs when any part of a vehicle or aircraft crosses any part of the solid yellow line of the Runway Holding Position Markings, or enters anywhere inside the Runway Protected Area without permission from ATC. ([Ref. 6.2](#) for Taxiway, Manoeuvring Area Incursion)

8.5.2 Closed Runway Access & Procedures

If a runway is closed, all vehicle operators MUST radio ATC and request permission to enter the runway and call OFF the runway every time (for every access event). This allows ATC to grant permission and establish the boundaries of your clearance.

Example: Staff 24, permission onto the threshold Runway 29, hold short Runway 17R.

Note: The term “unrestricted access” is no longer approved for use.

Requests for “Continuous Access” to a closed runway are project specific, MUST be planned in advance, and MUST be requested, submitted, and approved by YYC Compliance. This allows for evaluation of operational considerations, safety and risk assessments, and planning for operational boundaries including specific entry and exit points.

Note: Vehicle operators are NOT permitted to request “continuous access” for any closed surface without prior approval by YYC Compliance.

8.5.3 Runway Protected Areas (RPA)

Vehicles and equipment may sometimes have to operate in the Runway Protected Area (RPA). The RPA is defined as the area between the Runway edge and the distance out to the Runway Holding Position Markings for the entire length of the Runway. ([Ref. 8.4](#) including Note Box and [Section 8.5](#))

To operate in the Runway Protected Area, the vehicle operator must ask and be granted permission from ATC, stating where they need to operate, including the approximate distance of the vehicle or equipment from the nearest edge of the Runway and how long they expect to be there. ([Ref. 8.4](#)) A radio listening watch must be maintained (using an exterior speaker when appropriate).

When performing tasks in the Runway Protected Area (RPA), the “grassy area” beside the Runway edge, ensure you hold short of the correct Runway Designator Signs ([Ref. 5.12.1](#)) instead of the Runway holding position markings. The Runway Designator Signs are more visible than the paint markings. Stay behind the imaginary line drawn parallel to the Runway from the Runway Designator Signs. Err on the side of caution. ([Ref. 8.4 Note Box](#) for the required distance from the Runway, as measured from the centerline, for each Runway)

8.6 Unable to Comply with ATC Instructions

If a vehicle, equipment or aircraft breaks down, or the operator or escorted vehicles cannot comply with instructions from ATC instructions or permissions after initially acknowledging the instructions, the operator must immediately notify ATC of their location and the problem and ask for assistance.

Note: Operators are responsible to ask ATC for clarification or confirmation of any instructions or permissions that are missed, forgotten, or not understood.

8.7 Radio Failure

In the event of a radio failure or vehicle break down, AVOP holders must position their vehicle to use and respond to light signals from the Control Tower ([Ref. 8.8](#)). If the vehicle or aircraft cannot be positioned for using light signals, the AVOP holder must immediately contact the IOC and ask the IOC to contact ATC on their behalf. The AVOP holder must also contact their supervisor to advise them of the situation.

Note: In the event of a combined vehicle and radio failure during adverse weather conditions, the vehicle may provide the best protection until help arrives. ([Ref. 8.8](#))

There are no known radio blind spots at Calgary International Airport. Operators must report any radio blind spot concerns to the IOC immediately.

8.8 Communication with Light Signals

If a vehicle or aircraft has radio failure in the manoeuvring area and the operator must cross a Runway, or continue with a controlled routing, the operator must turn the vehicle or aircraft to face the Control Tower and flash the headlights, or aircraft landing or taxi lights, to signal ATC.

In the event of a radio failure ATC can use the following light signals to communicate with vehicles and aircraft:

Flashing green light	Proceed
Steady red light	STOP, hold your position
Flashing red light	Immediately vacate the Runway or Taxiway
Flashing white light	Return to starting point on the airfield
Flashing (white) runway lights	Vacate runway

The operator must hold short of each Runway, repeat the process and receive permission to proceed (flashing green light signal) before crossing each Runway.

8.9 Reduced and Low Visibility Operations (RVOP/LVOP)

The Reduced/Low Visibility Operations Plans call for specific airfield operational procedures when the Runway Visual Range (RVR) is below 2600 feet. LVOP (rather than RVOP) can be initiated when the Runway Visual Range is below 1200 feet or at the discretion of ATC any time the ground visibility is less than 2600 feet. When the RVR is below 1200 feet, airfield vehicle and aircraft towing & maintenance operations become more restricted. When the RVR is below 600 feet, airfield vehicle and aircraft towing & maintenance operations are strictly limited due to the increased risks from significantly limited visibility. ([Ref. 1.3](#) for definitions of RVOP and LVOP)

Only operationally required vehicles dedicated to the continued operation of the airport are allowed on the manoeuvring areas during reduced or low visibility conditions and all vehicles must be under positive control.

Operators are notified of reduced and low visibility conditions through an Authority automated call out system, ATC, company radio, and/or ATIS (128.225 MHz) ([Ref. 1.3](#) for definition). Drivers entering the airfield movement and manoeuvring areas during conditions where visibility is obscured or estimated to be less than 2600 feet MUST confirm if reduced or low visibility procedures are active, and must be given permission by ATC to proceed, BEFORE entering the manoeuvring area.

ATC may restrict vehicle movements at any time.

All vehicles on the airfield MUST be under positive control while operating on controlled Taxiway and Runways during RVOP and LVOP. When RVOP or LVOP is activated, all non-essential vehicles must exit the manoeuvring area under positive control. Operators must call ATC (ground frequency) and obtain instructions to exit the manoeuvring area under positive control and must call again when "OFF" the manoeuvring area (including their location).

In reduced visibility operations (RVOP), the Integrated Operations Center (IOC) will determine if and how construction or maintenance projects on the airfield can safely continue. (All escorts should expect to vacate the manoeuvring area). In low visibility operations (LVOP), all construction activity will be suspended.

8.9.1 **RVOP** – Reduced Visibility, RVR below 2600 feet

Vehicle access is restricted during RVOP as follows:

- a. **Manoeuvring area** - Only operationally required vehicles in performance of their duties are authorized to operate on the manoeuvring area (i.e., airfield inspection, emergency response, and snow removal). All vehicles must be under positive control.
- b. **Apron area** - Only operationally required personnel and vehicles are allowed on the Apron. This includes GSE vehicle operations required to service actively arriving and departing aircraft.

Aircraft tow and taxi operations are restricted during RVOP as follows:

- a. **Manoeuvring area** - Only operationally required aircraft tow and taxi operations are allowed. All tow and taxi operations must be approved (in advance) by the Integrated Operations Center (IOC). (Engine run ups are not allowed.)
- b. **Apron area** - Only operationally required aircraft tows and taxiing are allowed.

8.9.2 **LVOP** – Reduced Visibility, RVR below 1200 feet

Vehicle access is restricted during LVOP as follows:

- a. **Manoeuvring area** - Only vehicles essential to the continued operation of the airport will be authorized to operate on the manoeuvring area (i.e., airfield inspection, emergency response and snow removal). All vehicles must be under positive control.
- b. **Apron area** - Only GSE vehicles essential to the continued operation of the airport are authorized to operate on the Apron. This may include airline GSE actively servicing aircraft.

Aircraft tow and taxi operations are restricted during LVOP as follows:

- a. **Manoeuvring area** - Only operationally **ESSENTIAL** aircraft tow and taxi operations are allowed. All essential tow and taxi operations must be approved (in advance) by the Integrated Operations Center (IOC). (Engine run ups are not allowed.)
- b. **Apron area** - Only operationally essential aircraft tows and taxiing are allowed.

Implementation of RVOP/LVOP will be accomplished with the following steps:

1. ATC will:

- a. Notify the IOC that RVR is below 2600 feet (RVOP) or below 1200 feet (LVOP), (All vehicles on the manoeuvring area must contact Calgary Ground for clearance).
- b. Coordinate all vehicle requests based on priority and ability to accommodate.
- c. Notify the IOC when low or reduced visibility operations are terminated.

2. The IOC will:

- a. Advise Emergency Response Services (ERS), Airside Maintenance, ASP Security and all others as required.
- b. Advise all affected parties when Calgary Ground terminates low or reduced visibility operations.

8.10 ATC Permission and Radio Calls

The following situations apply to all airfield operators. Radio calls are required to request and obtain permission from Air Traffic Control (ATC), as follows:

8.10.1 Runway and Taxiway - Permission Required

a. Permission to enter a Runway for inspection.

Request to enter a runway must include location for entry and time when the operator is due to inspect the Runway. ATC will give permission and direction, if and when the Runway becomes available.

b. Permission to STOP on a Runway to pick up FOD.

Permission to STOP on the Runway during an inspection must always be coordinated with ATC. The operator must give a brief description of the FOD, including its approximate location from the centerline, to assist ATC in determining the impact on aircraft operations.

The operator can only STOP to retrieve the FOD when ATC gives permission to do so. The operator must ensure radio communications can be heard by selecting the exterior speaker while out of the vehicle. If there is no external speaker available, a second person is required to maintain a listening watch.

c. Permission to cross a Runway (must provide specific location for crossing).

The operator must request permission to cross the specified Runway at a specified location and must cross only at that location. Stopping for FOD or driving along the Runway to inspect adjacent areas is not allowed.

d. Permission to close a Taxiway or Runway (must be prearranged and approved by YYC Compliance with start time, end time, boundaries, and entry & exit points).

Before making the radio call to close a Runway or Taxiway, the operator must confirm that the closure has been pre-arranged, including confirmation of the duration, location, and conditions of the closure.

There are instances when only part of a Taxiway needs to be closed. For example, Taxiway G between Apron I and Taxiway J leaves the section of Taxiway G between Taxiway J and Runway 11/29 open and available for normal aircraft movements.

When closing Taxiways and Runways, the procedure is to set up high-profile traffic barrels at the extremes of the closure. This gives a physical and visual identification of the closure. Only the IOC or an AOS can re-open a Runway or Taxiway, and only after it has been inspected.

Note: Closed Runway Access and Procedures are described in [Section 8.5.2](#).

8.10.2 Permission for Slow-Moving Vehicles & Fuel Trucks, including under Escort

When operating on the manoeuvring area, all slow-moving vehicles (including towed aircraft, fuel trucks, heavy equipment, cargo loaders, cargo tugs and dollies) whether or not they are under escort, MUST be under positive control. The escort, aircraft or vehicle operator must inform ATC of any speed limitation on the initial radio call. (See [Section 8.10.4](#) for a radio call example.)

When ATC receives a request for a slow-moving or limited manoeuvrability aircraft or vehicle, it is implied that the aircraft or vehicle has limited ability to react quickly, stop, or turn around to avoid other aircraft, especially during adverse weather conditions or at night. ATC may request you “stand-by” or “hold your position” until a full or partial routing can be given.

Note: Vehicle & aircraft operators, including escorts, may request progressive taxi instructions anytime. This is especially useful for operators unfamiliar with the airfield, or when operating or escorting slow-moving vehicles or vehicles with limited manoeuvring or stopping ability.

When under progressive routing (or anytime when operating under positive control) the vehicle or aircraft operator must acknowledge and follow all routing and all instructions from ATC. All operators must inform ATC immediately if they are “unable to comply.”

8.10.3 Permissions mainly used by Authority Airfield Maintenance

Note: The clearance “unrestricted” is no longer used nor permitted.

Current phraseology is “until further advised.” Example: Proceed onto Runway one-seven right, cross Runway zero-eight and Runway one-one until further advised”

a. ATC grants permission for work in the intersection of two Runways

Indicates that the maintenance vehicle operator has access to both Runways indicated, to beyond the hold lines including edges and short corners in proximity (approximately 120 meters or 400 feet) of the hold line. During intersection snow removal operations, vehicle operators will remove snow to beyond the hold line but will not work beyond the next Taxiway in order to minimize the time required to remove snow from the intersection. The vehicle operator will usually be given a time frame for traffic. In all cases the vehicle operator will YIELD to all aircraft and vacate the intersection when requested or when the operation is complete. Permission must then be requested and obtained for snow removal operations or inspections to resume or begin on a given area.

b. ATC grants permission for 180-degree turn on Runway XX from Taxiway.

Indicates the vehicle operator has permission to do a single U-turn on the Runway from the Taxiway for the maintenance vehicles to clean the hold line and areas beyond, as is the case with short corners. Multiple U-turns must be specifically requested.

8.10.4 Radio Calls – Examples

The following radio calls, permissions and phraseology examples apply to all D, D-Tow and D-AME AVOP holders. Correct phraseology must be used at all times.

Note: Phraseology for ANY vehicle/radio operator during normal operations must be correct. Radio communications during an emergency MUST match that used during 'normal' operations. Using correct phraseology at all times provides training and improves consistency when under duress while responding to an emergency.

"Communication is of paramount importance in aviation. If a communication is misunderstood, incorrect or garbled, even the simplest message can lead to a lapse in safety. The goal of all communications is to provide unambiguous, correct and current information and clearances to aircrews and controllers" (National Aeronautics and Space Administration - NASA).

Many factors contribute to good radio communication, such as:

- Situational awareness
- Planning ahead
- Normal tone and rate of speech
- Monitoring the frequency before transmitting to avoid interfering with another call
- Good listening. You don't always get what you asked for or what you're expecting

Some tips for good radio communication include:

- Keep the mic from getting too close to your mouth.
- Begin with saying who you are calling, who you are, and your request.
- Read back all hold-short instructions.
- Read back every clearance to cross or enter Runways.
- Always call "OFF" when you have exited the Runway.
- Always include the word 'Runway' or 'Threshold Runway' and the Runway number for Runway related radio calls.
- Add additional words "Threshold Runway..." if there is only one heading on the Runway Designator sign.
- End ALL read backs with your call sign.

Runway Crossings

Runways are identified as "Runway" and the runway number according to the Threshold and are identified in radio calls using the active heading.

Runway 17R/35L is said "Runway one seven right" OR "Runway three five left".

Correct Example

Your initial call	"West Ground, Staff four eight, Permission to cross Runway three five left, West on Uniform"
ATC (East or West Ground)	"Staff four eight West Ground, Proceed across Runway three five left, West on Uniform"
Your read back of instructions	"Crossing Runway three five left, West on Uniform, Staff four eight"

Note: It is important to use the word "Runway" if you are talking about a Runway. Do not cross Runway holding position markings until after you have received permission and completed your readback. This is your final fail-safe before crossing. Your read-back, ending with your call sign provides confirmation to ATC that you will do exactly what ATC instructed and confirms the instructions read back are for the station the instructions were given to (vs the wrong operator or someone with a similar call sign).

Incorrect Example

Your initial call	"West Ground, Staff four eight, Permission to cross Runway two six, North on Yankee."
ATC response	"Negative Staff four eight, Hold Short Runway two six, Traffic short final."
Your incorrect read back	"Holding Short at Runway two six, Staff 48."
ATC correction	"Negative Staff four eight, Hold Short of Runway two six."
Your correct read back	"Holding Short of Runway two six, Staff four eight."

Note: You cannot hold short of something you say you are "at" or "on." If you use the words "at" or "on" in a read back when you are told to "hold short," this gives ATC conflicting information and is not acceptable. When told to hold short, you must say what you will hold short "of." It is also not acceptable to just say "roger" or "affirmative." You must do a complete read back of instructions as understood, including your call sign. It is best practice to end all read backs with your call sign.

Permission to Enter Runway (Vehicle operator with D AVOP)

This situation is very similar to crossing a Runway in regard to radio calls, however, it is important to "report OFF" with your location on the field as soon as reasonably possible once you have exited the Runway.

After exiting, it is important to report using the word "OFF".

Do not use the word "clear" as that can be confused with "clearing" snow, FOD, etc.

Correct Example

Your initial call	"West Ground, Staff four eight on Lima. Permission to enter threshold Runway zero eight for Runway Inspection."
ATC response	"Staff four eight West Ground. Enter Runway zero eight for Runway inspection. Hold Short Runway three five left."
Your read back	"Entering Runway zero eight. Will Hold Short Runway three five left, Staff four eight."
ATC response	"Staff four eight, Cross Runway three five left on Runway two six. Once across, Hold Short Runway three five left at all times."
Your read back	"Crossing Runway three five left on Runway two six. Once across, will hold short Runway three five left at all times, Staff four eight."
Your call when finished the inspection and OFF Runway 26	"West Ground, OFF Runway two six on November, Staff four eight."

Note: (To be "OFF the Runway," you and all escorted vehicles must be past the Runway Holding Position markings for that Runway).

Aircraft Tows and Escorting Slow Moving Vehicles Under Positive Control.

Tows or escorts for heavy or slow-moving aircraft or equipment must be done under positive control because aircraft and heavy or slow-moving equipment cannot maneuver quickly or effectively to avoid taxiing aircraft. If the movement is going to be particularly slow, let ATC know what speed they can expect so they can plan accordingly.

Note: If tow vehicle is physically connected to the aircraft, the driver would be Company Name, Tow 123 but if they are a separate vehicle escorting a tractor towing the aircraft, they would be Staff 48 Plus Tow or Plus One.

Example - Tow vehicle is physically attached to aircraft:

Your initial call	"West Ground, Acme tow 852."
ATC response	"Acme tow 852, West Ground."
Your response	"West Ground, Acme tow 852 has a DC three under tow on Apron Four. Request to reposition to Apron Three. Check we have to tow it backwards and our top speed will be under ten kilometers per hour."
ATC response	"Roger Acme tow 852 Hold Position. A Gulf-stream is entering Apron Four."
Your read back of instructions	"Holding Position, with traffic in sight, Acme tow 852."
ATC response	"Roger Acme tow 852. After traffic, Proceed Yankee Bravo, Yankee to Apron Three."
Your read back of instructions	"Behind traffic, Proceed Yankee Bravo, Yankee, to Apron Three, Acme tow 852."

Your final call, when at Apron III	"West Ground, Acme tow 852, established on Apron Three." (ATC will acknowledge your call)
<i>Example - Separate Escort vehicle Plus Tow or Plus One:</i>	
Your initial call	"West Ground, Staff four eight Plus One."
ATC response	"Staff four eight plus one, West Ground."
Your response	"West Ground, Staff four eight plus one. Request reposition Apron Four to Apron Three. Check plus one is a DC three under tow that must be towed backwards. Top speed will be under ten kilometers per hour."
ATC response	"Roger Staff four eight plus one. Hold Position. A Gulfstream entering Apron Four."
Your read back of instructions	"Holding Position, with traffic in sight, Staff four eight plus one."
ATC response	"Roger Staff four eight plus one. After traffic, Proceed Yankee Bravo, Yankee to Apron Three."
Your read back of instructions	"Behind traffic, Proceed Yankee Bravo, Yankee, to Apron Three, Staff four eight plus one."
Your final call, when at Apron III	"West Ground, established Apron Three, Staff four eight plus one."

Note: For conflicting traffic situations, ATC cannot give any instructions other than to "hold position" unless you can actually see the conflicting traffic. If ATC comments on traffic, you **MUST** acknowledge traffic in your read back, either "with the traffic", "Negative traffic" or "looking for traffic". Once you see the traffic, call and confirm with ATC ("with the traffic") and read back your instructions, as required. It is your responsibility to maintain safe separation.

RVOP and LVOP - D AVOP Holders

Once RVOP or LVOP is initiated, all vehicle movements in the manoeuvring area are immediately under positive control and are restricted to essential operational requirements only.

If you are close to, or beside an Apron when RVOP/LVOP procedures are initiated, simply exit the manoeuvring area and enter the Apron without delay. Do not request to enter, or request to stay, in the manoeuvring area during RVOP/LVOP conditions unless essential and operationally required.

If you are on a Taxiway that is not close to an Apron, STOP. Call ATC for a route off the field. Before you call, think about your location, the most direct route to exit the manoeuvring area, and what your radio call should be.

Example

Your initial call	"East Ground, Staff four eight on Bravo, South of Delta five. Request a route south on Bravo to Romeo to access the perimeter road."
ATC response	"Staff four eight East Ground, Proceed Bravo, Romeo to the perimeter road. Report when off all Taxiways."
Your read back of instructions	Proceed Bravo, Romeo to the perimeter road. Will Report when off all Taxiways, Staff four eight."
Your final call, when off all Taxiways	"East Ground, Staff four eight OFF all Taxiways on the perimeter road." (ATC will acknowledge your call).

Note: The radio call "OFF" is a new 'initial call' so the vehicle call sign is given immediately.

Maintenance Request to Taxi - D-AME AVOP Holder

Below is an example taxi request for an 'after-hours' aircraft maintenance engine run. Prior permission is required from the IOC for all 'after hours' high-power engine runs. Phone the IOC and provide aircraft registration (C-GYYC for this example), the name of the owner/company, your name and phone number, and ensure you request a start time and provide the expected duration.

Your initial radio call must include the four letters of your registration at a minimum. If no existing call signs are similar, ATC will respond with the last three letters of your call sign. Subsequent calls will then only require the last three letters of your registration. You must use the call sign ATC uses.

Example

Your initial call	"West Ground, this is [Company Name], maintenance, Beech 200, Charlie Gulf Yankee Yankee Charlie (C-GYYC) at Apron Niner."
ATC response	"Yankee Yankee Charlie (YYC) go ahead."
Your response	"West Ground, Yankee Yankee Charlie requests taxi to holding bay Runway two niner for engine runs."
ATC response	"Yankee Yankee Charlie, Taxi Juliet Yankee, Juliet, Alpha. Hold Short Runway two niner. Squawk one thousand."
Your read back of instructions	"Taxi Juliet Yankee, Juliet, Alpha, Hold Short Runway two niner, squawking one thousand, Yankee Yankee Charlie."
ATC response	"Yankee Yankee Charlie, Cross Runway two niner, taxi Alpha, Uniform, Hold Short Runway one seven right."
Your read back of instructions	"Cross Runway two niner, Taxi Alpha, Uniform, Hold Short Runway one seven right, Yankee Yankee Charlie."
ATC response	"Yankee Yankee Charlie Cross Runway one seven right, Taxi Uniform to holding bay Runway two niner. Monitor West Ground. Call when ready to return."
Your read back of instructions	"Cross Runway one seven right, Taxi Uniform to holding bay Runway two niner. Monitor West Ground. Will call when ready to return, Yankee Yankee Charlie."

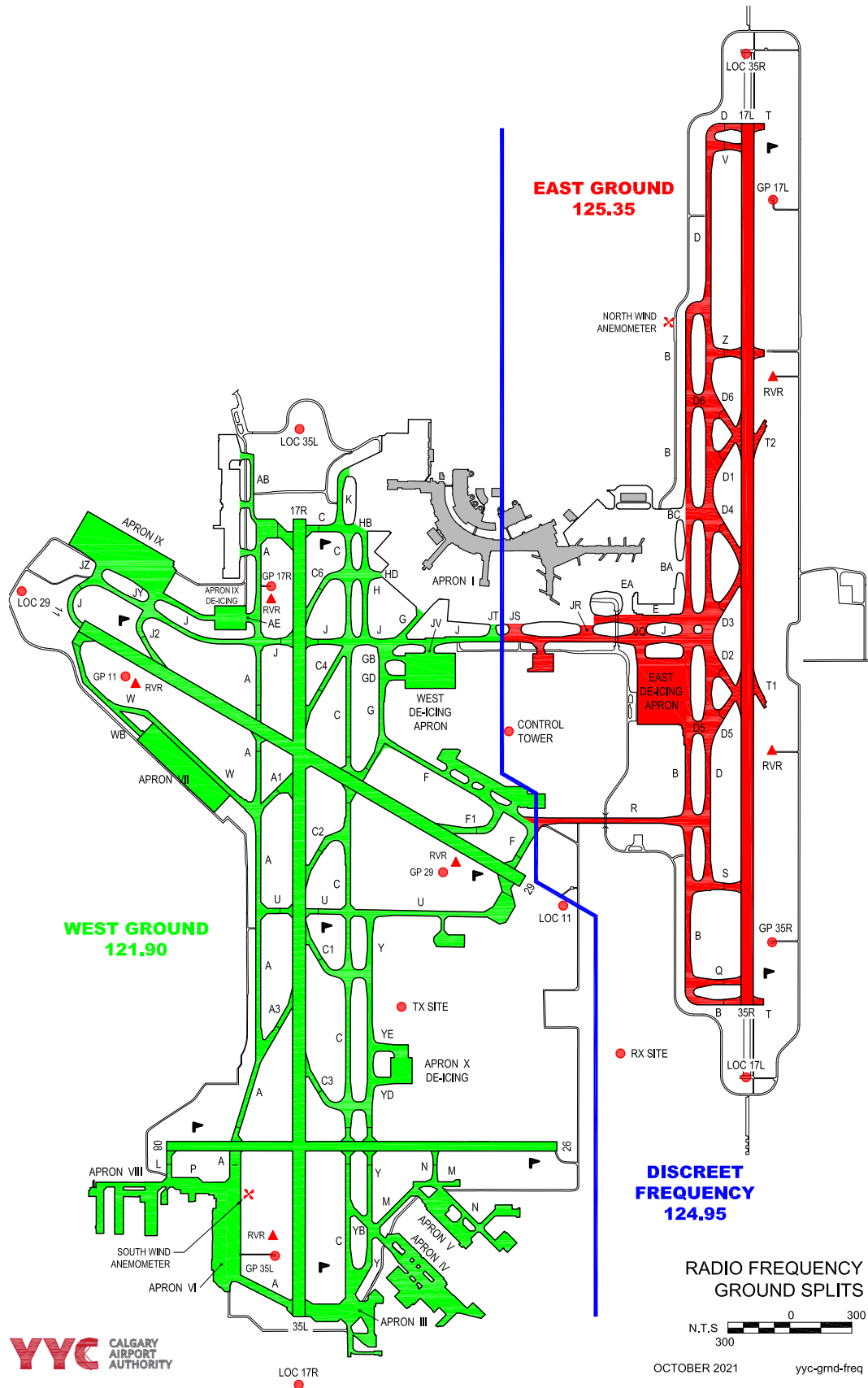
Note: The number '1000' can be said as either 'One thousand' or 'one zero zero zero'. Usually, whomever initiates the number will set the format. ('One triple zero' is not correct). Best practice for the number '9' is 'niner'.

8.11 Airline Call Signs

Not all airlines use their company name for their call sign. Knowing the more common call signs at YYC helps the vehicle operator know what aircraft type to look for when "looking for traffic." The following is a list of some of the airline companies that use a different call sign, along with their most common aircraft type(s).

Airline / Company Name	Call Sign	Aircraft Type(s)
Air Canada	Air Canada	A319, A320, 737, 787
Air North	Air North	737
Air Partners	Stampede	Executive Jets
American Airlines	Envoy	Rjs
British Airways	Speedbird	Various cargo aircraft
Canadian North	Artic	737, Executive Jets
CargoJet	CargoJet	757 & other cargo aircraft
Central Mountain Air	Glacier	Dornier 328, Beech 1900, Dash 8
Delta Airlines	Skywest	Rjs
Encore	Encore	Q400
FedEx	Morningstar	757
Flair	Flair	737
Jazz	Jazz	Q400, Rjs
Kenn Borek	Borek	DC3 (Trainer)
KLM	KLM	777
Lynx Air	Dauntless	737
Million Air	Cartwright	Executive Jets
North Cariboo Air	Arctic or North Cariboo	737
Pacific Coastal	PasCo	SAAB 340
RAF	Ascot	A319 (Various Military Cargo aircraft)
Porter	Porter	Embraer (E195-E2)
Sunwest	Chinook	Executive Jets, Beechcraft, Metro
United	United	Rjs, A319
WestJet	Westjet	737, 787

8.12 East/West Ground Frequency



Section 9

Taxiing and Towing Aircraft

9 Taxiing and Towing Aircraft

Holding a valid AVOP does not deem a person competent to control a taxi or tow operation. In addition to their AVOP, each person who taxis or tows aircraft at the Calgary International Airport must be qualified by their employer to taxi or tow that specific aircraft or category of aircraft. Only a person who holds a valid D-AME or D-Tow AVOP, an ROC-A and is authorized by their employer is allowed to have control over a taxi or tow operation at YYC.

9.1 General Requirements

Live operations (aircraft arrivals and departures) have priority over towed operations at all times, unless given permission while under positive control by ATC.

Whenever possible, all taxi and tow operations must be done during times of 'low activity.'

The navigational lights, including the anticollision lights, must be on for the duration of all tow operations.

When there is a risk of contact with another object, all aircraft operations must be marshaled either with wing walkers, a marshaling vehicle, or a second person in the tow vehicle.

Only properly trained staff meeting airline requirements are authorized to ride the brakes. There must be direct communication between the flight deck/brake rider and the tow vehicle operator at all times during the tow. Everyone who communicates, or who may need to communicate on an aeronautical radio must hold a valid ROC-A, including all aircraft taxi and tow operators, all push-back operators and all brake riders. ([Ref. 3.7](#))

9.1.1 Person in charge of the taxi or tow operation

All taxi or tow operations must have one designated person in charge of the operation. That person must have a valid AVOP (as applicable to the the area and type of operation), a valid ROC-A, and company specific authorization, or be taxiing under the company specific authorization of a valid pilot's license as described in sections [3.1](#) and [9.1.1](#).

Note: All taxi and tow operators are required to be familiar and comply with all RVOP, LVOP and radio operating policies and procedures. ([Ref. 8.9 and 8.10](#))

The person in charge (with the applicable AVOP or pilot's license and company authorization) is fully and solely responsible for the operation. The AVOP holder in charge (or authorized pilot as per [section 8.1.7](#)) may control a tow operation from either the flight deck or tow vehicle and must use, follow and comply with all YYC AVOP, ATC and Radio Operator policies and procedures.

When training someone to obtain their AVOP, the person in charge must be physically present and must oversee all activities of the taxi or tow operation. During training, the person in charge does not have to be at the controls or communicate on the radio but must be readily available to take charge of the operation at all times.

A pilot with a valid and current pilot's license may be the designated person in control of maintenance taxi or tow operations, under the following conditions:

- a. Any person operating under a pilot's license must hold as a minimum, a current and valid Private Pilot's License and medical, and a current and valid Night Rating and a valid ROC-A.
- b. The employer, aircraft owner or operator is fully responsible to ensure the pilot is qualified and insured to operate the aircraft and their pilot's license is current and valid (including medical requirements).

Note: Any person operating an aircraft under a pilot's license is operating under authorization from their employer (Director of Maintenance). They are NOT operating under a YYC AVOP.

9.2 Taxiing and Towing Aircraft in the Manoeuvring Area

The person in charge of a taxi or tow operation in the **manoeuvring area** requires a YYC-specific D-type AVOP (D, D-AME or D-Tow) or a valid and current pilot's license and a valid ROC-A, as detailed in [Section 9.1.1](#). The person in charge of a taxi or tow operation must also be trained and authorized by their employer to taxi or tow that specific aircraft type.

D-Tow AVOPs and D-Tow AVOP types are specific to each company ([Ref. 7.4](#)). D-Tow AVOPs may be issued by the Authority AVOP Coordinator if the company's D-Tow program has been approved and complies with all conditions of issue.

When the tow vehicle is part of the aircraft movement (i.e., the aircraft is actually escorting the tow vehicle), the call-up to ATC will reflect this by stating "Aircraft Under Tow". In this case, the vehicle does not require a Veelo (transponder/GPS tracking system fixed to the top of the vehicle) as long as the aircraft transponder is active and set to 1000 or set to the transponder code assigned by ATC.

9.3 Taxiing and Towing Aircraft on Aprons

The person in charge of a taxi or tow operation on the Aprons (outside of leased areas) requires a YYC-specific AVOP (appropriate for the Apron and/or manoeuvring area where the operation takes place) or a valid and current pilot's license and a valid ROC-A, as detailed in [Section 9.1.1](#). The person in charge of a taxi or tow operation must also be trained and authorized by their employer to taxi or tow that specific aircraft type.

The person communicating with Apron Advisory and anyone who may be required to communicate with ATC at any point during the taxi or tow operation must have a valid ROC-A) (This includes all brake riders.) All radio operators must use proper radio phraseology at all times. ([Ref. 8.10](#))

Note: A tow operator with a DA-type AVOP (DA, DAS, DAW) is ONLY allowed to tow aircraft on the Aprons as applicable to the DA AVOP type. A DA-type AVOP holder is NOT allowed to tow aircraft anywhere on the manoeuvring area unless under escort by a D AVOP holder.

The taxi or tow operator for all operations, MUST:

- a. Establish contact with Air Traffic Control on the appropriate frequency before initiating the operation to obtain permission,
- b. Maintain a listening watch throughout the taxi or tow operation,
- c. Communicate and follow all instructions from ATC (including all applicable radio calls and read backs), and
- d. Advise ATC when the operation is complete.

After hours, when Air Traffic Control is not operating on the Apron Advisory frequency, all taxi and tow operators on the Apron, MUST:

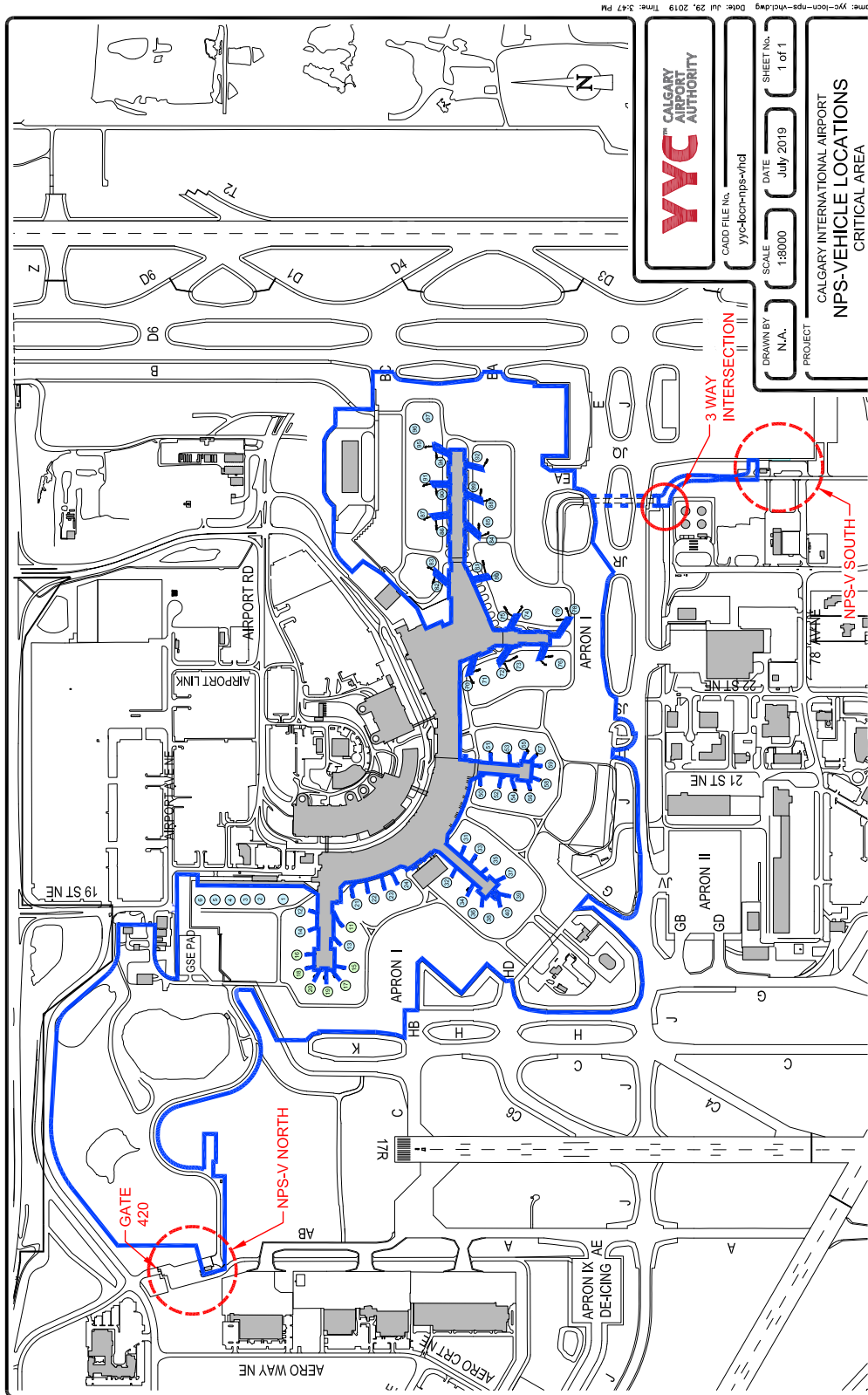
- a. Broadcast their intentions on Apron Advisory (using correct radio procedures and terminology),
- b. Maintain a listening watch throughout the taxi or tow operation,
- c. Comply with the Hierarchy of the Right-of-Way at all times,
- d. Make all applicable radio calls enroute, and
- e. Advise/broadcast when the tow operation is complete.

Note: Broadcasting taxi and towing intentions after hours warns all aircraft traffic of potential conflicting traffic. Correct radio phraseology must be used all at times. Do not use local slang in radio broadcasts (i.e., "Towing to Bone Yard") as this does not give other operators such as visiting pilots or new operators enough information for traffic avoidance.

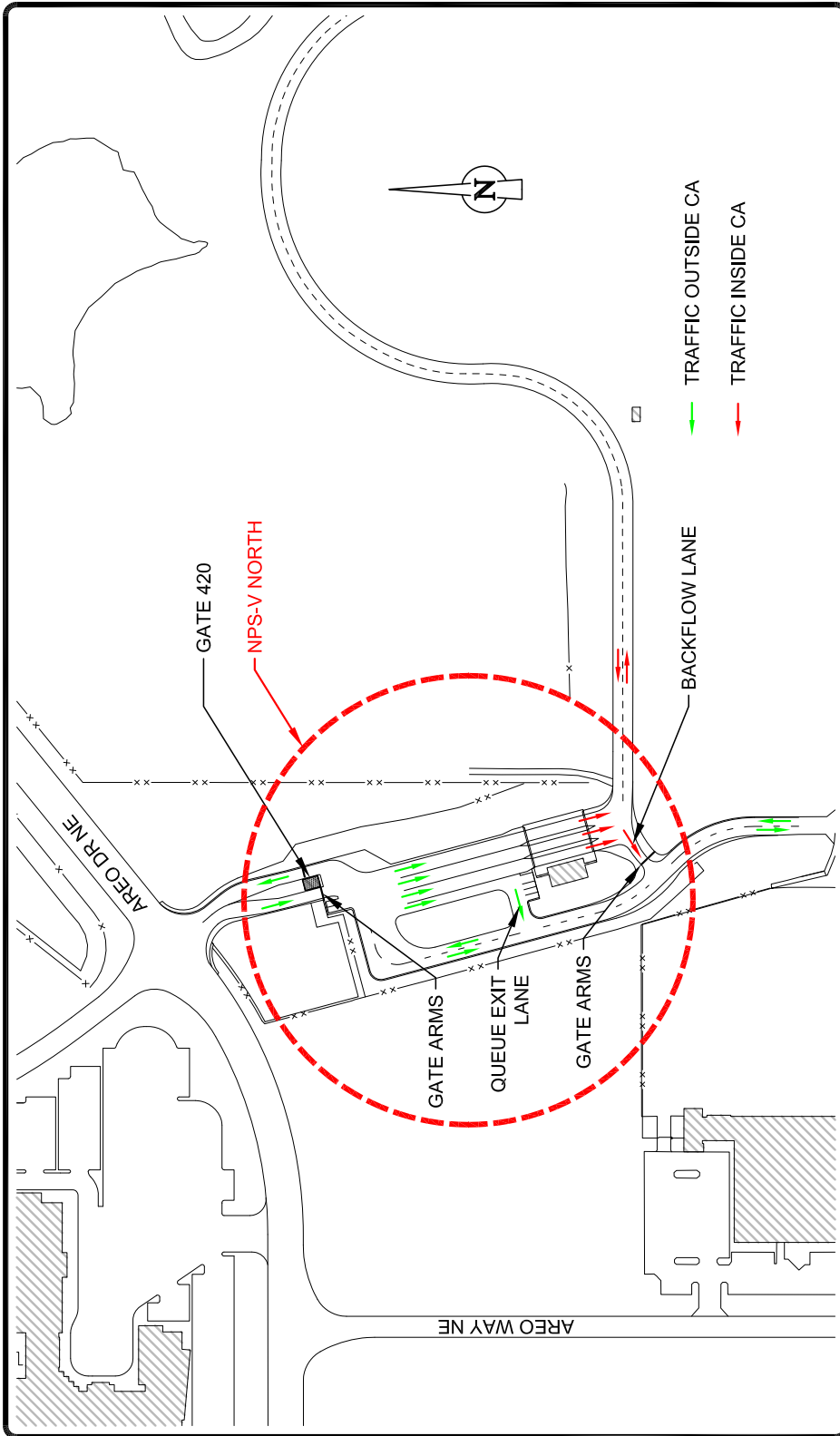
Section 10
Critical Area, NPS-V
(North & South)

10 Critical Area and NPS-V (North & South)

10.1 Critical Area and NPS-V (North & South)



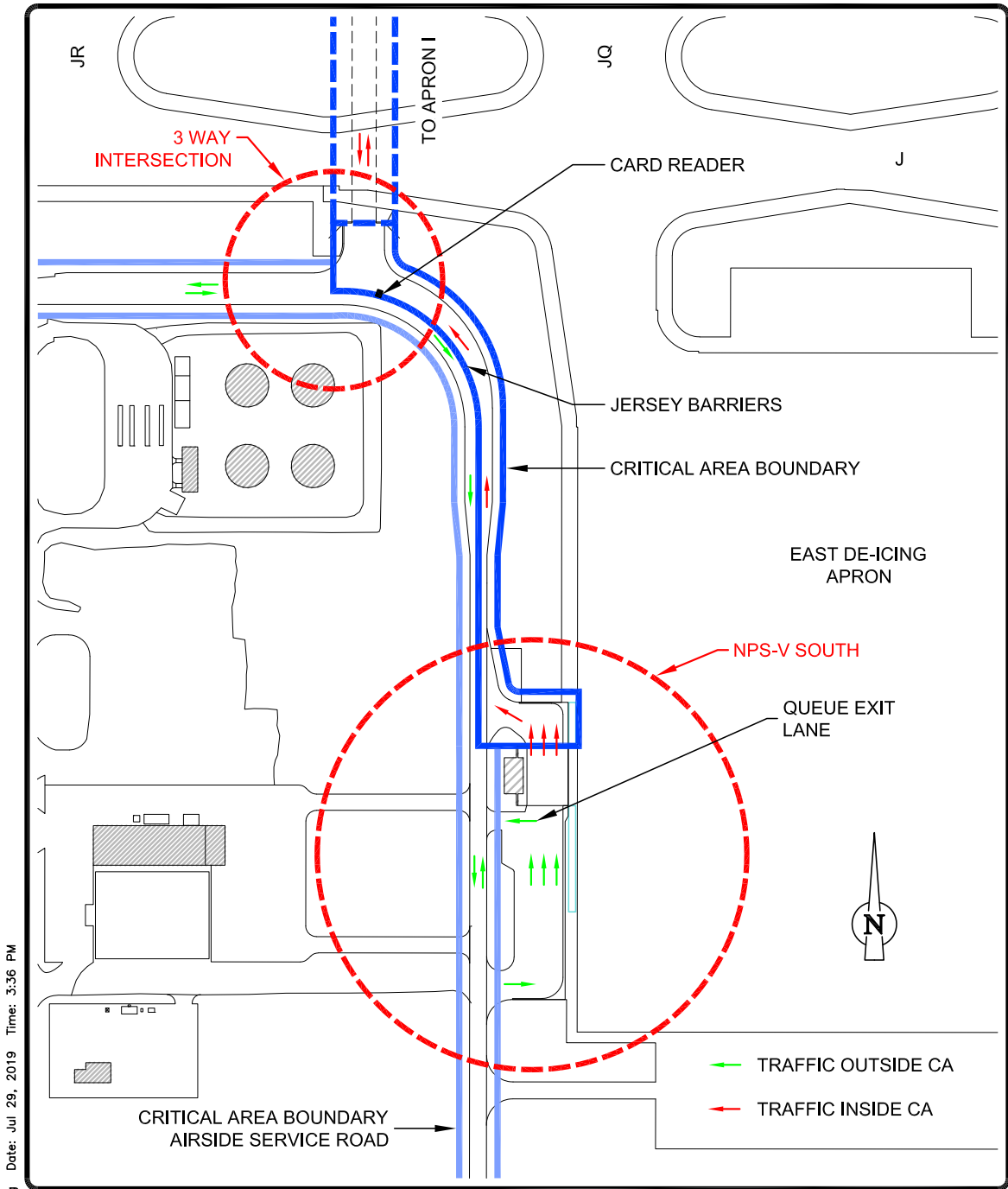
10.1.1 NPS-V (North)



Name: yyc-locn-nps-vhcl.dwg Date: Aug 01, 2017 Time: 9:02 AM

	PROJECT		
	CALGARY INTERNATIONAL AIRPORT NPS-V NORTH CRITICAL AREA		
CADD FILE No. yyc-locn-nps-vhcl	DRAWN BY N.A.	SCALE 1:2500	DATE August 2017
			SHEET No. 1 of 1

10.1.2 NPS-V (South)



Name: yyc-locn-nps-vhcl.dwg Date: Jul 29, 2019 Time: 3:36 PM



PROJECT
CALGARY INTERNATIONAL AIRPORT
NPS-V SOUTH
CRITICAL AREA

CADD FILE No.
 yyc-locn-nps-vhcl

DRAWN BY
 N.A.

SCALE
 1:2500

DATE
 July 2019

SHEET No.
 1 of 1

10.2 Critical Area (CA)

10.2.1 Regulations and Requirements

Canadian Aviation Regulations requires enhanced screening of ALL airside vehicles, vehicle operators, and their passengers entering the Critical Area (CA).

To comply with regulations, all vehicle operators and their passengers must access the Critical Area (CA) through one of the two Non-Passenger Screening - Vehicle (NPS-V) screening facilities, unless operating under an approved exemption. ([Ref. 10.5](#) for approved exemptions)

Note: The Critical Area (CA) includes the part of the main terminal building that is post-security, all of Apron I, and any adjacent area identified by the Aerodrome Operator. Anyone entering the Critical Area as part of their regular duties is required to present to NPS (in the terminal building) or NPS-V north or south vehicle entry points for additional security screening.

10.2.2 Security Gates and Gate Arms

When passing through any security gate or gate arm, vehicle operators must proceed one vehicle at a time (unless the gate has been locked open).

Failure to adhere to one vehicle at a time through a gate or gate arm is considered a potential breach of security and may also result in damage with the gate or gate arm timing out, closing and hitting, or being hit by your vehicle.

10.3 NPS-V North

To access the airfield from Aero Drive:

- a. Prox at Gate 420 and proceed through the gate.
- b. All vehicle operators MUST STOP just inside Gate 420 and wait for the gate arm to close fully.
- c. All vehicle operators and their passengers proceeding towards Apron I MUST go through NPS-V North.
- d. All vehicle operators and their passengers proceeding towards the West Airfield (Aprons VII & XI) do not need to go through NPS-V North.

10.3.1 Accessing Apron I via Gate 420 and NPS-V North

To access the Critical Area (Apron I) or travel towards Apron I, enter through Gate 420 using correct security access procedures (Ref. 10.3)

- a. All vehicle operators and their passengers intending to enter the Critical Area (or travelling towards Apron I) must present to the NPS-V North facility.
- b. STOP before the NPS-V gate arms and wait to have your biometric checks completed by the designated security agent.
- c. Once cleared, drive forward slowly, and wait for the gate arm to open fully.
- d. Proceed through the fully open gate arm (The NPS-V speed limit is maximum 5 km/h).
- e. STOP at the STOP line as indicated by Security personnel, and as indicated by the red and green traffic lights.
- f. Wait to see what security checks are required for your vehicle. (The Traffic Management System randomly selects vehicles and compartments for screening.)
- g. A red light indicates you and your vehicle have been selected for screening. All temporary RAIC holders MUST enter the NPS-V facility for security screening, whether or not the vehicle is selected for screening.

- h. Follow the instructions of security personnel to provide access to the selected compartments of your vehicle, then enter the NPS-V building for screening.
- i. After all screening is complete, do not enter your vehicle until cleared to do so by security personnel.
- j. The security personnel will release the gate arm once your screening is complete.
- k. Wait for the gate arm to open fully before proceeding.
- l. Exit the facility and continue left on the perimeter road to Apron I.

Note: Vehicles exiting NPS-V North must wait (stopped) at the stop sign until vehicles traveling on the perimeter road have passed.

To exit the airfield through Gate 421 from Apron I:

- a. Leave Apron I via the perimeter road around the threshold of Runway 17R
- b. Approach the double gate arms on the south side of NPS-V North
- c. STOP at the double gate arms. Both gate arms will open upon loop detection.

Note: Although the double gate arms will stay open long enough for a large vehicle to exit, only one vehicle at a time can proceed through this gate.

- d. Proceed through the gate, then STOP and wait for the gate to fully close.
- e. Turn right on the VSR toward Gate 420/421 (Speed limit is 30 km/h)
- f. STOP at Gate 421 and wait for the gate to open.
- g. Proceed through Gate 421
- h. All vehicle operators MUST STOP just outside Gate 421 and wait for the gate arm to close fully.

10.3.2 Accessing the West Airfield (Apron VII & IX) from Gate House 420

Gate 420 and NPS-V North operate independently of each other.

Vehicle operators and their passengers are NOT required to go through NPS-V to access the West Airfield (Aprons VII & IX) from Aero Drive.

To access Aprons VII & IX from Aero Drive:

- a. Prox at Gate 420 and proceed through the gate.
- b. All vehicle operators MUST STOP just inside the gate and wait for the gate arm to close fully.
- c. Proceed to the west of NPS-V North on the VSR (by-passing NPS-V North). (Speed limit is 30 km/h)
- d. Continue on, using the perimeter road to Apron IX.

To access Apron VII or Apron IX when leaving Apron I:

- a. Leave Apron I via the perimeter road around the threshold of Runway 17R,
- b. Approach the double gate arms outside of NPS-V North,
- c. STOP at the double gate arms and wait for both gate arms to open,

Note: Although the double gate arms will stay open long enough for a large vehicle to exit, only one vehicle at a time can proceed through this gate.

- d. Proceed through the gate, then STOP in a safe place and wait for the gate to fully close,
- e. Turn left onto the perimeter road towards Apron IX,

- f. To continue to Apron VII, use the Head of Stand (HOS) VSR on Apron IX,
- g. Follow the perimeter road around the threshold of Runway 11,
- h. Proceed on the HOS VSR for Apron VII.

10.4 NPS-V South

10.4.1 Accessing Apron I, the buildings on the Cargo Road or the West Deicing Apron (WDA) area from Gate House 306A

Gate House 306A and NPS-V South operate independently of each other.

Vehicle operators and their passengers are NOT required to go through NPS-V if they are turning west (left) from Gate 306A to access the buildings and the West Deicing Apron areas.

To access Apron I from Gate 306A, from the buildings west of Gate 306A on the Cargo Road, or from the West Deicing Apron area:

- a. To enter through Gate 306A, prox the card reader and proceed through the gate.
- b. All vehicle operators MUST STOP just inside the gate and wait for the gate arm to close fully.
- c. From Gate 306A, turn east (right), and continue east on the Cargo Road towards the Juliet/Echo (J/E) Underpass intersection. (The Cargo road speed limit is maximum 30 km/h).
- d. Continue past the J/E underpass intersection to the NPS-V South facility for screening.
- e. STOP before the NPS-V gate arms and wait to have your biometric checks completed by the designated security agent.
- f. Once cleared, drive forward slowly, and wait for the gate arm to open fully.
- g. Proceed through the fully open gate arm (The NPS-V speed limit is maximum 5 km/h).
- h. STOP at the STOP line as indicated by Security personnel, and as indicated by the red and green traffic lights.
- i. Wait to see what security checks are required for your vehicle. (The Traffic Management System randomly selects vehicles and compartments for screening).
- j. A red light indicates you and your vehicle have been selected for screening. All temporary RAIC holders MUST enter the NPS-V facility for security screening, whether or not the vehicle is selected for screening.
- k. Follow the instructions of security personnel to provide access to the selected compartments of your vehicle, then enter the NPS-V building for screening.
- l. After all screening is complete, do not enter your vehicle until cleared to do so by security personnel.
- m. The security personnel will release the gate arm once your screening is complete.
- n. After completing the screening process, you MUST prox your RAIC at the prox reader before leaving the NPS-V facility. Failure to prox your RAIC will deny you access to the Underpass, and you will have to come back and repeat the entire NPS-V process.
- o. Wait for the gate arm to open fully.
- p. Proceed from NPS-V South, drive down towards the J/E Underpass. (Speed limit is maximum 30 km/h. Vehicle operators must use caution and driver slowly during wet, slippery and winter conditions.)
- q. STOP & prox the card reader to open the gate arm at the entrance to the Underpass. Failure to do so in a timely manner will result in your validation timing out and deny you access to the Underpass. If access is denied, you will have to return to NPS-V South and repeat the entire NPS-V process.

Note: Do NOT prox the J/E underpass card reader until AFTER all vehicles ahead of you have completed their prox AND driven through the J/E underpass gate arm AND the gate arm has fully closed behind them.

Breach of Security:

Failure to allow the gate arm to close fully behind the vehicle ahead of you, Failure to wait to prox the J/E underpass card reader until all other vehicles are through the gate arm, or having more than one vehicle at a time proceed through the gate arm into the underpass are all considered a breach of security for the Critical Area.

10.4.2 Escorting through the J/E Underpass to Apron I

The escort is responsible to brief all vehicle operators under escort of the J/E underpass procedures BEFORE entering NPS-V South. All drivers must be aware of the requirement to STOP at the J/E underpass prox reader and wait to be shunted through, one vehicle at-a-time.

- a. Follow all escort procedures to get to NPS-V South. ([Ref. 3.10](#))
- b. Follow all NPS-V South procedures to get to the J/E Underpass. ([Ref. 10.4.1](#))
- c. STOP at the prox reader near the entrance to J/E underpass.
- d. Press the button on the intercom system to speak with SOC, advise them that you are escorting and tell SOC the number of vehicles you are escorting (maximum 3 vehicles per escort).
- e. SOC will verify on camera.
- f. The escort must prox their RAIC on the card reader, then proceed through the J/E underpass gate arm alone (escort vehicle only).
- g. The escort vehicle must stop and wait in the J/E underpass, leaving an appropriate distance for all vehicles under escort to line up behind them (to wait until the group is ready to proceed).
- h. The first vehicle following the escort must STOP at the prox reader and allow the gate arm to fully close behind the escort vehicle.
- i. SOC will shunt the first vehicle under escort through the gate arm.
- j. The first vehicle must stop and wait in the J/E underpass, behind the escort vehicle.
- k. The next vehicle must STOP at the prox reader and allow the gate arm to fully close behind the previous vehicle.
- l. Each vehicle is shunted through the gate arm by SOC, one-at-a-time.
- m. Each driver must STOP and wait for the gate arm to close fully between each vehicle.
- n. The escort cannot proceed onto Apron I until all vehicles under their escort have been successfully shunted through the J/E underpass gate arm.

10.4.3 Leaving Apron I via the J/E Underpass

To leave Apron I via the J/E underpass:

- a. Look in all directions to ensure no aircraft are approaching and ensure it is safe to cross from Concourse D to the underpass.
- b. Approach the gate arm at the end of the J/E underpass slowly. Be prepared to STOP.
- c. STOP and wait for the gate arm to open fully.
- d. Proceed through the gate arm, one vehicle at-a-time. The gate arm must be allowed to close fully between each vehicle.
- e. Turn right and proceed east on the Cargo Road (speed limit is maximum 30 km/h).

To return to the NPS-V South facility:

- a. After exiting the underpass, turn right.
- b. Proceed east on the Cargo Road.
- c. Go to the widest area near Gate 306A before making a U-turn. Vehicles attempting a U-turn must STOP and give way to other traffic. Do not attempt a U-turn until it is safe to do so. Vehicles are NOT allowed to enter or use the Air Canada Hangar ramp area to make a U-turn.
- d. Return to NPS-V South via the Cargo Road.

Note: After driving through the Juliet/Echo (J/E) Underpass intersection heading west towards Gate 306A, vehicle operators with small vehicles may make a U-Turn around the jersey barriers, but only if and when it is safe to do so. Best practice is to wait to do a U-Turn at Gate 306A. All large vehicle operators MUST wait and do a U-Turn only in the wider area near Gate 306A.

10.4.4 Restrictions

Only DA AVOP holders with authorized operations on the East Deicing Apron (EDA) are allowed to travel past NPS-V South to access the EDA.

Only D AVOP holders are allowed to travel south on the perimeter road beyond NPS-V South and on the East Deicing Apron access road.

Vehicle Operators with only a DA AVOP are not allowed to turn towards, or enter Taxiway J.

Vehicles are not allowed to enter or use the Air Canada Hangar ramp area to make a U-turn.

10.5 Vehicles Entering Critical Area – Operating Exemptions

Although all vehicles, vehicle operators and their passengers must be screened when entering the Critical Area during the course of their normal duties, the Canadian Aviation Security Regulations allows for some operational exemptions.

10.5.1 NPS-V Exemptions (in the performance of duties only)

The only approved Critical Area (CA) vehicle exemptions are as follows:

Aircraft Tow Operations: Specific to D-Tow AVOP vehicle operators.

Vehicles towing an aircraft into the CA must enter via a taxiway and therefore, do not have to report to an NPS-V point. Once inside the CA, having entered the CA under this exemption, tow-vehicle operators (and tow vehicle passengers required for the tow) may enter the terminal building and perform any other duties without having to go through an NPS point.

Any vehicle or passengers external to the tow (other than an escorting vehicle) must report to NPS-V for screening before entering the CA.

Escort vehicles and their occupants (AOS & Security 201 or 202) are permitted to enter the CA without being screened while actively engaged in escorting an aircraft tow. Once the aircraft is brought to the intended final location, the escort vehicle and all occupants must exit the CA and are not permitted to remain within.

Emergency Vehicles: D-AVOP vehicle operators and vehicles under escort are allowed to enter the CA in the event of an emergency. All emergency response vehicles (Police, Fire, EMS, AOS, Security personnel and similar) are allowed to drive into the CA when responding to a specific emergency task or incident. If emergency response vehicles are equipped with red beacons, they must have them operating as they enter the CA and while remaining in the CA. Emergency responders may exit their vehicle, enter the Terminal building, or enter an Aircraft as part of their Emergency response duties. However, when the responder is no longer required to participate in the emergency response they must exit the CA and ensure the IOC has been notified. This Exemption also includes emergency response vehicles that are responding to an emergency on the airfield and “shortcut” through the CA.

De-icing Operations (Aircraft): Vehicle operators and their passengers are exempt from screening and are allowed to enter the CA when they are actively engaged in Aircraft Deicing operations. In Calgary this Exemption only includes De-icing Trucks and Glycol Recovery Trucks. Vehicles that are actively engaged in aircraft de-icing must report to an NPS-V point when entering the CA and all vehicle occupants must be biometrically verified or alternatively verified. Once inside the CA, having entered the CA under this Exemption, vehicle operators (and passengers) may enter the Terminal Building and perform any other duties without having to go through a NPS point.

Any vehicle operators and their passengers not actively involved in aircraft de-icing, are subject to the normal screening process.

Snow and Ice Control Operations: D-AVOP and DA-AVOP vehicle operators (including escorted snow removal vehicles) are allowed to enter the CA during active periods of snow or ice control. All vehicles (Sweepers, Blowers, Graders, Dump Trucks, Supervisor’s Trucks, Bobcats and similar) involved in active snow and ice removal on the Aprons and/or airfield can operate within the CA without entering using an NPS-V point. Snow and Ice Control vehicle drivers that enter the CA under this Exemption are allowed to enter the Terminal building. Snow events that require this Exemption must be reported to the IOC only once daily (not for each vehicle entry).

Cement/Asphalt Trucks or Over-size vehicles: Due to functional requirements, cement/ asphalt trucks and their operators are exempt from screening and may enter either through an NPS-V checkpoint or a temporary access point, provided certain conditions are met. This exemption must be pre-approved by the Authority Security Department prior to the vehicle entering the CA, and seven (7) days advance notice given to both Transport Canada and CATSA (Exemption 2018-27).

Conflict Avoidance: D-AVOP vehicle operators are allowed to enter the CA if there is the immediate possibility of failing to give the appropriate right-of-way to an aircraft, an imminent life safety issue, or other potentially serious incident, and the only viable alternative to avoid a collision or the incident escalating is to enter the CA. Vehicle operators must use appropriate caution entering the CA. However, when the danger or issue has passed, vehicle operators must exit the CA, find a safe location, and immediately report the incident to the IOC.

10.5.2 Restrictions

The following are NOT approved as Critical Area vehicle exemptions:

AVOP Testing: There are NO exemptions for AVOP testing or training. All Critical Area rules and regulations must be followed at all times.

Aircraft Tow Operations Starting within the CA: Aircraft Tow vehicles entering the CA to tow an aircraft (and all tow vehicles not actively towing an aircraft) must follow CA rules and regulations.

Escorting Duties: CA rules and regulations must be followed. The only exemption is for D-Tow AOS and Security 201 and 202 escorts, as stated in [Section 10.5.1](#).

Surface Maintenance Duties: Surface maintenance and construction are NOT exempt from CA rules and regulations (see Snow and Ice Control and Working Across the CA Boundary exemptions). All CA rules and regulations must be followed for regular maintenance and construction work (e.g. surveying, water contaminant removal, biological contaminant removal, inspections, slab replacement, or similar).

Grass Cutting Operations: Grass cutting operations along the boundary of the CA must comply with CA rules and regulations. When cutting grass within the CA drivers must have entered the CA through an NPS-V point. The IOC does not have to be notified about normal grass cutting activities along the CA boundary unless the CA is breached.

Section 11

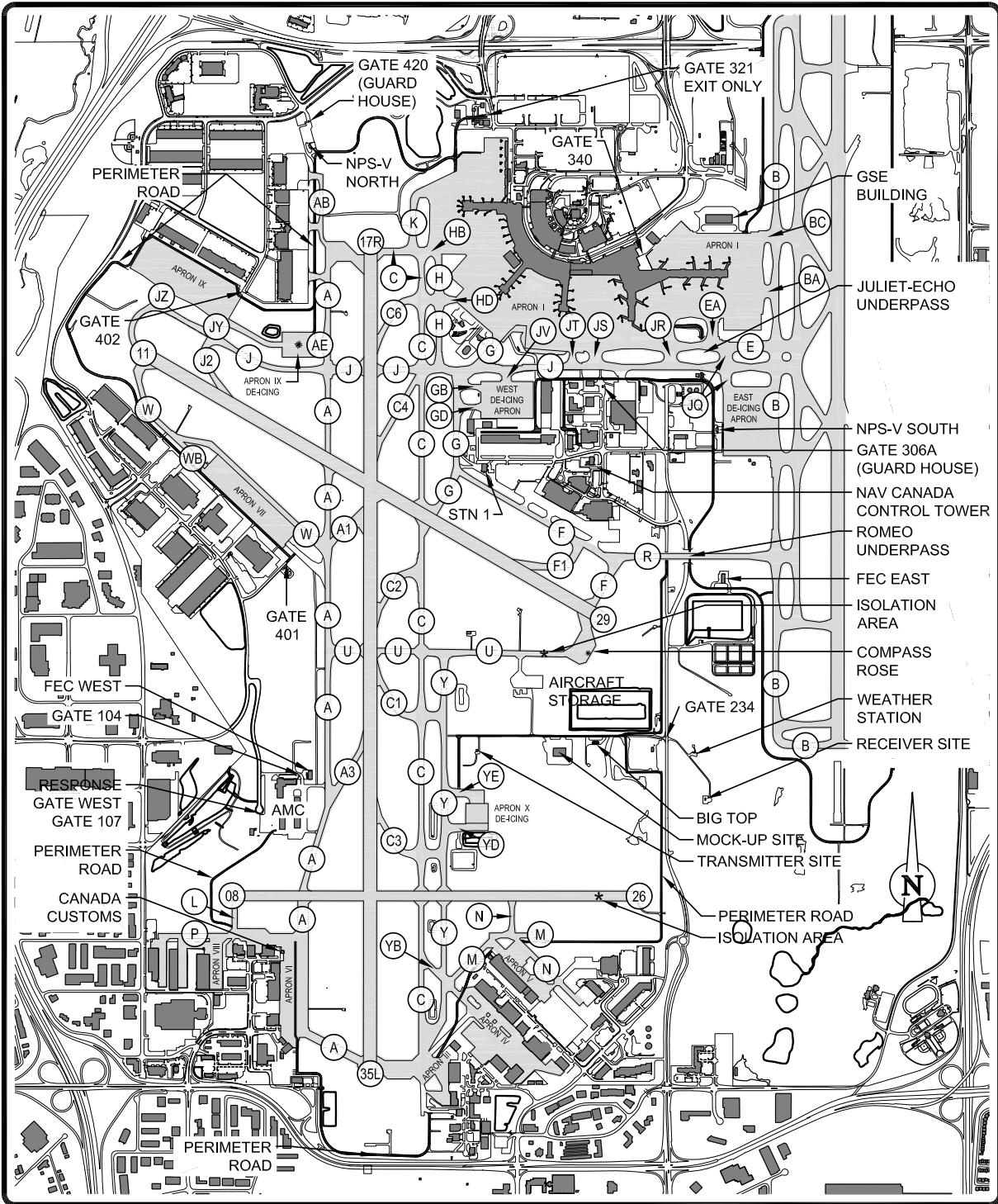
AVOP Study Maps

11 AVOP Study Maps

Maps

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11.1 West Airfield (Marked)



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YYC™ CALGARY AIRPORT AUTHORITY

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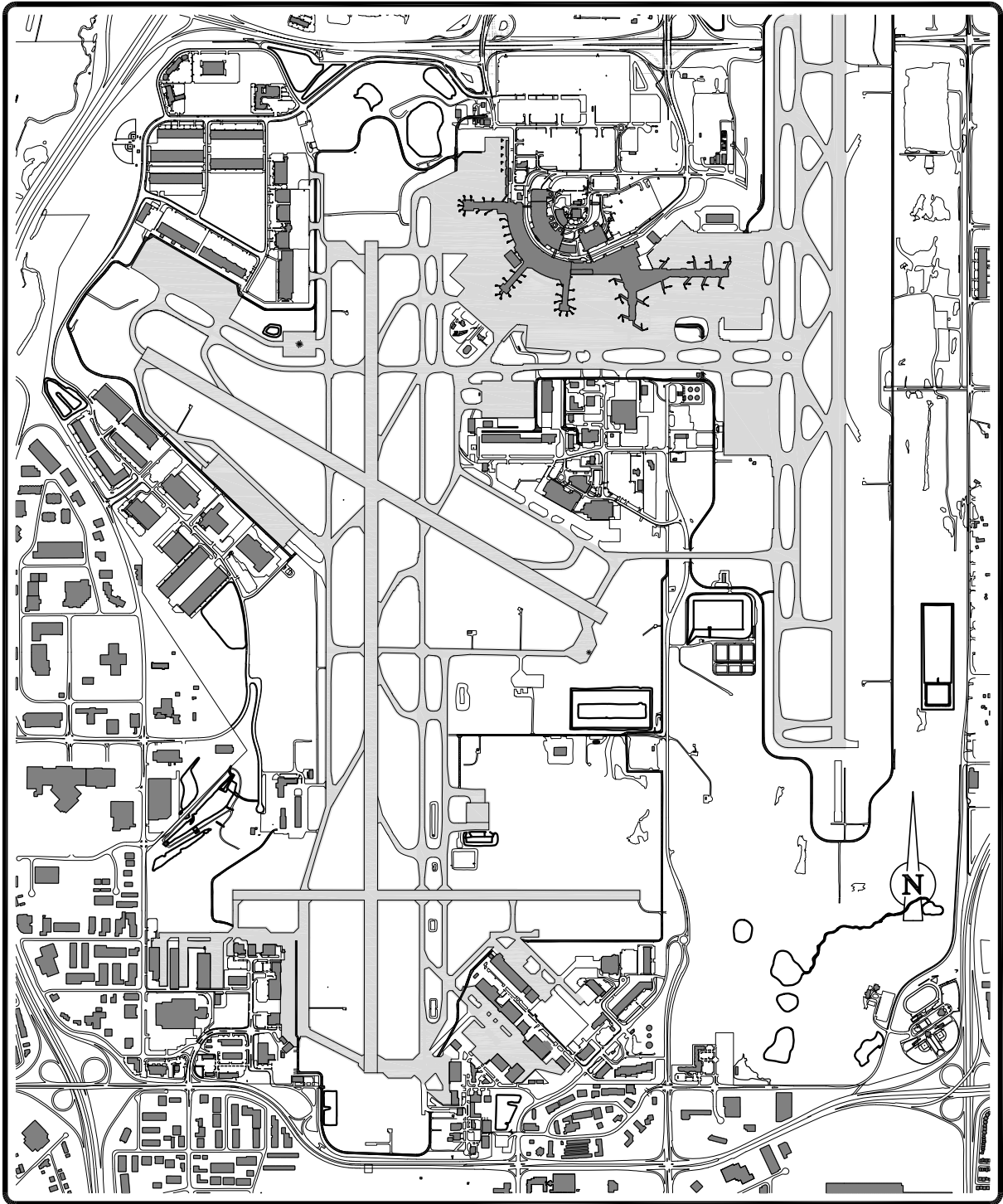
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11.2 West Airfield (Unmarked)



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AVOP
WEST AIRFIELD

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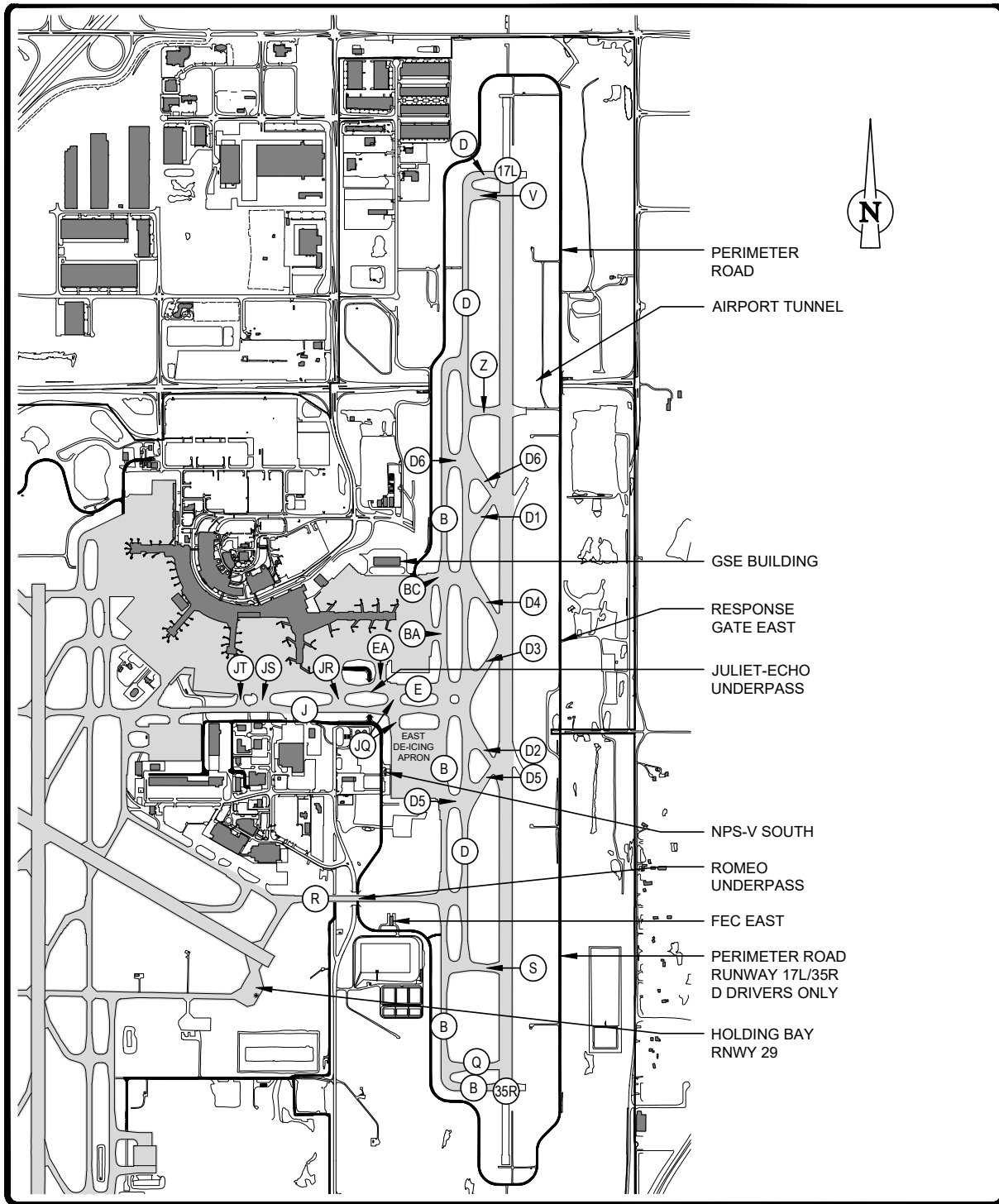
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11.3 East Airfield (Marked)



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PROJECT
CALGARY INTERNATIONAL AIRPORT
AVOP
EAST AIRFIELD

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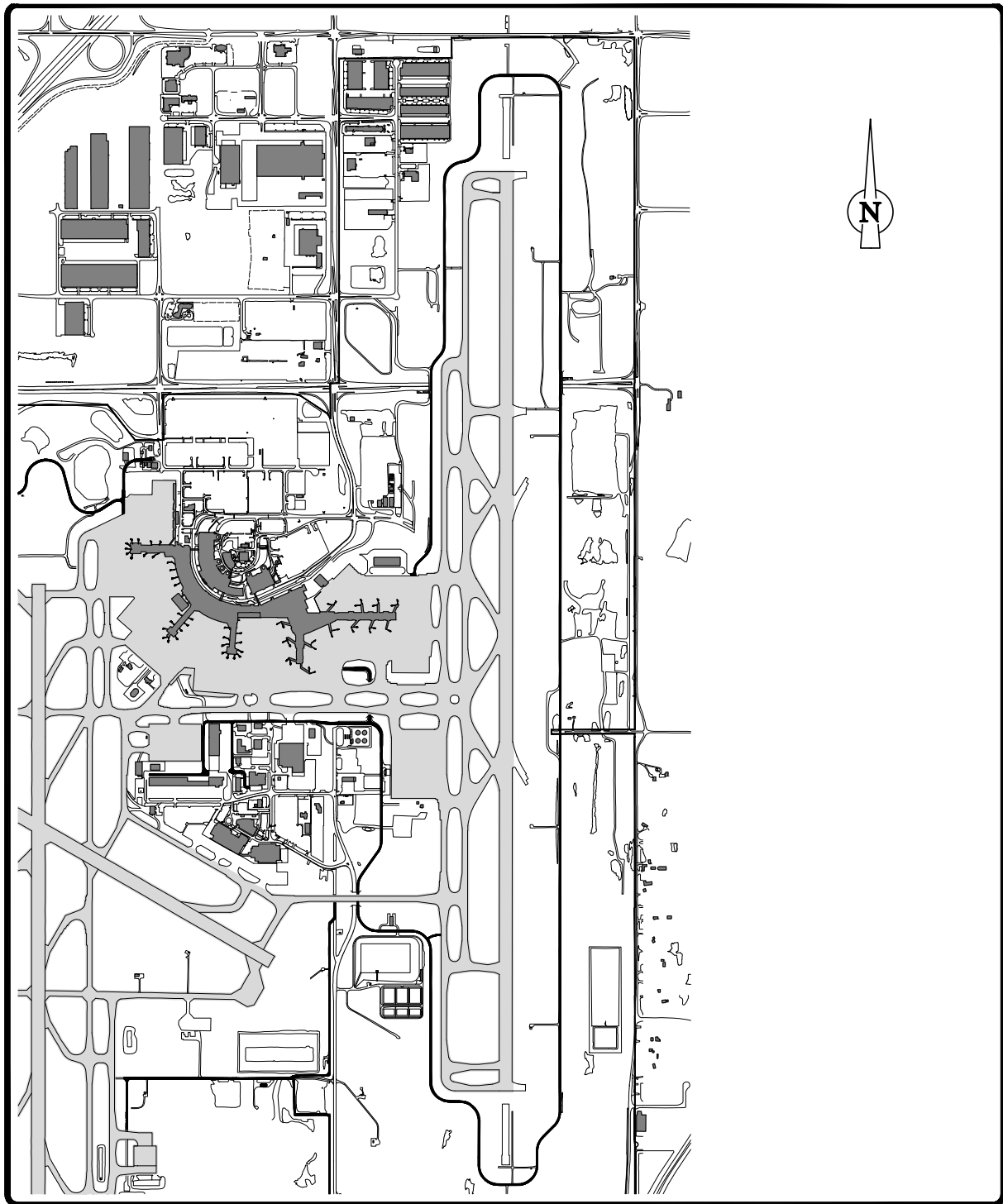
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11.4 East Airfield (Unmarked)



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AVOP
EAST AIRFIELD

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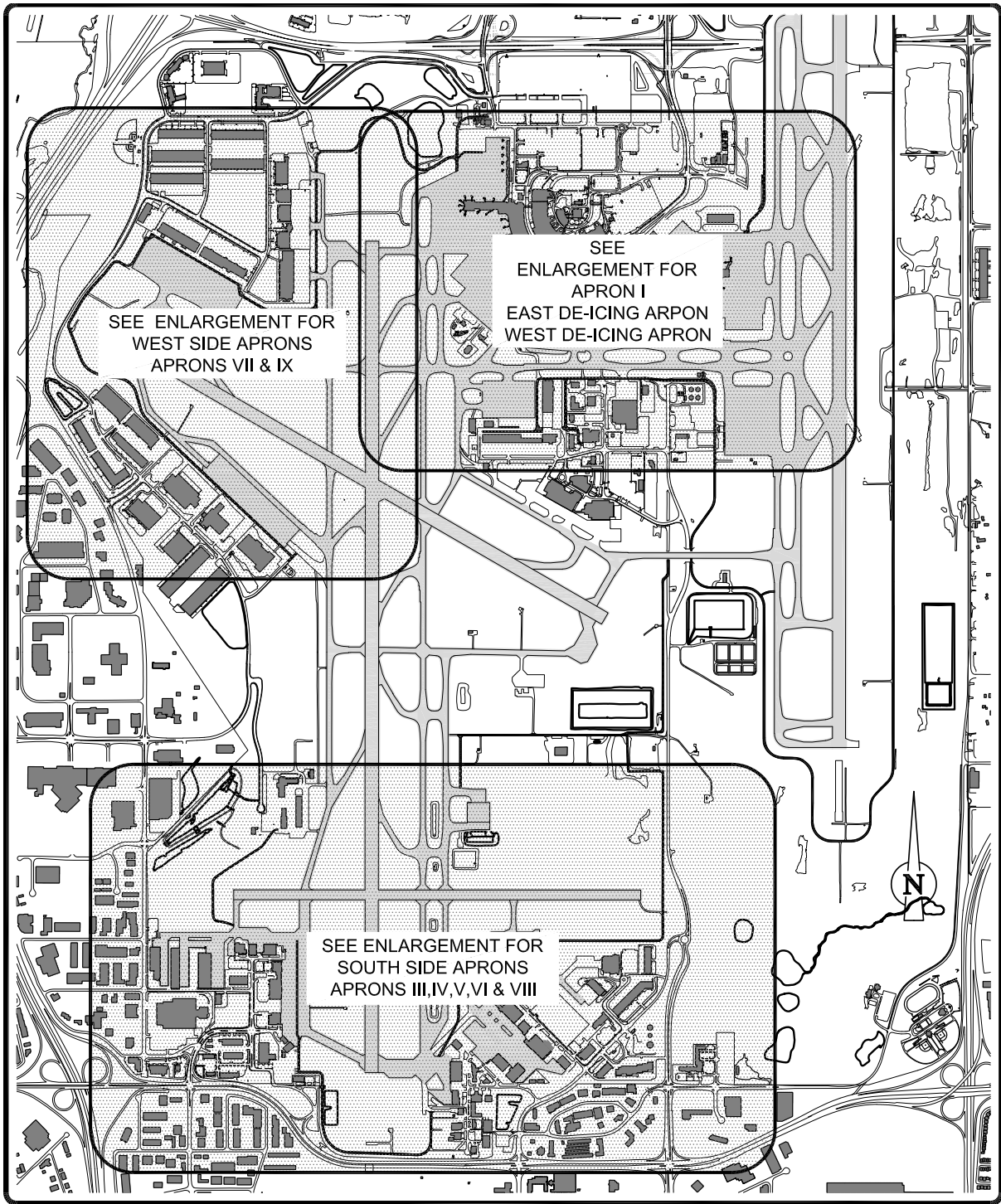
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11.5 Depicts DA, DAS and DAW areas



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YYC™ CALGARY AIRPORT AUTHORITY

PROJECT CALGARY INTERNATIONAL AIRPORT
AVOP
AIRFIELD (AREAS OF ENLARGEMENT)

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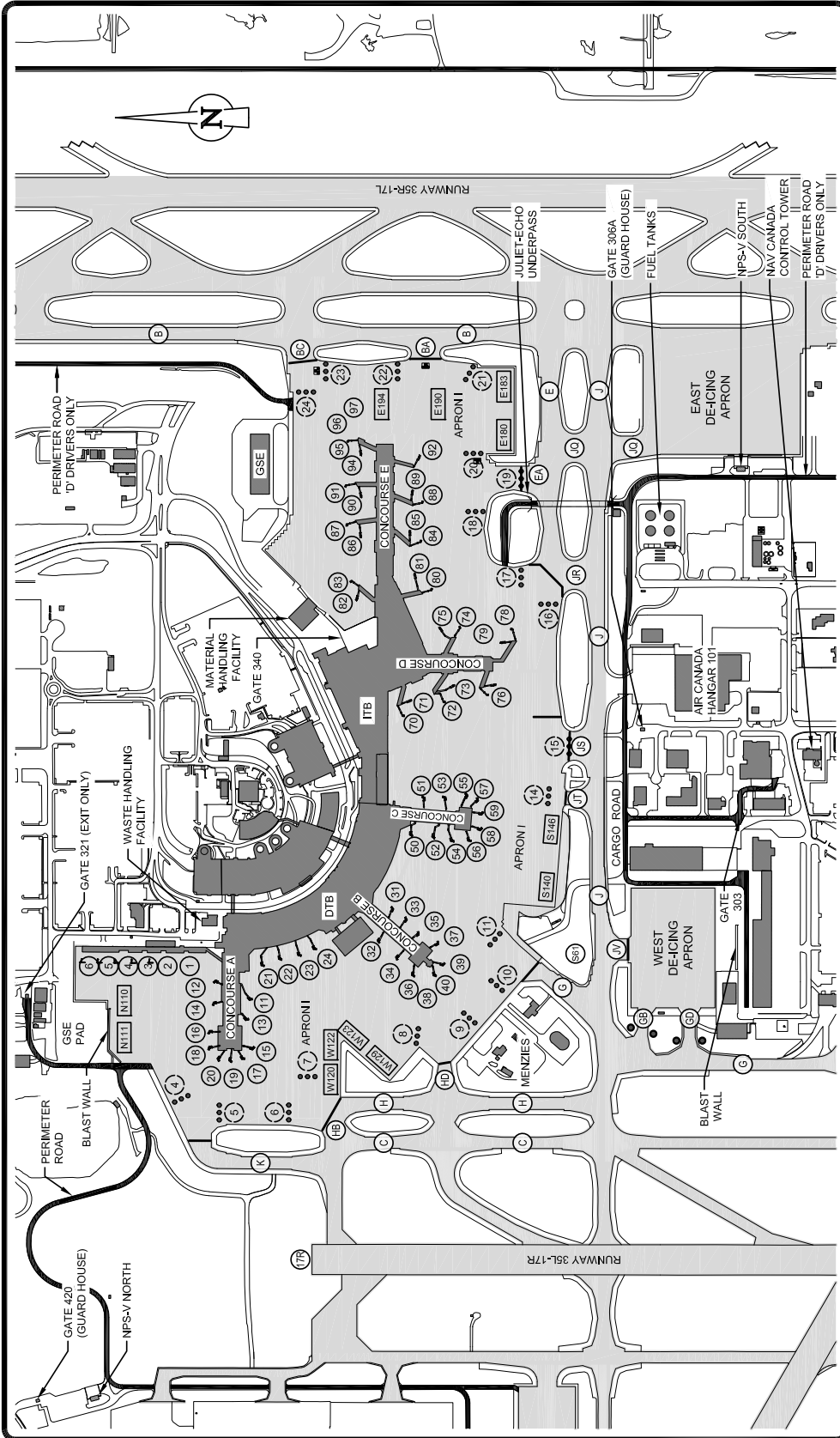
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11.6 Apron I, East & West De-icing Aprons



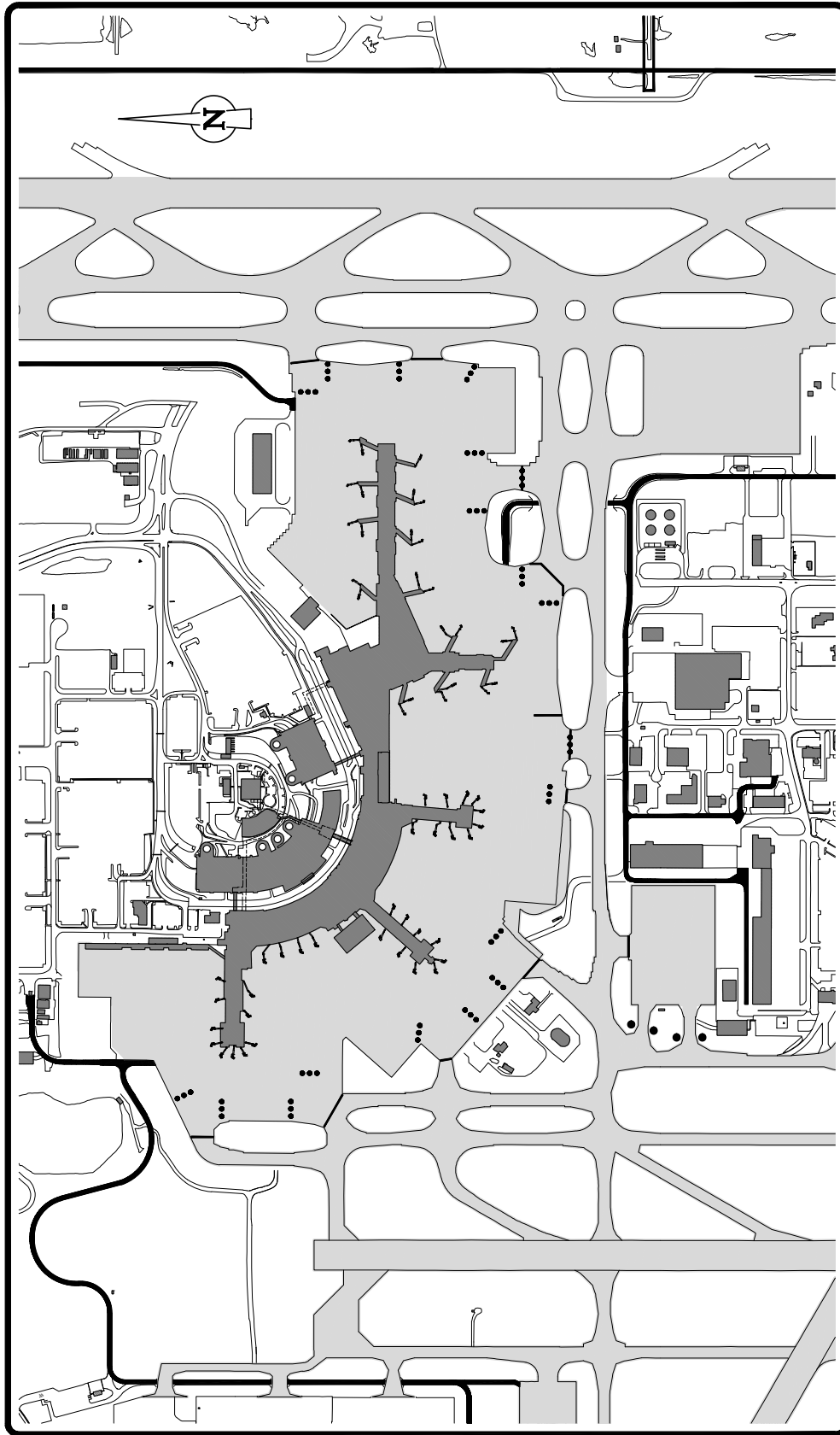
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 AVOP
 APRON I, EAST DE-ICING APRON, WEST DE-ICING APRON



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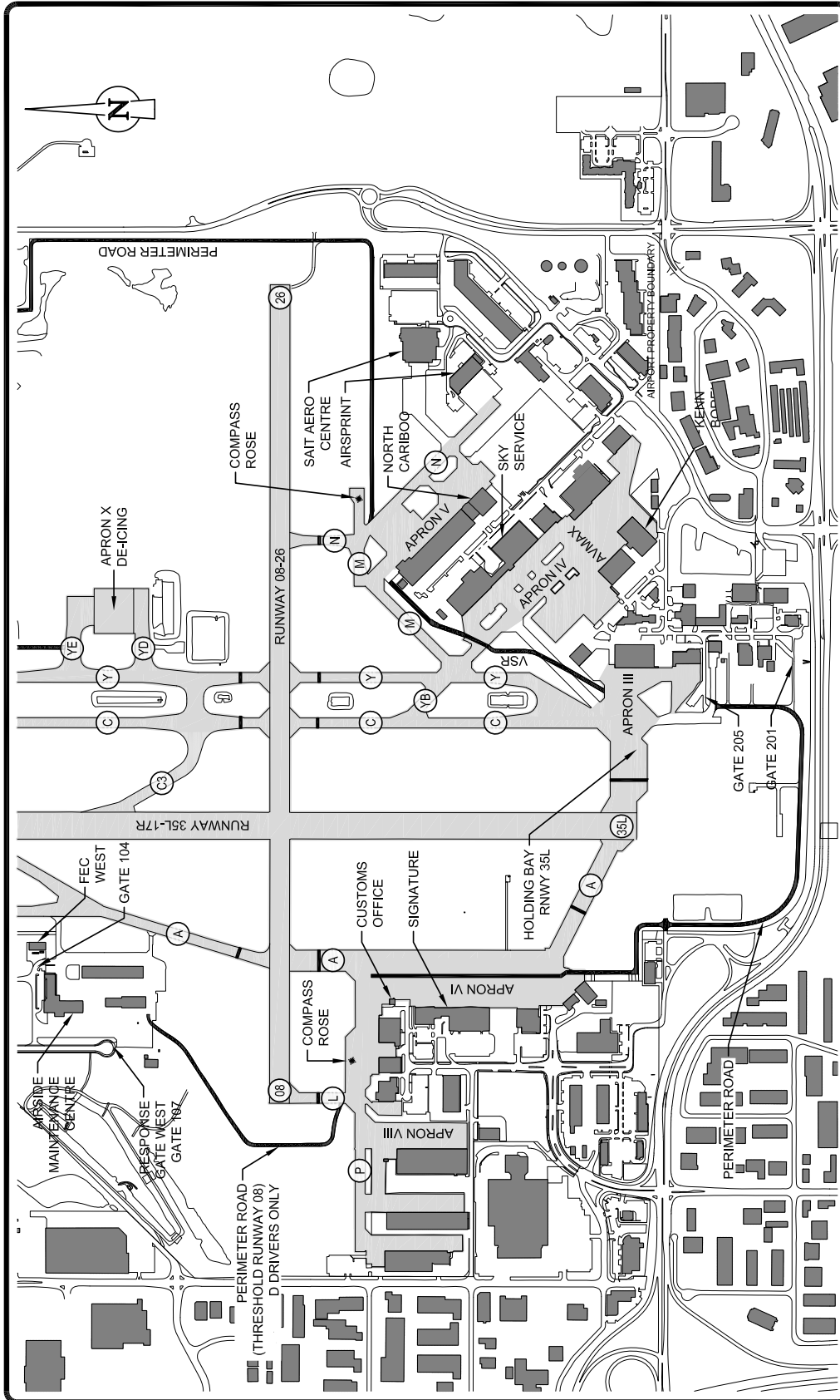
11.7 Apron I, East & West De-icing Aprons (Unmarked)



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		AVOP
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11.8 South Side Aprons (Marked)



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AVOP
SOUTH SIDE APRONS



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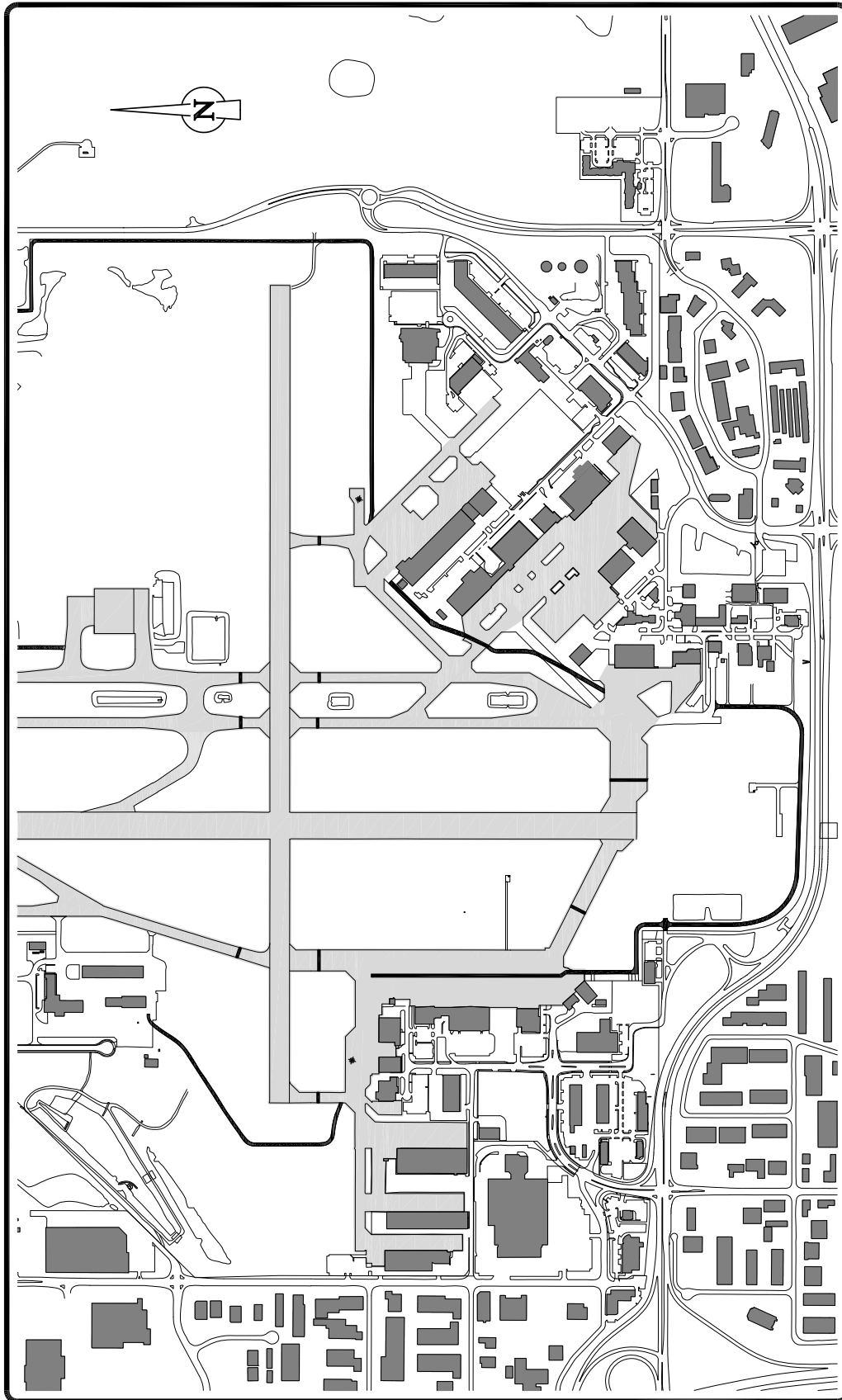
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11.9 South Side Aprons (Unmarked)



PROJECT CALGARY INTERNATIONAL AIRPORT
AVOP
SOUTH SIDE APRONS



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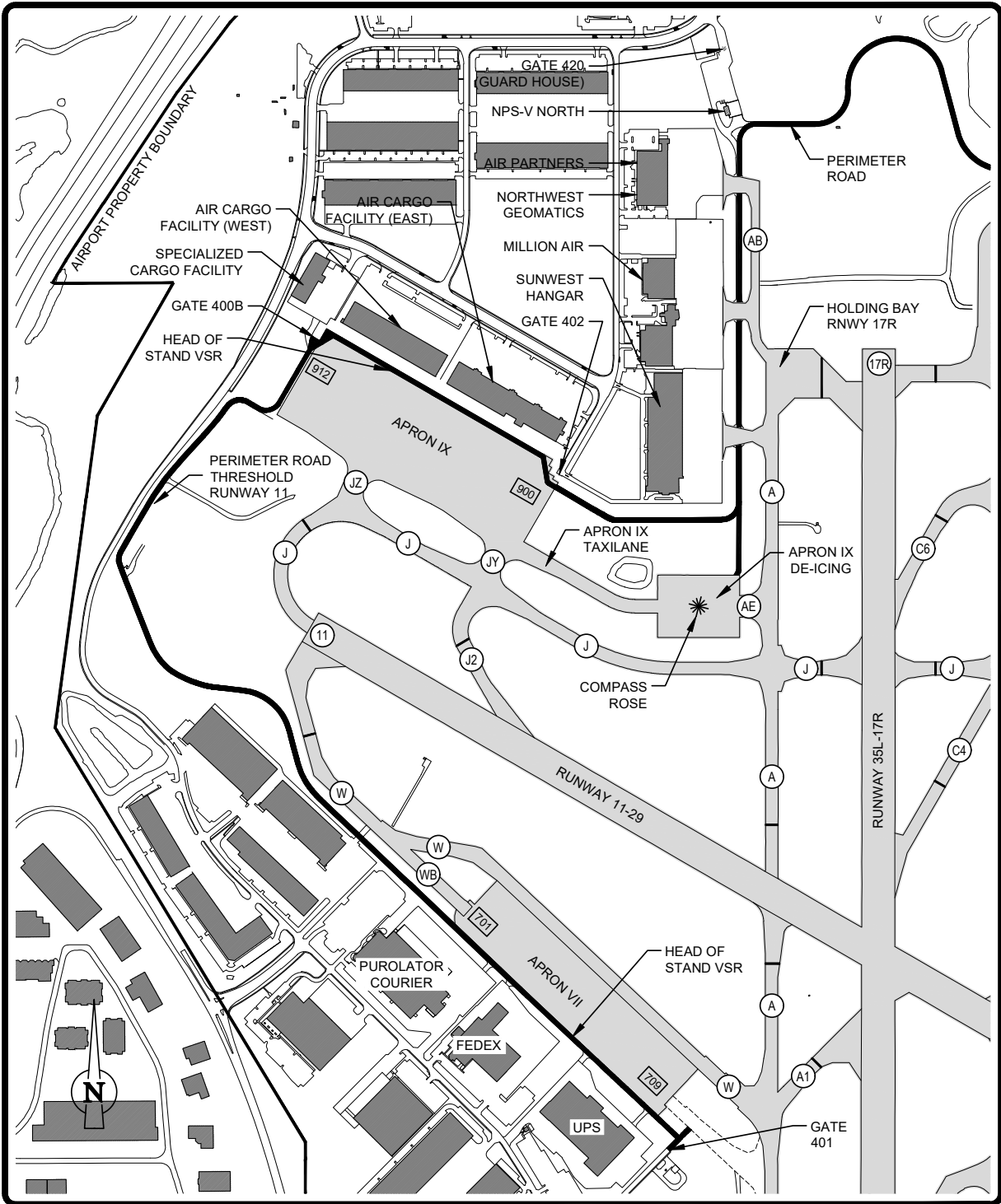
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11.10

West Side Aprons (Marked)



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YYC™ CALGARY AIRPORT AUTHORITY

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 AVOP
 WEST SIDE APRONS**

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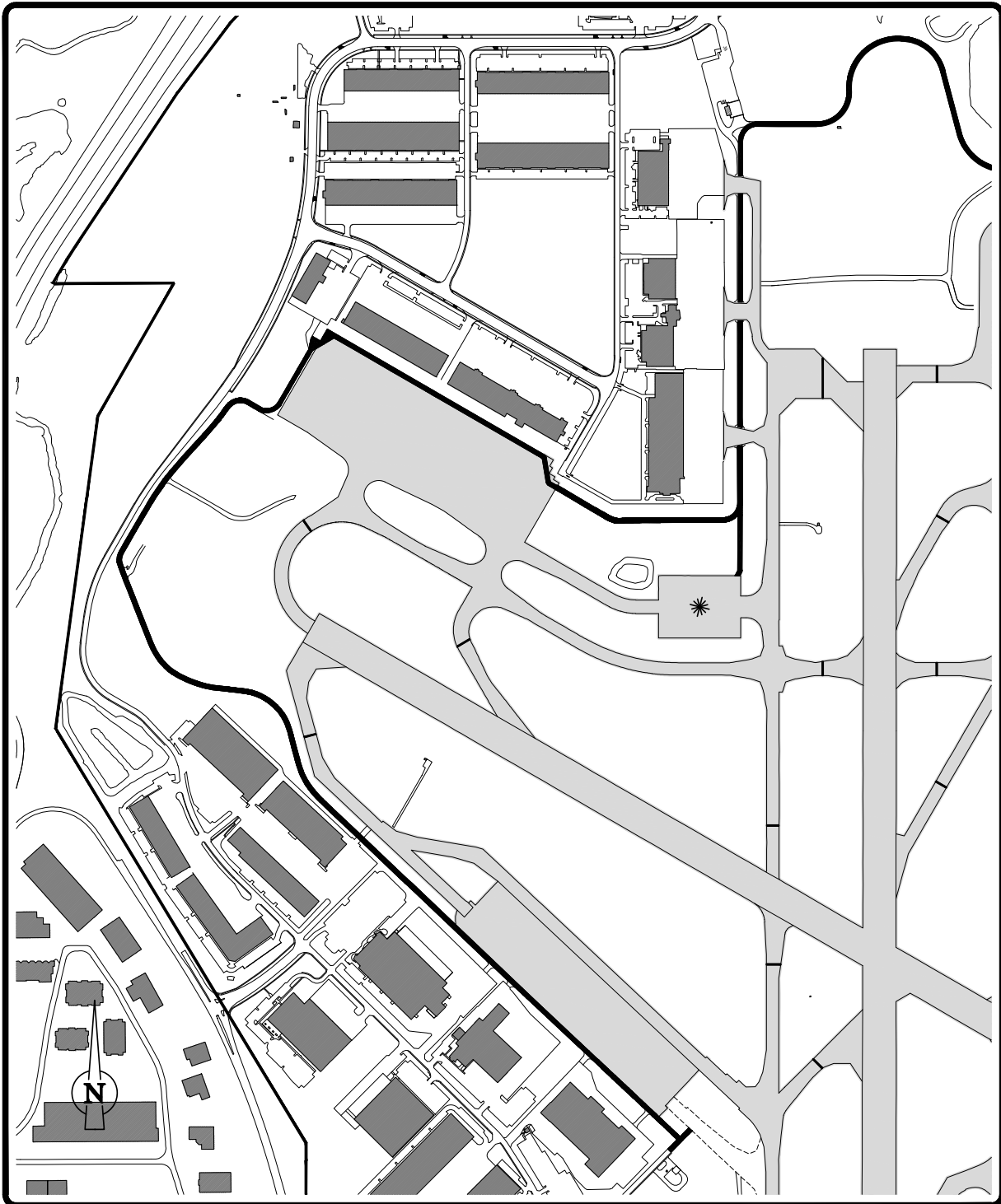
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West Side Aprons (Unmarked)



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PROJECT CALGARY INTERNATIONAL AIRPORT
AVOP
WEST SIDE APRONS

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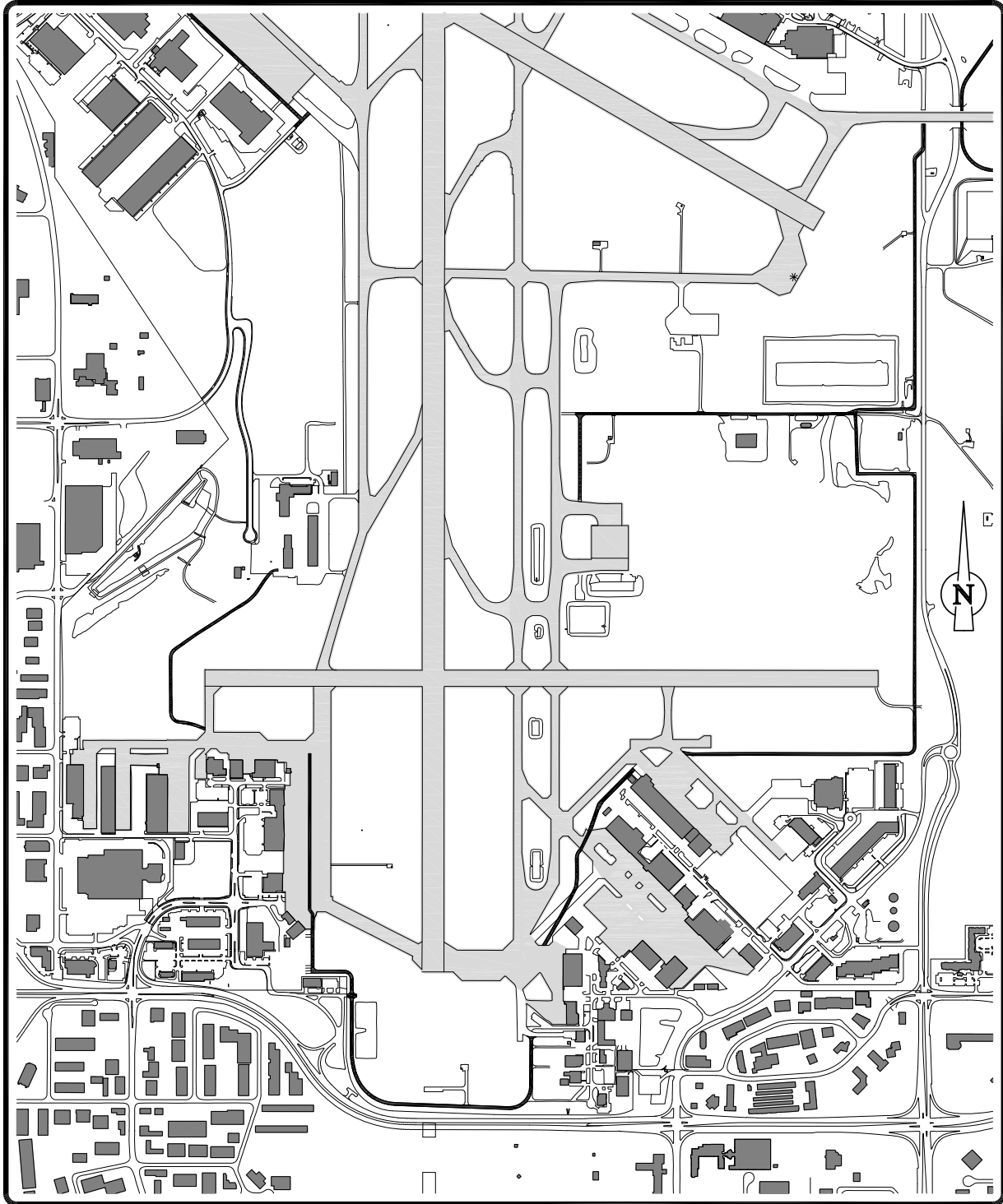
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11.12

D-Tow South West Airfield (Unmarked)



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AVOP D-TOW SOUTH

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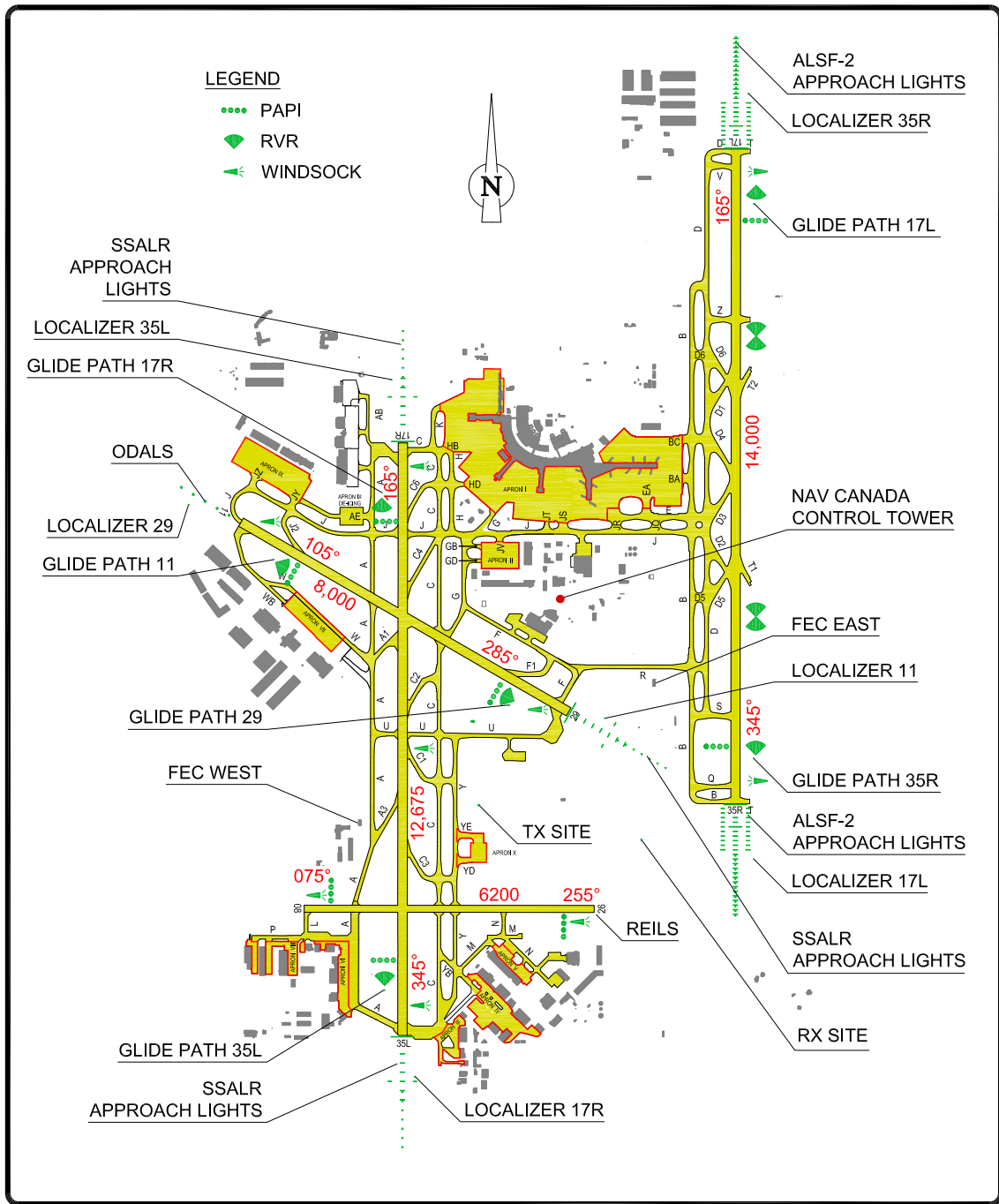
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11.14 Navigational Aids



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Section 12

AVOP Self-Tests

12 AVOP Self-Tests

12.1 Written and Practical Tests

All AVOPs require successful completion of a written/online test, a practical test and a competency check/night endorsement.

The written test includes a number of multiple choice questions, including taxiways, taxiway entrances, Aprons, and identification of major gates, buildings or landmark items, as applicable to the AVOP type.

The AVOP Application Form is [Appendix A](#) in this manual.

The lanyard (small) maps are [Appendix B](#) in this manual.

12.1.1 DA, DAS & DAW AVOP Tests (New & Renewal)

Individuals applying for a DA, DA South or DA West (new or renewal) will be tested on their knowledge of:

- Sections [1](#), [2](#), [3](#), [4](#), [Section 5 \(5.0-5.6\)](#), [6](#), [10](#)
- Applicable site maps in [Section 11](#)

Applicants must be able to identify major landmarks, aprons and taxiways, including:

- All Taxiways around the Aprons applicable to their AVOP type,
- All Taxiways and Taxiway Entrances that enter or connect with the Aprons applicable to their AVOP type,

Applicants must be able to demonstrate knowledge of:

- All applicable Aprons,
- All signs, lines, lights and markings,
- All applicable airside vehicle roads,
- All applicable gates,
- All applicable operational stands,
- Visible signs/indications of Aircraft arriving,
- Visible signs/indications of Aircraft pushing back and departing, and
- All traffic rules and procedures, including 'Right-of-Way'.

Study guide:

- Sample questions for the written and practical tests are in [Sections 12.1-12.4](#).
- Site maps are in [Sections 11.6-11.11](#).
- Answers are in [Sections 13.1-13.3](#) and [13.6](#), [13.7](#).

12.1.2 D, D-AME, DTN, DTS & DDT Tests (New & Renewal)

Individuals applying for a D AVOP (new or renewal) will be tested on their knowledge of ALL airside areas and ALL sections of this manual.

Individuals applying for any D-Tow type AVOP (DTN, DTS, DDT) will be tested on their knowledge of ALL airside areas and ALL sections of this manual.

Individuals applying for a D-AME AVOP will be tested on their knowledge of ALL airside areas and ALL sections of this manual, excluding information limited and specific to driving a vehicle.

D, D-AME, DTN, DTS & DDT AVOP applicants must demonstrate knowledge of:

- All applicable Aprons, Taxiways and Runways
- All signs, lines, lights and markings,
- All applicable airside vehicle roads,
- All applicable gates,
- All applicable operational stands,
- Visible signs/indications of Aircraft arriving,
- Visible signs/indications of Aircraft pushing back and departing,
- All applicable traffic rules and procedures, including 'Right-of-Way', and
- All applicable radio procedures & radio calls.

Study guide:

- Sample questions for written and practical tests can be found in [Section 12](#).
- All site maps in [Section 11](#) are applicable.
- Answers are in [Section 13](#).

12.2 Sample Questions - All AVOP Types

The General Questions are required knowledge for all AVOP holders.

See [Section 13.1](#) for answers

1. Who is responsible to know the Airside Traffic Directives and all AVOP rules and procedures, including any changes and updates?
 - a. The AVOP holder's supervisor
 - b. The Authority AVOP Coordinator
 - c. The AVOP holder's employer
 - d. The AVOP holder
2. Any FOD, obstructions or potentially hazardous conditions that cannot be easily removed must be reported to your supervisor. Who else must be informed?
 - a. Calgary Police Service and the IOC
 - b. Calgary Police Service and the Control Tower
 - c. The Integrated Operations Centre (IOC)
 - d. Control Tower and the IOC
3. You must have your valid Driver's License with you when applying for, or renewing, replacing your AVOP and/or when driving airside.
 - a. This statement is true.
 - b. No. Only required when driving airside.
 - c. No. Only required when applying for a new AVOP
 - d. No. Only required when applying for a new AVOP, or renewing an AVOP
4. You must report the suspension of your (Provincial) Driver's License immediately to your supervisor and to the Airport Authority AVOP Coordinator.
 - a. This statement is true.
 - b. False. You do not have to report the suspension of your (Provincial) Driver's License
 - c. Only if the suspension is for more than 1 month
 - d. Only if requested
5. How is a RAIC carried?
 - a. Visible on your outer clothing
 - b. In your wallet
 - c. In your pocket
 - d. Not required to be carried
6. Who is responsible for challenging and/or reporting a person in the restricted area of an airport who is not wearing a RAIC?
 - a. The Authority Security Manager
 - b. Supervisors only
 - c. Everyone who has a RAIC
 - d. Security Escorts only

7. Who is responsible for ensuring all gates to the airside of the airport are closed and locked?
 - a. Every person who uses or is authorized to use an airside gate in the performance of their duties
 - b. Airport Security staff
 - c. Airport Safety staff
 - d. Airport Security staff who work at or monitor the airside gates
8. In order to obtain, renew or maintain an Airside Vehicle Operator's Permit (AVOP), which of the following apply?
 - a. Must hold a valid (Provincial) Driver's License
 - b. Must have a valid RAIC
 - c. Must have both a valid Driver's License and valid RAIC
 - d. Must have a valid (provincial) Driver's License, a valid RAIC and a completed and signed AVOP application form to show a need and a right to drive airside
9. Who is responsible for ensuring that the AVOP applicant is properly trained?
 - a. The AVOP applicant
 - b. The employer
 - c. The Authority AVOP Coordinator
 - d. A Safety Compliance Officer
10. An AVOP automatically expires or is cancelled:
 - a. When you stop working for the employer listed or authorized on your AVOP
 - b. If you do not complete a Night Endorsement within the required 180 days
 - c. If you do not complete all renewal requirements before your current AVOP expires
 - d. All answers are correct
11. All AVOP holders must successfully pass a check ride upon return to work (with the same employer) after an absence of:
 - a. More than 4 months, but less than 12 months
 - b. More than 8 months, but less than 12 months
 - c. More than 12 months, but less than 24 months
 - d. More than 24 Months
12. If an AVOP holder has a DAS for 'Employer Y-Air' and a D for 'Employer Z-Air', can they use the D AVOP for both employers?
 - a. No. AVOPs and AVOP-types are specific for each individual employer.
 - b. Yes, they can use the D AVOP for both employers.
 - c. Yes, but only if the managers for both employers give their approval.
 - d. Yes, but only if the manager for Employer Z-Air approves.
13. What are airport personnel and vehicle operators required to do when there is an aircraft carrying 'Distinguished Visitors' at YYC?
 - a. Remain clear of the aircraft unless required for a specific duty
 - b. Remain clear of the aircraft and the area unless required and authorized for specific duty
 - c. Conduct normal operations but do not ask for autographs
 - d. There is no restriction on personnel or vehicle operators

14. What are airport personnel and vehicle operators required to do if an aircraft crashes at the airport?
 - a. Wait until Emergency Rescue is over before entering the area
 - b. Proceed immediately to the scene and render assistance
 - c. Remain clear of the area unless required and authorized to perform a specific duty
 - d. Go to a safe place and remain there
15. When handling aircraft fuel, a fuel tanker truck must be a minimum of how many meters from any airport building?
 - a. 5 meters
 - b. 10 meters
 - c. 15 meters
 - d. 20 meters
16. Which of the following means of transportation are allowed airside at YYC?
 - a. Motorcycles, but only by CPS, EMS or Airport Authority personnel
 - b. In-line skates, but only by CPS and only in certain areas
 - c. Bicycles, but only by CPS or EMS and only in certain areas
 - d. Bicycles and Segways, but only by CPS and EMS and only in certain areas, and only for use during an Emergency Response.
17. If a person is legally prohibited from operating a vehicle as imposed by a court or a judge, that person is:
 - a. Allowed to drive airside if approved by their employer
 - b. Allowed to drive airside only if approved by the Authority AVOP Coordinator
 - c. Not allowed to drive airside unless approved by both their employer and Authority AVOP Coordinator
 - d. Not allowed to drive airside under any circumstances
18. Where is smoking allowed when airside at YYC?
 - a. In vehicles as long as the smoker is in an enclosed vehicle cab
 - b. In vehicles, but only when parked in a designated parking area on any Apron
 - c. Cannot smoke anywhere on any Apron
 - d. Smoking is only allowed in designated smoking shelters or designated smoking areas on an Apron.
19. No person may drive airside under the influence of alcohol, drugs, or similar substances (e.g., over the counter and prescription drugs) that may cause drowsiness or reduce decision making skills. Which of the following statements apply?
 - a. Unless approved by the employer
 - b. Unless necessary for an operational emergency and only under escort
 - c. The statement is correct as written, with no exceptions or exclusions
 - d. Only after an extended break and recuperation period with employer approval
20. While driving airside, when are you allowed to use a cell phone, audio, video, gaming or similar electronic device?
 - a. Allowed in moderate use as long as it does not interfere with your duties
 - b. Allowed if authorized and with written approval by the employer
 - c. Cell phone use is allowed if a 'hands free device' is used, but only if authorized and with written approval by the employer
 - d. Cell phone use is allowed, but only when the vehicle is parked in a safe location. Audio, video, gaming or similar devices are not allowed under any circumstances.

21. All airside workers and vehicle operators are responsible to stop, remove and dispose of foreign materials (FOD):
 - a. When they can do so without compromising their own safety or the safety of others
 - b. When they can do so within the rules and procedures of their AVOP
 - c. When they can do so without interfering with aircraft or aircraft operations
 - d. All answers are correct
22. If you encounter a condition on an aircraft movement surface that is likely to cause damage to an aircraft, who should you report it to?
 - a. The Integrated Operations Center
 - b. It does not need to be reported
 - c. Authority Supervisor, Airfield Facilities
 - d. Your supervisor and the Integrated Operations Center (IOC)
23. An AVOP will be automatically cancelled or revoked when:
 - a. The AVOP holder is no longer employed at YYC
 - b. The AVOP holder is no longer in a position which requires operation of a vehicle airside
 - c. The expiry date of the AVOP is reached
 - d. All answers are correct
24. Which of the following organizations enforces AVOP and vehicle regulations at YYC?
 - a. Calgary Police Service (CPS)
 - b. Safety Compliance Officer (SCO) and/or Security Airside Patroller
 - c. The Authority and the Airside Operations Specialists (AOS)
 - d. All answers are correct
25. Who must go with the employee when they meet with the Authority AVOP Coordinator (or designated person) for an AVOP violation ticket?
 - a. Employer representative
 - b. Union representative
 - c. Lawyer
 - d. None of the above
26. Which of the following traffic has first priority (right-of-way) over all other traffic?
 - a. Authority Maintenance vehicles in the performance of their duties
 - b. Emergency vehicles with their red lights flashing
 - c. Aircraft under power or under tow
 - d. Marshalls and tractors during aircraft arrival, push-back, and when returning from a push-back
27. The area of the airport used for take-offs, landings, and taxiing aircraft, including the Aprons is called the:
 - a. a. Airside
 - b. b. Controlled Area
 - c. c. Movement Area
 - d. d. Apron
28. The area of the airport used for take-offs, landings, and taxiing aircraft, NOT including the Aprons is called the:
 - a. Movement Area
 - b. Controlled Area
 - c. Manoeuvring Area
 - d. Airside Area

29. The area of the airport where passengers and cargo are loaded and unloaded, and where aircraft are parked, fueled and serviced is called the:
 - a. Movement Area
 - b. Apron Taxiway
 - c. Manoeuvring Area
 - d. Apron
30. The Critical Area (CA) is:
 - a. The area of the aerodrome (airport) used for aircraft take-off or landing.
 - b. The area of the aerodrome (airport) that includes Aprons and Taxiways only
 - c. The area of the aerodrome (airport) that includes Apron I and the part of the main terminal building that is post-security and may include any adjacent area identified by the Aerodrome Operator.
 - d. The area of the aerodrome (airport) including any restricted area and any sterile area inside the terminal building only.
31. To transfer an AVOP to a new employer, the AVOP holder must...
 - a. Do nothing. There are no requirements to change an AVOP to a new employer
 - b. Check to make sure the type of AVOP you hold is correct for your new duties. Nothing more is required if it's the same level of AVOP (or lower).
 - c. The employee and the employer must notify the AVOP office of the change by email.
 - d. Complete and submit an AVOP application form and complete any applicable tests for the new employer AVOP within 30 days from the last day of employment.
32. To add an employer to an AVOP, the AVOP holder must...
 - a. Do nothing. There are no requirements to add an employer to your AVOP
 - b. Check to make sure the type of AVOP you hold is correct for your new duties. Nothing more is required if it's the same level of AVOP (or lower).
 - c. The employee and the employer must notify the AVOP office of the addition by email.
 - d. Complete and submit a signed AVOP application form and complete any applicable tests required for the AVOP type before driving for the additional employer.
33. What pavement markings designate Aircraft Parking Area Boundary lines?
 - a. A single yellow broken line
 - b. A single yellow solid line
 - c. A single white broken line
 - d. A double solid yellow line
34. What are lease areas?
 - a. A company-specific operational area marked by two parallel white lines
 - b. AVOP exempt areas for employees of that specific company or lease holder
 - c. Private property areas that require a need or right for use or access by anyone other than company-specific employees
 - d. All answers are correct

Note: All written tests also include map questions on Taxiways, Taxiway Entrances, buildings, Gates, Runways, etc. (as applicable to the AVOP type).

12.3 Sample Questions - DA

See [Section 13.2](#) for answers

1. What is the speed limit on ALL Aprons, all VSRs, the cargo road, all service roads and underpasses?
 - a. 10 km/h
 - b. 30 km/h
 - c. 50 km/h
 - d. None of the choices given are correct.
2. What is the speed limit throughout all breezeways?
 - a. 5 km/h
 - b. 10 km/h
 - c. 15 km/h
 - d. 30 km/h
3. What vehicles are allowed to operate outside the VSRs?
 - a. Emergency vehicles when responding to an emergency
 - b. Airport maintenance vehicles in the performance of their duties (snow removal, FOD, line painting)
 - c. All vehicles if needed to avoid aircraft or authority maintenance vehicles (snow removal, FOD, line painting)
 - d. All answers are correct
4. Where two or more VSRs intersect, which vehicle has the right-of-way?
 - a. The vehicle on the left
 - b. The larger vehicle
 - c. The vehicle traveling straight through
 - d. The vehicle on the right
5. Vehicles MUST NOT be parked or left unattended:
 - a. On a VSR
 - b. In a bridge manoeuvring area, unless the aircraft is parked, the bridge is attached and the vehicle is there to service that aircraft
 - c. In any areas designated by a "No Parking" sign
 - d. All answers are correct
6. Vehicles must be parked...
 - a. In a bridge manoeuvring area
 - b. On VSRs, perimeter roads, cargo or service roads
 - c. In designated parking areas or company-specific lease areas only
 - d. All answers are correct
7. When vehicles are parked in an approved parking area, the vehicle must be:
 - a. Parked and left with the beacon or flashing signal lamps 'ON'
 - b. Parked facing out (facing away from the building) whenever possible and with the beacon off
 - c. Parked facing towards the building
 - d. Parked and left with the engine running

8. What is the speed limit on a perimeter road?
 - a. Maximum 10 km/h
 - b. Maximum 30 km/h
 - c. Maximum 50 km/h unless otherwise posted
 - d. Maximum 30 km/h for D/A AVOP holders, and maximum 50 km/h for D AVOP holders
9. Vehicles and GSE MUST NOT be parked:
 - a. In areas identified by paint markings indicating the travel of the bridge
 - b. Blocking access to fuel shut-off valves or wheeled fire extinguishers
 - c. Blocking egress through emergency exits from the building
 - d. All answers are correct
10. When must AVOP holders (vehicle operators) use the VSRs?
 - a. When moving further than one gate or operational stand (e.g. from Gate 31 to Gate 35 or from Operational Stand 901 to Operational Stand 903)
 - b. At the AVOP holder's discretion
 - c. Never
 - d. When moving from one gate or operational stand to the next (adjacent) gate or operational stand (e.g. from Gate 31 to Gate 33 or from Operational Stand 901 to Operational Stand 902)
11. Which of the following rules apply when operating a vehicle on an Apron?
 - a. Use the left lane to pass slower vehicles but only if it can be done safely and without exceeding the speed limit
 - b. Leave the VSR to pass slower vehicles
 - c. You can pass slower vehicles on either the left or the right but only if it can be done without exceeding the speed limit
 - d. You can pass slower vehicles on either the left or the right but only if it can be done safely
12. What color are the paint markings pertaining to aircraft movement?
 - a. Green
 - b. Yellow
 - c. White
 - d. Red
13. What color are the boundary lines that indicate a designated staging or parking area?
 - a. White and red
 - b. Red only
 - c. Yellow and white
 - d. Black and red
14. What color are the paint markings that outline vehicle service roads and passenger walkways?
 - a. Green
 - b. Yellow
 - c. White
 - d. Red at intersections, white in other areas

15. Which of the following descriptions most accurately describes how VSRs are indicated on Aprons?
 - a. Two solid white lines, with a single broken white center line
 - b. Two broken yellow lines, with a single solid white center line
 - c. Two solid yellow lines, with a single solid white line
 - d. Two solid white lines, with a single broken yellow center line
16. What color are Apron edge lights?
 - a. Single blue
 - b. Single white
 - c. Double blue
 - d. Double white
17. What lights are used to mark the intersection of an Apron and a Taxiway?
 - a. Double amber (Aviation Yellow)
 - b. Double blue
 - c. Double white
 - d. Two-sided; half green and half red
18. The Head of Stand (HOS) VSR around the ITB:
 - a. Is 4.5 meters in height and will accommodate any and all vehicles that operate airside
 - b. Is reserved for baggage tractors/baggage tugs only
 - c. Is reserved for emergency responders only
 - d. Is restricted to 2.9 meters in height and caution must always be exercised when operating vehicles through them
19. Which vehicles are allowed to operate in the ITB baggage halls:
 - a. All vehicles allowed to operate on Apron I
 - b. All baggage tugs with a maximum of six baggage carts
 - c. All baggage tugs with a maximum of four baggage carts
 - d. Only electrically powered baggage tugs with a maximum of four baggage carts
20. Who is responsible to make sure the vehicle they are operating is functioning properly, including the required safety equipment (lights, beacons and markings)?
 - a. The owner of the vehicle
 - b. The vehicle operator
 - c. The vehicle operator's employer
 - d. The Authority AVOP Coordinator
21. Who is responsible to report any vehicle or ground safety equipment (GSE) defects and malfunctions?
 - a. The owner of the vehicle
 - b. The vehicle operator's supervisor
 - c. The mechanic
 - d. The vehicle operator

22. When may you operate a vehicle in the airside area of the airport?
 - a. When escorted by a valid YYC-specific AVOP holder
 - b. When holding a valid YYC-specific AVOP
 - c. When authorized by the Authority AVOP Coordinator
 - d. All answers are correct
23. Unless under escort, all self-powered (gas or battery powered) vehicles with a cab, being operated airside must be equipped with:
 - a. Fully functioning headlights, parking lights, taillights and yellow beacon
 - b. Fully functioning headlights, taillights and reflective tape on both sides of the vehicle
 - c. Fully functioning two-way radio capable of monitoring company frequency
 - d. Fully functioning yellow beacon and reflective tape on both sides of the vehicle
24. The vehicle beacon must be on and operating:
 - a. Whenever the vehicle is in use and actively being driven anywhere airside
 - b. Whenever the vehicle is in use and being driven airside, on the Aprons only
 - c. When parked in a designated parking area
 - d. When stopped in an operational stand for the purpose of providing service to the aircraft parked 'on-gate'
25. All towed (not self-propelled) equipment used on an Apron are required to be marked with reflective material. Which of the following most accurately describes how towed equipment must be marked?
 - a. A yellow stripe on the sides, the back and the corners
 - b. Reflectors of sufficient size, evenly spaced on the sides and the back, or on all corners
 - c. A red stripe on the sides, the back and the corners,
 - d. Reflectors of any size, anywhere on the sides
26. What is required to take a vehicle that is operated airside and drive it ground side (outside of the airport fence)?
 - a. Nothing extra is required
 - b. Approval from the vehicle owner, company operator or supervisor
 - c. A valid provincial license plate
 - d. A valid provincial license plate, registration and insurance as required by the province of Alberta
27. Who is responsible for the loads carried or towed, ensuring that such loads are securely fastened or covered, do not spill, and pose no danger to aircraft, vehicles or pedestrians?
 - a. The employer or vehicle owner
 - b. The Authority AVOP Coordinator
 - c. The vehicle operator
 - d. All answers are correct
28. What must vehicle operators do when exiting baggage halls?
 - a. Look left and right to ensure the way is clear before proceeding
 - b. Come to a complete STOP before proceeding
 - c. Nothing is required
 - d. Come to a complete STOP and look left and right to ensure the way is clear before proceeding

29. The maximum speed inside the baggage halls is:
 - a. A safe speed as determined by the vehicle operator
 - b. Walking speed (5 km/h or less)
 - c. 10 km/h or less
 - d. There is no speed limit inside baggage halls
30. When not in use, vehicles and ground service equipment (GSE) must be parked:
 - a. On the Apron wherever space is available
 - b. In any Apron area not used for the movement of aircraft
 - c. In approved lease areas or approved parking areas only
 - d. As close to the terminal building as possible
31. Fuel tanker trucks:
 - a. May go in breezeways
 - b. May not go through any breezeway nor drive on the Head of Stand VSR
 - c. May go in breezeways during daylight hours
 - d. May go in breezeways under escort
32. What is the maximum number of vehicles that may be escorted by one escort vehicle?
 - a. 1
 - b. 3
 - c. 5
 - d. No limit
33. All vehicle accidents and collisions must be reported immediately to:
 - a. Your supervisor and the Integrated Operations Centre (IOC)
 - b. Your supervisor and Calgary Police Service
 - c. The Calgary Police Service and the IOC
 - d. Your supervisor and the Authority AVOP Coordinator
34. Vehicle Operators must remain a safe distance from aircraft with engines running due to the danger of jet blast, prop wash or engine ingestion. When may vehicle operators pass in front of, or behind an aircraft with engines running?
 - a. If the wheels are chocked
 - b. If the marshaller waves permission to pass
 - c. On push-back, when the aircraft and marshaling crew are clear of the VSR
 - d. All answers are correct
35. Company markings or logos must be displayed on all vehicles. What is the exception?
 - a. If vehicle is parked in designated parking area
 - b. If vehicle is under escort
 - c. If vehicle is performing its duties
 - d. If it is an Authority vehicle
36. When airside, all vehicle operators must always comply with instructions from:
 - a. Calgary Police Service (CPS)
 - b. Safety Compliance Officers (SCO) and Airside Security
 - c. Airfield Operations Specialists (AOS) and/or Authority Staff
 - d. All answers are correct

37. When can you drive between an aircraft and the marshaller?
 - a. During the arrival (docking) process
 - b. During the Push-back
 - c. Anytime as long as the aircraft and marshaller are not in the operational stand
 - d. You are never allowed to drive between the aircraft and the marshaller
38. When airside, vehicles and equipment must be parked, left or placed:
 - a. More than 1 meter from a security fence
 - b. More than 3 meters from a security fence
 - c. More than 5 meters from a security fence
 - d. There is no restriction. Vehicles and equipment can be parked or left beside a security fence.
39. What is the maximum number of pallet cargo dollies that can be towed in a cargo train?
 - a. 4 pallet cargo dollies
 - b. 5 pallet cargo dollies
 - c. 6 pallet cargo dollies
 - d. No maximum
40. All vehicle operators and passengers must present to a Non-Passenger Screening-Vehicle checkpoint (NPS-V):
 - a. Every time they enter the airfield
 - b. After entering the airfield and before going to Apron VII or IX
 - c. After entering the airfield and before entering the Critical Area (CA)
 - d. After entering the airfield and before entering the Critical Area (CA) when actively part of an Emergency Response
41. Some vehicles may be exempt from screening at an NPS-V checkpoint. Which vehicles (operators and passengers) are NEVER exempt and must ALWAYS present for screening at NPS-V checkpoints?
 - a. Deicing vehicles and their operators during active deicing operations
 - b. Aircraft tow operators when towing an aircraft into the CA
 - c. Snow removal vehicles and their operators during active snow removal operations
 - d. Vehicle operators entering the Critical Area to perform their regular duties
42. Vehicles and equipment are guaranteed safe clearance from aircraft when...
 - a. Parked in a designated parking area (inside the solid white & red parallel lines)
 - b. Parked outside the Apron Limit Line
 - c. Parked in a Bridge Staging Box (inside the solid white & red U-shaped markings)
 - d. All answers are correct
43. Vehicle Operators must remain a safe distance from aircraft with engines running due to the danger of jet blast, prop wash or engine ingestion. When may vehicle operators pass behind an aircraft during an engine air-start?
 - a. Never
 - b. Only if the marshaller waves permission to pass
 - c. It is always okay to drive behind an aircraft doing an air-start
 - d. If the wheels are chocked
44. What is the speed limit on ALL VSRs, including ALL Head of Stand (HOS) VSRs?
 - a. 5 km/h or less
 - b. 10 km/h
 - c. 30 km/h
 - d. 50 km/h

45. What vehicles and GSE operators are allowed to drive in or through both the operational stand and the aircraft circle of safety?
 - a. Any vehicle or GSE operator is allowed in the aircraft circle of safety
 - b. Only vehicles or operators actively involved in servicing the parked aircraft are allowed in the operational stand and the aircraft circle of safety
 - c. No vehicles or GSE operators are allowed in the aircraft circle of safety
 - d. Any vehicle or GSE operator is allowed anywhere in the operational stand
46. When can you drive between an aircraft and a terminal building at a Ground Loading area?
 - a. You are never allowed to drive between the aircraft and a terminal building at a ground loading area
 - b. Only when the aircraft is parked, and the passengers and crew are gone from the area
 - c. Only if you are servicing the aircraft
 - d. Only when the aircraft is parked, the passengers and crew are gone from the area, and you need to service the aircraft.
47. What should a vehicle driver do when a snowplow or bobcat is approaching and actively plowing snow in the VSR?
 - a. Continue driving normally in the VSR
 - b. Vehicle drivers must give the right-of-way to the snowplow or bobcat so it can proceed without interference and must stop or leave the VSR as needed.
 - c. Stop in the VSR and wait for the snowplow or bobcat to go around the vehicle
 - d. Continue driving in the VSR but speed up and drive faster
48. Can a vehicle driver leave the VSR to get out of the way for any priority traffic (e.g. aircraft, emergency vehicles with red lights flashing, snow removal equipment, etc.)?
 - a. Yes. You can leave the VSR to avoid priority traffic.
 - b. No. You can only leave the VSR to service an aircraft at an operational stand
 - c. No. You can never leave the VSR
 - d. None of the choices are correct
49. Signs that an aircraft will be arriving at a gate or operational stand include:
 - a. GSE (staged equipment, baggage carts, chocks and pylons) are present at the gate or operational stand
 - b. Marshaller(s) are present at the gate or operational stand
 - c. A-VDGS may be active
 - d. All answers are correct
50. Signs that an aircraft is ready to pushback include:
 - a. Tow tractor is hooked up to the aircraft
 - b. Pylons are gone and chocks are removed from the aircraft wheels
 - c. All doors and hatches are closed
 - d. All answers are correct
51. Which of the following statements are correct for seat belt requirements when driving airside?
 - a. Seat belts are mandatory for all vehicles and all occupants in the vehicle
 - b. Seat belts must be worn by the driver and all vehicle occupants when operating airside
 - c. Seat belts do not have to be worn while actively working and servicing an aircraft within an operational stand
 - d. All answers are correct

52. Which of the following statements are correct regarding Apron edge lines?
 - a. Apron Edge lines mark the edge of the weight-bearing surface
 - b. Apron Edge lines are two parallel solid yellow lines
 - c. Apron Edge lines do NOT indicate nor provide safe clearance from aircraft
 - d. All answers are correct
53. When should vehicle operators use their turn signal (for vehicles equipped with turn signals)?
 - a. When turning to enter an operational stand
 - b. At all VSR intersections
 - c. When entering the VSR from an operational stand
 - d. All answers are correct
54. Which vehicles are allowed to operate inside buildings, including in all baggage halls:
 - a. Any and all vehicles allowed to operate on Apron I are allowed inside buildings, including in all baggage halls
 - b. All baggage tugs with a maximum of six baggage carts
 - c. All baggage tugs with a maximum of four baggage carts
 - d. Only non-hydrocarbon powered vehicles are allowed inside buildings, including in all baggage halls
55. What are vehicle operators and airside workers required to do anytime there are emergency vehicles at or near an operational stand with red lights flashing?
 - a. Stay back a safe distance
 - b. Do not approach the aircraft until after all emergency vehicles have changed to amber lights
 - c. Do not approach the scene or pass between emergency vehicles and the aircraft
 - d. All of the above

Note: All written tests also include map questions on Taxiways, Taxiway Entrances, buildings, Gates, Runways, etc. (as applicable to the AVOP type).

See Sections [12.7](#) & [12.8](#) for DA, DA West and DA South sample map test questions and sample practical test questions.

12.4 Sample Questions - DA West & DA South

Note: The following questions are area specific for the DA West and DA South AVOPs. DA West & DA South AVOP holders must also know all information in [Section 12.2 Sample Questions - All AVOP Types](#) and [Section 12.3 Sample Questions - DA](#).

See [Section 13.3](#) for answers and [11](#) for maps

1. What best describes lease lines?
 - a. A single white line
 - b. Double white lines
 - c. A single yellow line
 - d. Double yellow lines
2. A DA South AVOP allows the vehicle operator to drive on:
 - a. Taxiway P
 - b. Taxiway L
 - c. Taxiway YB
 - d. Taxiway M
3. A DA South AVOP allows the vehicle operator to drive on:
 - a. The perimeter road around the threshold of Runway 35L
 - b. The perimeter road around the threshold of Runway 08
 - c. The perimeter road around the threshold of Runway 29
 - d. DA South AVOP holders are allowed to drive on all perimeter roads
4. A DA West AVOP holder is allowed to drive on Taxiway W:
 - a. Anytime, without restriction
 - b. Only when needed to drive directly to or from an aircraft requiring towing or other operational servicing
 - c. Anytime they need to drive on Apron VII
 - d. A DA West AVOP holder is never allowed to drive on Taxiway W
5. A vehicle operator must use the VSRs on Aprons VII and IX:
 - a. When operating vehicles over 500 kg
 - b. Only during the evening hours
 - c. Vehicles must operate in VSRs at all times
 - d. Whenever VSRs are available and when going further than the next (adjacent) operational stand
6. DA West AVOP holders are:
 - a. Allowed to operate on Apron VII and Apron IX, but are not allowed to operate on the perimeter road of Runway 11
 - b. Allowed to operate on Apron VII and Apron IX, and on the perimeter road of Runway 29
 - c. Allowed to operate on Apron VII, Apron IX, Apron IX de-ice and on the perimeter road of Runway 11
 - d. Allowed to operate on Apron VII, Apron IX, Apron IX de-ice and on the perimeter road of Runway 29

7. When can a DA West or DAS AVOP holder drive a vehicle on Taxiway J?
 - a. Anytime, without restriction
 - b. Only when needed, to drive directly to or from an aircraft requiring towing or other operational servicing
 - c. Anytime they need to drive on Apron IX
 - d. A DA West or DAS AVOP holder is never allowed to drive on Taxiway J
8. What is the name of the common use gate on Apron VII?
 - a. Gate 321
 - b. Gate 401
 - c. Gate 402
 - d. Gate 420
9. Vehicle operators must use the Head of Stand (HOS) VSRs on Apron VII and Apron IX...
 - a. When moving further than one operational stand (e.g. from Operational Stand 902 to Operational Stand 904)
 - b. At the AVOP holder's discretion
 - c. Vehicle operators are not required to use the HOS VSRs on Apron VII and Apron IX
 - d. When moving from one operational stand to the next (adjacent) operational stand (e.g. from Operational Stand 902 to Operational Stand 903)
10. Is a DAS AVOP holder allowed to drive on Taxiway M?
 - a. A DAS AVOP holder is allowed to drive on Taxiway M at any time
 - b. A DAS AVOP holder can only drive on Taxiway M when under escort by a D AVOP holder
 - c. A DAS AVOP holder is never allowed to drive on Taxiway M
 - d. A DAS AVOP holder can drive on Taxiway M to get to the compass rose
11. What does it mean when the striped green and white barrel pylon is out on Apron VI between the STARS helicopter and the VSR?
 - a. All vehicle operators must stop and wait for the helicopter to clear the area
 - b. Only DA AVOP holders must stop and wait for the helicopter to clear the area
 - c. It is safe for all AVOP holders to proceed in the VSR past the helicopter.
 - d. All vehicle operators must stop and wait for the marshaller to wave them past before proceeding.
12. When driving in the VSR beside Apron VI, the vehicle operator:
 - a. Is never guaranteed safe from aircraft
 - b. Must remain situationally aware and must always give the right-of-way to aircraft
 - c. Must remain clear of the Apron in front of the CBSA satellite office when there is an aircraft parked in the CBSA lease area.
 - d. All answers are correct
13. What is the name of the common use gate on Apron IX?
 - a. Gate 321
 - b. Gate 401
 - c. Gate 402
 - d. Gate 420

Note: All written tests also include map questions on Taxiways, Taxiway Entrances, buildings, Gates, Runways, etc. (as applicable to the AVOP type).

See sections [12.7](#) and [12.8](#) for DA, DA South and DA West sample map test questions and sample practical test questions.

12.5 Sample Questions - D (Manoeuvring Area)

Note: All D AVOP applicants must know and successfully complete the general knowledge and DA test questions (sample questions [12.2](#) and [12.3](#)).

See [Section 13.4](#) for answers

1. When an operator is instructed by Air Traffic Control (ATC) to “Leave or Get Off the Runway” what must the operator do?
 - a. Acknowledge the instruction
 - b. Proceed off the Runway, beyond the Runway Holding Position Markings to a safe position, the correct distance off the Runway edge
 - c. Inform Air Traffic Control (ATC) when ‘OFF’ the Runway with exact location
 - d. All answers are correct
2. When is an AVOP operator allowed to operated within the Runway Holding Position markings and the Runway edge?
 - a. When the work to be performed is between the Runway holding position markings and the edge of the Runway
 - b. During grass cutting only
 - c. Anytime that it is not limited by RVOP or LVOP conditions
 - d. When Air Traffic Control (ATC) has given permission and a radio listening watch is maintained
3. You are in the manoeuvring area when your vehicle breaks down and you are unable to move it. The radio still functions. What should you do?
 - a. Leave your vehicle lights (or aircraft navigation lights) ON and walk to where you can get assistance
 - b. Flash your headlights (or aircraft taxi/landing lights) to get the attention of the Tower
 - c. Try to fix or repair your vehicle as quickly as possible
 - d. Immediately notify Air Traffic Control (ATC) of your location and the issue, ask for assistance and stay with your vehicle until help arrives
4. An AVOP holder with a disabled radio has received a Air Traffic Control (ATC) instruction by light signal (Flashing white light from ATC/Control Tower), “Return to Starting Point on The Airport.” To get there, the vehicle must cross a Runway to reach the Apron. What must the AVOP holder do?
 - a. Proceed without stopping until off the manoeuvring area
 - b. Flash headlights before crossing the Runway
 - c. Hold Short of the Runway, check for aircraft taking off or landing, and proceed across the Runway when safe to do so
 - d. Hold Short of the Runway and wait for a green flashing light from the control tower before proceeding
5. You are operating a radio-equipped vehicle in the manoeuvring area when the radio fails and you must cross a Runway to get to your destination. What should you do?
 - a. Look left and right and then cross the Runway with caution
 - b. Try to fix the radio and if this fails, flash the headlights until someone comes to your assistance
 - c. Wait until the next aircraft lands and follow it back to the Apron
 - d. Turn your vehicle to face the control tower and flash your headlights on and off; wait for Air Traffic Control (ATC) to respond using light signals from the Control Tower

6. What does a flashing green light signal from the Control Tower signify?
 - a. STOP, hold your position
 - b. Proceed
 - c. Leave/vacate the Runway or Taxiway immediately
 - d. Return to starting point on the airport
7. What does a steady red light signal from the Control Tower signify?
 - a. Proceed
 - b. STOP, hold your position
 - c. Leave/vacate the Runway immediately
 - d. Return to the starting point on the airport
8. What does a flashing red light signal from the Control Tower signify?
 - a. STOP, hold your position
 - b. Return to starting point on the airport
 - c. Leave/vacate the Runway or Taxiway immediately
 - d. Proceed
9. What does a flashing white light signal from the Control Tower signify?
 - a. Proceed
 - b. Return to starting point on the airport
 - c. STOP, hold your position
 - d. Leave/vacate the Runway immediately
10. What do flashing white Runway lights signify?
 - a. Proceed
 - b. Return to starting point on the airport
 - c. Leave/vacate the Runway immediately
 - d. STOP, hold your position
11. What must the operator/driver with a ROC-A do before making a radio call?
 - a. Check to ensure the radio is on the correct frequency
 - b. Plan what you're going to say before making the radio call
 - c. Monitor the correct frequency and listen before making the call to avoid interfering with other transmissions
 - d. All answers are correct
12. Where are the radio blind spots located at YYC?
 - a. South of Apron III
 - b. East of the Isolation Area
 - c. South of Gate 205
 - d. There are no known radio blind spots
13. What protocol must be followed for all radio communications?
 - a. Keep all communications clear and concise
 - b. Use correct radio phraseology
 - c. Use vehicle call signs or aircraft identification at all times
 - d. All answers are correct

14. Vehicles operating in the manoeuvring area must have a radio capable of receiving and transmitting on ATC ground control frequencies. What is the exception to this requirement?
 - a. If the vehicle weight does not exceed 6,500 kg
 - b. If a radio-equipped vehicle is not available
 - c. If it is under escort of a radio-equipped vehicle operated by a qualified employee responsible for requesting and acknowledging all Air Traffic Control (ATC) instructions
 - d. If no aircraft are scheduled to land or take-off from the airport for at least 30 minutes
15. An AVOP holder (ROC-A operator) must acknowledge instructions from ATC by:
 - a. Saying "Roger" or "Affirmative"
 - b. Saying the vehicle call sign or aircraft identification
 - c. Repeating your initial request, including your vehicle call sign or aircraft identification
 - d. Reading back the instructions to confirm as understood, including saying your vehicle call sign or aircraft identification
16. Low Visibility procedures (LVOP) are initiated when the reported or observed ground visibility is less than 1200 feet. Which of the following apply during Low Visibility (LVOP) procedures?
 - a. Vehicle movements are restricted to essential airport operations
 - b. Vehicle movements require Air Traffic Control (ATC) authorization
 - c. Air Traffic Control (ATC) will notify the IOC when low or reduced visibility procedures are initiated and terminated
 - d. All answers are correct
17. What lights, signs and markings confirm an operator is Holding Short of a Runway when on a Taxiway?
 - a. Runway Designator Sign (with a Locator Sign on the outboard side)
 - b. Runway Guard Lights and an Enhanced Taxiway Centerline
 - c. Runway Holding Position Markings and a surface Painted Runway Designator
 - d. All answers are correct
18. What do the yellow lines used to indicate the "Hold" position on a Taxiway at a Taxiway/Runway intersection look like?
 - a. Two solid and two broken yellow lines with the solid lines closest to the Taxiway
 - b. Two solid and two broken yellow lines with the broken lines closest to the Taxiway
 - c. One solid line and one broken yellow line with the solid line closest to the Taxiway
 - d. One broken yellow line
19. What color are the boundary lines that indicate a staging and parking area?
 - a. White and red
 - b. Red only
 - c. White only
 - d. Double white
20. What color is a Runway Designator sign?
 - a. Red numbers or letters on a white background
 - b. White numbers or letters on a red background
 - c. Black letters or numbers on a yellow background
 - d. Yellow letters or numbers on a black background

21. What color are the signs used to indicate direction to various movement areas (directional signs)?
 - a. Yellow letters or numbers on a black background
 - b. Black letters or numbers on a yellow background
 - c. White numbers or letters on a red background
 - d. Red numbers or letters on a white background
22. What is the color of an information sign?
 - a. Yellow letters or numbers on a black background
 - b. Black letters or numbers on a yellow background
 - c. White numbers or letters on a red background
 - d. Red numbers or letters on a white background
23. What is the color of a location sign?
 - a. Yellow letters or numbers on a black background
 - b. Black letters or numbers on a yellow background
 - c. White numbers or letters on a red background
 - d. Red numbers or letters on a white background
24. What color are the lights used to indicate the Apron Limit?
 - a. Double amber (Aviation Yellow)
 - b. Double white
 - c. Double red
 - d. Double green
25. What color are the lights of an inset STOP bar?
 - a. Solid red
 - b. Double alternating red
 - c. Red and yellow
 - d. Alternating red and green
26. What color are Runway edge lights?
 - a. Red (with some amber on Runway 08-26)
 - b. White (with some yellow on Runway 17L-35R)
 - c. Blue (with some white on Runway 17L-35R)
 - d. Alternating red and green
27. When holding short of the Runway on a Taxiway, which of the following statements are correct for each of the given locations?
 - a. Runway Guard Lights holding short of Runway 17R/35L on a Taxiway
 - b. Runway Guard Lights and STOP Bar Lights holding short of Runway 17L/35R on a Taxiway
 - c. Runway Guard Lights holding short of runway 11/29 on a Taxiway
 - d. All answers are correct
28. What lights would be active at the Runway Holding Positions for Runway 17L/35R during RVOP or LVOP conditions?
 - a. Runway Guard Lights (aviation yellow) and STOP Bar Lights (red)
 - b. Runway Guard Lights (aviation yellow)
 - c. STOP Bar Lights (red)
 - d. Double amber and double blue lights

29. What lights, signs and markings confirm you are Holding Short of a Runway when on another Runway?
 - a. Double White Lights
 - b. Runway Designator Sign
 - c. Runway Holding Position Markings
 - d. Both b & c are correct
30. What color are the lights used to indicate the end of a paved surface?
 - a. Double amber (Aviation Yellow)
 - b. Single amber
 - c. Single red
 - d. Double blue
31. Two-sided Runway threshold marker lights are what colors?
 - a. Blue and white
 - b. Red and white
 - c. Red and green
 - d. Green and amber
32. What color are the threshold marker lights that face toward a Runway?
 - a. White
 - b. Green
 - c. Amber
 - d. Red
33. At YYC, Air Traffic Control (ATC) is responsible for directing which of the following traffic?
 - a. Vehicles and pedestrians on Aprons
 - b. Aircraft and vehicles in manoeuvring areas
 - c. All vehicles, aircraft and pedestrians on the airport
 - d. Aircraft, but not vehicles, in manoeuvring areas
34. Which of the following procedures should vehicle operators apply to the greatest extent possible?
 - a. Minimize Runway crossings
 - b. Use perimeter roads around thresholds whenever possible
 - c. When crossing Runways, cross at the thresholds whenever possible
 - d. All answers are correct
35. When responding to a specific location in an emergency situation (e.g. Response Gate East), which of the following apply?
 - a. The AVOP holder does not have to use perimeter roads
 - b. The AVOP holder must use the words "Responding to"
 - c. The AVOP holder must use proper radio communication procedures
 - d. All answers are correct
36. Can you enter Runway 17L/35R when the Inset STOP Bar is lit?
 - a. Yes, if you have permission from ATC
 - b. Yes, if the Runway is closed
 - c. Yes, if the Runway is clear of aircraft
 - d. No
37. What pavement markings designate Aircraft Parking Area Boundary lines?
 - a. A single yellow broken line
 - b. A single yellow solid line
 - c. A single white broken line
 - d. A double solid yellow line

38. Where are the radio frequency boundaries to change between East and West Ground?
 - a. On Taxiway J between JS and JT, and between Taxiway F and Taxiway R
 - b. On Taxiway J between JS and JT, and North of Runway 11/29
 - c. On Taxiway J at Runway 17R/35L, and South of Runway 11/29
 - d. On Taxiway J east of Runway 17R/35L, and at the Threshold of Runway 11/29
39. The Runway Protected Area (RPA) includes:
 - a. The grassy area between the closest Runway edge and an imaginary line drawn between the Runway Designator Signs
 - b. The grassy area between the Localizer Antenna Arrays or the Perimeter Road, and the Runway Thresholds on an ILS equipped runway
 - c. The protected area of a surface designated for the landing and take-off of aircraft.
 - d. All answers are correct
40. Does the AVOP operator have to physically be on the paved surface of a Runway to have a Runway Incursion?
 - a. A Runway Incursion only occurs if or when the vehicle or aircraft is on the paved surface of a Runway
 - b. A Runway Incursion occurs when any part of a vehicle or aircraft enters anywhere within the Runway Protected Area (RPA) without permission from ATC
 - c. A Runway Incursion occurs when any part of a vehicle or aircraft crosses any portion of the solid yellow line of the Runway Holding Position Markings without permission from ATC
 - d. Both (b) & (c) are correct
41. What lights are used to mark the intersection of an Apron and a Taxiway?
 - a. Two pairs of double amber (Aviation Yellow) lights
 - b. Two pairs of double white lights
 - c. Two pairs of double blue lights
 - d. Double red lights
42. What lights mark the edge of the Taxiways?
 - a. Single white lights
 - b. Single amber (aviation yellow) lights
 - c. Single blue lights
 - d. Double blue lights
43. Every new D, D-AME and D-Tow type AVOP holder must successfully complete and pass the mandatory Competency Check/Night Endorsement:
 - a. Within 60 calendar days from the initial practical test
 - b. Within 90 calendar days from the initial practical test
 - c. No sooner than 30 days after the initial practical test AND within 180 calendar days from the initial practical test
 - d. A Competency Check/Night Endorsement check is not required
44. What vehicles and aircraft must be under positive control all times, when operating in the manoeuvring area?
 - a. Fuel trucks
 - b. Slow moving GES & heavy equipment
 - c. Slow moving aircraft under tow
 - d. All of the above

Note: All written tests also include map questions on Taxiways, Taxiway Entrances, buildings, Gates, Runways, etc. (as applicable to the AVOP type).

See section [12.7](#), [12.8](#) and [12.9](#) for D, D-AME & D-Tow sample map test questions and sample practical test questions.

12.6 Sample Questions - D-AME and D-Tow

See Section 13.5 for answers

Note: All D-AME AVOP applicants must also know and successfully complete the general knowledge test questions (sample questions [12.2](#)) and D Manoeuvring Area (sample questions [12.5](#)). (**Note:** Vehicle-specific questions are not included in the D-AME test.)

All D-Tow AVOP applicants must have a DA type AVOP and must also know and successfully complete the general knowledge test questions (sample questions [12.2](#)), DA test questions (sample questions [12.3](#), [12.4](#)) and D Manoeuvring Area (sample questions [12.5](#)).

1. When told to hold short of Runway 35L, an AME operator must respond with...
 - a. No response required if information is understood
 - b. "Holding Short at Runway 35L"
 - c. "Roger" or "Affirmative" followed by call sign
 - d. "Holding short Runway 35L" followed by call sign
2. What is the frequency for East Ground?
 - a. 121.9 MHz
 - b. 121.5 MHz
 - c. 125.35 MHz
 - d. 121.3 MHz
3. What is the frequency for West Ground?
 - a. 121.9 MHz
 - b. 121.5 MHz
 - c. 125.35 MHz
 - d. 121.3 MHz
4. As you approach the threshold of Runway 17R on Taxiway A and the threshold of Runway 29 on Taxiway U, what will you see that is unique to these locations?
 - a. Double amber lights (Aviation Yellow)
 - b. A double solid yellow line
 - c. A CAT I Hold Line
 - d. A single broken yellow line
5. How are CAT I Hold Lines to be used by an AME operator?
 - a. Ignore them as they are no longer relevant and need to be removed
 - b. Hold short of CAT I at all times
 - c. Only Hold short of CAT I at 17R when 35L is active
 - d. As you are under positive control, you "Hold Short" at the conventional Hold Line or "Hold Short the CAT I Hold Line" as instructed by Air Traffic Control (ATC)
6. What is meant by the radio phrase "Expedite"?
 - a. Proceed at your discretion
 - b. An instruction issued by Air Traffic Control (ATC) to proceed without delay
 - c. Stay put until further instructed
 - d. An instruction issued by Air Traffic Control (ATC) to maintain your current position

7. When instructed to Hold Short of a Taxiway on another Taxiway, what lights, signs or markings are used by the vehicle or aircraft operator to determine where they must stop and Hold Short?
 - a. Hold short of the Taxiway Intersection markings
 - b. Hold short of the Taxiway Directional sign
 - c. Hold short of the double blue lights
 - d. Both a & b are correct
8. When told by East Ground to contact West Ground '121.9' an AME operator must:
 - a. Switch to 121.9
 - b. Read back "Contact 121.9," followed by the call sign, switch, and call West Ground
 - c. Contact 121.9
 - d. Switch to 121.9 and monitor frequency for important information
9. Which statement best describes an Apron Limit Line?
 - a. An Apron Limit Line is a single broken yellow line located between two pairs of double amber (aviation yellow) lights
 - b. An Apron Limit Line can also be a MAD line consisting of two parallel yellow lines, one solid and one broken with the solid line closest to the Apron
 - c. An AVOP holder must hold a D, D-AME or D-Tow AVOP to cross an Apron Limit Line
 - d. All answers are correct
10. All taxi or tow operations on the airside area of the airport, outside or beyond a leased area, must be performed:
 - a. By a person with a valid YYC and employer-specific AVOP that allows for the performance of aircraft taxi or tow operations under positive control by ATC.
 - b. By a person who is escorted or accompanied by a person who holds a YYC and employer-specific AVOP that allows for the performance of aircraft taxi or tow operations.
 - c. By a person who holds a valid and current pilot's license or is accompanied by a person who holds a valid and current pilot's license and the taxi or tow is for aircraft maintenance purposes only.
 - d. All answers are correct.

Note: All written tests also include map questions on Taxiways, Taxiway Entrances, buildings, Gates, Runways, etc. (as applicable to the AVOP type).

See section [12.9](#), and applicable questions in [12.7](#) and [12.8](#) for D, D-AME & D-Tow sample map test questions and sample practical test questions.

12.7 Sample Practical Test - DA & D

See [Section 13.6](#) for answers and [11](#) for maps

Note: The following questions are applicable to all DA, DAW, DAS, D and all D-Tow type AVOPs.

1. Identify the follow areas, including the layout, location, gates, and major landmarks on Apron I, VII and IX, including:
 - a. VSRs
 - b. Perimeter roads
 - c. Service roads
 - d. Cargo road
 - e. All Taxiways and Taxiway Entrances around Aprons I, and around any other Apron applicable to the applicant and employer's work areas
 - f. All airfield entry and exit Gates applicable to the applicant and employer's work areas
 - g. NPS-V North and South, including escorting procedures (as applicable to the applicant and employer's duties and responsibilities)
 - h. Menzies Aviation, including entry & exit to the vehicle fuel pump area
 - i. Aircraft Parking Pads, including access, use and situational awareness
2. Where are the active ground loading gates and positions:
 - a. On Apron I?
 - b. On other Aprons applicable to the applicant's employer?
3. What color are Apron edge lights?
4. Where else are single blue lights located?
5. What are the lights, signs, and markings that you are leaving Apron I and going onto a Taxiway?
6. Why should an operator look for signs that an aircraft will not Pushback?
7. Why do snow plows have right-of-way over other ramp vehicles?
8. What is the speed limit on perimeter roads?
9. What route should DA drivers use to get from Apron I to Gate 306A?
10. Can you drive on a Taxiway with a DA AVOP? Give details.
11. What are the speed limits on Aprons, VSRs, HOS VSR, the cargo road, service road, underpass, NPS-V, and any other applicable airside area?
12. What is the speed limit through any breezeway? Give details of when and where the speed limit applies.
13. What are some of the indications that an aircraft is preparing for a Pushback?

14. Identify the following areas:
 - a. Concourse A
 - b. Concourse B
 - c. Concourse C
 - d. Concourse D
 - e. Concourse E
 - f. Domestic Terminal Building (DTB)
 - g. International Terminal Building (ITB)
 - h. Menzies fuel pumps
 - i. ITB GSE building
 - j. Ground loading gates/positions
 - k. Pedestrian walkways
15. What is the significance of a blast wall for a vehicle operator?
16. What does FOD stand for?
17. Give 5 examples of FOD.
18. Who (ordered from highest to lowest) has the right-of-way over everyone else on an Apron?
19. A vehicle is in a designated VSR (white road markings) and another vehicle is entering. Who has the right-of-way?
20. Who has the right-of-way at the intersection of two VSRs?
21. What is the name of the single yellow line an aircraft follows to enter an operational stand and park 'on gate'?
22. What is the purpose of the Aircraft Apron Taxiway (single yellow lines) on the Apron?
23. Can you drive between an aircraft and the building at a ground loading position?
24. What is the purpose of the parallel solid red and white lines at an operational stand?
25. What is the purpose of the single broken yellow line around the Aircraft Parking pads?
26. Do pedestrians always have the right-of-way on an Apron?
27. Where do pedestrians have the right-of-way on the Apron?
28. What is the meaning of the red and green STOP lights found at the entrances to the Juliet/Echo Underpass?
 - a. What does it mean and what should you do if the lights are red?
 - b. What does it mean if the lights are green?
29. What do the "No Parking" pictograms mean?
30. What is the meaning of the single yellow broken line or the combination single yellow solid line and single yellow broken line at the intersection of an Apron and a Taxiway?
31. Stop lines:
 - a. What does a STOP line look like?
 - b. Is a STOP sign always located with a STOP line?
 - c. When does an AVOP holder have to stop at a STOP line?
 - d. Where does the front of the vehicle and its wheels need to be in relation to the STOP line?

32. A-VDGS:
 - a. What is the A-VDGS?
 - b. When is it used?
 - c. What is important for vehicle and GSE operators to know regarding the 10 minutes prior to aircraft scheduled arrival?
33. What are the indications an aircraft is arriving?
34. Circle of Safety:
 - a. What is the Circle of Safety?
 - b. Where is it?
 - c. What are the procedures & speed limits when entering and operating within the Circle of Safety?
35. Can a DA (DAW, DAS) AVOP holder leave the VSR?
 - a. When can an AVOP holder leave the VSR?
 - b. Why?
 - c. How?

12.8 Sample Practical Test - DA, DA West, & DA South

See [Section 13.7](#) for answers and [11](#) for maps

Note: The following questions are area specific for DA West and DA South areas. All DA West and DA South applicants must also know all General Knowledge and DA AVOP practical test information (See also [Section 12.7](#)).

1. Where are the following Aprons located?
 - a. III
 - b. IV
 - c. V
 - d. VI
 - e. VII
 - f. VIII
 - g. IX
 - h. X
 - i. IX (de-ice pad)
 - j. X (de-ice pad)
2. What is unique about Taxiway P?
 - a. What does this mean?
 - b. Can a DA, DAS or DAW AVOP holder drive on any other taxiway?
3. What is the building located at the north end of Apron VI (near the intersection with Taxiway P)?
4. What does a vehicle operator need to do when leaving the perimeter road around the threshold of runway 35L and proceeding towards Apron III or Apron VI?
5. Where are the following Taxiways located? (as applicable to either a DAS or DAW)
 - a. A
 - b. C
 - c. J
 - d. JZ
 - e. J2
 - f. L
 - g. M
 - h. N
 - i. P
 - j. Y
 - k. YB
 - l. YD
 - m. YE
 - n. W
 - o. WB

6. Where are the following buildings located? (as applicable to either a DAS or DAW)
 - a. Avmax
 - b. Cargo Building
 - c. CBSA satellite Building
 - d. FedEx
 - e. Kenn Borek
 - f. Live Animal Facility
 - g. Million Air
 - h. Purolator
 - i. Skyservice
 - j. Signature
 - k. Sunwest
 - l. UPS
7. Can you drive between an aircraft and the building at a ground loading position on any Apron, whether or not there is a bridge?
8. Where are the compass rose locations? (as applicable to either a DAS or DAW)
9. Where are the following gates and roads located? (as applicable to either a DAS or DAW).
 - a. Gates 205, 401, 402
 - b. NPS-V North & South
 - c. Perimeter Road Threshold Rwy 11
 - d. Perimeter Road Threshold Rwy 35L
 - e. Perimeter Road Threshold Rwy 26
 - f. VSR (beside Apron VI)
 - g. HOS VSR on Apron VII and Apron IX
 - h. Service Road between Apron III and Apron V
 - i. The Perimeter Road parallel to Taxiway A and Million Air
 - j. Air Canada Cargo building
 - k. Operational Stand Numbers on Aprons VII & IX

12.9 Sample Practical Test - D, D-AME & D-Tow

See [Section 13.8](#) for answers and [11](#) for maps

Note: All D, D-AME and D-Tow AVOP applicants must also know the applicable DA and D Sample Practical Test information ([12.7](#), [12.8](#) & [12.9](#)).

(Vehicle specific questions are not included in the D-AME test.)

All D AVOP applicants must know and successfully complete the general knowledge and DA test questions (sample questions [12.2](#), [12.3](#) and [12.4](#)).

All D-AME and D-Tow AVOP applicants must know the general knowledge and applicable D-AME or D-Tow test components. (see sections [12.1](#), [12.1.1](#) & [12.1.2](#) for additional details).

1. How many Runways are there at YYC?
2. How many Runway headings are there at YYC?
3. What are the main Runways?
4. What are the Taxiways that:
 - a. Run parallel to Runway 17R/35L?
 - b. Run parallel to Runway 17L/35R?
5. Going south on Taxiway A from Threshold 17R to Threshold 35L, what are the Taxiways and/or Runways you cross or intersect (in order)?
6. Going east on Taxiway U, from the intersection of Taxiways U and A to Threshold 29, what are the Taxiways and/or Runways you cross or intersect (in order)?
7. Going north on Taxiway C from Threshold 35L to Threshold 17R, what are the Taxiways and/or Runways that lead onto Taxiway C from both the east side and the west side (in order)?
8. Going south on Taxiway D from Threshold 17L towards Threshold 35R, what are the Taxiways and/or Runways you cross or intersect (in order)?
9. Going south on Runway 17L/35R, what are the Taxiways you cross or intersect (in order)?
10. Going east on Taxiway J from Threshold of Rwy 11 to the intersection of Taxiway J with Taxiway D, what are the Taxiways and/or Runways you cross or intersect (in order)?
11. Going north on Taxiway B to the intersection of Taxiway B and Taxiway D, what are the Taxiways and/or Runways you cross or intersect (in order)?
12. Exiting Apron I on Taxiway JR enroute to the threshold of Runway 11, what are the Taxiways and/or Runways you cross or intersect (in order, can be done in both directions)?
13. Referring to question 12: Which Taxiway are you on?
14. Which Taxiways give you direct access to the thresholds of Runways 08, 11, 17R, 17L, 26, 29, 35R and 35L?

15. What are the colors of the lights for the following areas?
 - a. Apron edge lights
 - b. Taxiway edge lights
 - c. Runway edge lights
 - d. Intersection of Taxiway and Apron
 - e. End of paved surface
 - f. Intersection of a Taxiway and a CAT I Runway
 - g. Intersection of a Taxiway and a CAT III Runway
 - h. Threshold marker lights
 - i. Runway lights on a CAT III Runway
 - j. Rapid Exit Indicator
 - k. Taxiway Center Line Lights
16. As a D AVOP holder, describe how to drive from Apron II to Apron VII without crossing a Runway or the threshold of a Runway.
17. As a D AVOP holder, describe how to drive from Apron VII to Apron V without crossing a Runway or a threshold of a Runway.
18. Describe how to drive from Apron V to Apron II. (For the purpose of this question, provide two options: one, crossing a Runway and a threshold and a second, not crossing a Runway or threshold).
19. If you have a radio breakdown in the manoeuvring area, what do you have to do?
20. What do the following light signals from the Tower mean?
 - a. Flashing green light
 - b. Steady red light
 - c. Flashing white light
 - d. Flashing red light
21. If you are on a Runway and the white Runway lights start to flash on and off, what does this mean?
22. What are the correct radio frequencies and correct phraseology for radio calls to YYC East Ground and YYC West Ground for permission to cross a Runway?
23. What does it mean when Air Traffic Control (ATC) says to "Hold Short"?
24. What does it mean when Air Traffic Control (ATC) says to "Expedite"?
25. What does it mean when Air Traffic Control (ATC) says "No Delay"?
26. What is the correct radio call when you are escorting two other vehicles?
27. If another vehicle receives ATC permission to enter or cross a Runway, can you enter or cross at the same time?
28. What is Dual Ground Control frequency?
29. Why do you have to maintain a listening watch at all times when you are in the manoeuvring area?

30. Where are the following Security Perimeter Gates located? What is their importance?
 - a. Response Gate East
 - b. (Temporary) Response Gate East - Gate 306A
 - c. Response Gate West - Gate 107
 - d. Gates: 201, 205, 234, 321, 340, 401, 420

31. What is the location of each of the following?
 - a. Control Tower
 - b. East and West FEC
 - c. Authority Airport Maintenance Center
 - d. Big Top/Baggage Search Shelter
 - e. Mock-up
 - f. Isolation Area(s)
 - g. YYC Station 1
 - h. GSE building

32. What are the names and the information provided for each of these signs?
 - a. Black letters or numbers on a yellow background
 - b. Black letters or numbers on a yellow background with a black arrow
 - c. Yellow letters or numbers on a black background

33. Where are the "No Entry" signs located?

34. Explain the importance of reading back instructions received from Air Traffic Control (ATC).

35. Describe all pavement markings on a Taxiway, short of a Runway.

36. Where are the threshold perimeter roads located?

37. What does the sign with white numbers or letters on a red background mean?

38. The Runway Designator Sign may have another sign on the outboard side. What is this sign and what does it indicate?

39. When are reduced or low visibility procedures implemented?

40. What are the high speed (rapid exit) Taxiways off of Runway 17R?

41. How many holding bays do we have and where are they located?

42. What is the purpose of the single broken yellow line at the intersection of Taxiways J and C?

43. Where are the compass rose markings located?

44. Before asking permission to cross a Runway, there are at least two things you must do. What are they?

45. If a perimeter road or alternate routing is available, should you cross a Runway?

46. What is special about the intersection of Taxiways C, G, and Runway 29?

47. What are some of the things you can do to determine which Runway(s) is/are active?

48. If Runway 29 is active and you ask permission to cross Runway 29 on A northbound and Air Traffic Control (ATC) gives you permission to cross Runway 11 on A, what do you do? Why?

49. If you ask permission to cross Runway 29 on A northbound and the controller gives you permission to cross Runway 26, what do you do? Why?
50. Can you drive from east to west on the perimeter road around 35L with a large aircraft sitting at the threshold ready to take-off?
51. What are the two parts that make up the ILS?
52. What is the radio call to cross a Runway?
What is your radio call to cross a Runway when escorting two vehicles?
53. What are the 'SPOT' numbers on Apron I?
 - a. What are they used for?
 - b. How do they help vehicle operators with situational awareness for aircraft traffic?
 - c. Where is SPOT 3, 4, 5, etc? (Applicants must know all SPOT locations)
54. What is the Maximum Wing Span limitation on Apron I?
Where is this located?
How does it impact taxi or towing operations?
55. What is a CAT I Hold Line?
Where are the CAT I Hold Lines located at YYC?

Section 13
Answer Key

13 AVOP Self-Tests

13.1 Answer Key: Sample Questions - All AVOP Types

1. Who is responsible to know the Airside Traffic Directives and all AVOP rules and procedures, including any changes and updates?
d. The AVOP holder
Ref: [2.1.1](#)
2. Any FOD, obstructions or potentially hazardous conditions that cannot be easily removed must be reported to your supervisor. Who else must be informed?
c. The Integrated Operations Centre (IOC)
Ref: [2.3.1](#)
3. You must have your valid Driver's License with you when applying for, or renewing, replacing your AVOP and/or when driving airside?
a. This statement is true.
Ref: [2.1.1](#)
4. You must report the suspension of your (Provincial) Driver's License immediately to your supervisor and to the Airport Authority AVOP Coordinator.
a. This statement is true.
Ref: [2.1.1](#)
5. How is a RAIC carried?
a. Visible on your outer clothing
Ref: [2.2.1](#)
6. Who is responsible for challenging and/or reporting a person in the restricted area of an airport who is not wearing a RAIC?
c. Everyone who has a RAIC
Ref: [2.2.1](#)
7. Who is responsible for ensuring all gates to the airside of the airport are closed and locked?
a. Every person who uses or is authorized to use an airside gate in the performance of their duties
Ref: [2.2.1](#)
8. In order to obtain, renew or maintain an Airside Vehicle Operator's Permit (AVOP), which of the following apply?
d. Must have a valid (provincial) Driver's License, a valid RAIC and a completed and signed AVOP application form to show a need and a right to drive airside
Ref: [2.1.1](#) and [3.2](#)
9. Who is responsible for ensuring that the AVOP applicant is properly trained?
b. The employer
Ref: [2.1.2](#)

10. An AVOP automatically expires or is cancelled:
d. All answers are correct
Ref: [3.3.5](#), [3.3.6](#) and [3.5](#)
11. All AVOP holders must successfully pass a check ride upon return to work (with the same employer) after an absence of:
a. More than 4 months, but less than 12 months
Ref: [3.3.7](#) including Note Box
12. If an AVOP holder has a DAS for 'Employer Y-Air' and a D for 'Employer Z-Air', can they use the D AVOP for both employers?
a. No. AVOPs and AVOP-types are specific for each individual employer.
Ref: [3.2](#) and [3.9](#)
13. What are airport personnel and vehicle operators required to do when there is an aircraft carrying 'Distinguished Visitors' at YYC?
b. Remain clear of the aircraft and the area unless required and authorized for a specific duty
Ref: [6.13.2](#)
14. What are airport personnel and vehicle operators required to do if an aircraft crashes at the airport?
c. Remain clear of the area unless required and authorized to perform a specific duty
Ref: [6.13.2](#)
15. When handling aircraft fuel, a fuel tanker truck must be a minimum of how many meters from any airport building?
c. 15 meters
Ref: [6.15](#)
16. Which of the following means of transportation are allowed airside at YYC?
d. Bicycles and Segways, but only by CPS and EMS and only in certain areas and only for use during an Emergency Response.
Ref: [3.14](#)
17. If a person is legally prohibited from operating a vehicle as imposed by a court or a judge, that person is:
d. Not allowed to drive airside under any circumstances
Ref: [3.13.1](#)
18. Where is smoking allowed when airside at YYC?
d. Smoking is only allowed in designated smoking shelters or designated smoking areas on an Apron
Ref: [3.11.2](#)
19. No person may drive airside under the influence of alcohol, drugs, or similar substances (e.g., over the counter and prescription drugs) that may cause drowsiness or reduce decision making skills. Which of the following statements apply?
c. The statement is correct as written, with no exceptions or exclusions
Ref: [3.11](#)

20. While driving airside, when are you allowed to use a cell phone, audio, video, gaming or similar electronic device?
d. Cell phone use is allowed, but only when the vehicle is parked in a safe location. Audio, video, gaming or similar devices are not allowed under any circumstances.
Ref: [4.3](#)
21. All airside workers and vehicle operators are responsible to stop, remove and dispose of foreign materials (FOD):
d. All answers are correct
Ref: [2.3](#)
22. If you encounter a condition on an aircraft movement surface that is likely to cause damage to an aircraft, who should you report it to?
d. Your supervisor and the Integrated Operations Center (IOC)
Ref: [2.3](#)
23. An AVOP will be automatically cancelled or revoked when:
d. All answers are correct
Ref: [3.5](#)
24. Which of the following organizations enforces AVOP and vehicle regulations at YYC?
d. All answers are correct
Ref: [4.1](#)
25. Who must go with the employee when they meet with the Authority AVOP Coordinator (or designated person) for an AVOP violation ticket?
a. Employer representative
Ref: [4.7](#)
26. Which of the following traffic has first priority (right-of-way) over all other traffic?
c. Aircraft under power or under tow
Ref: [6.8](#)
27. The area of the airport used for take-offs, landings, and taxiing aircraft, including the Aprons is called the:
c. Movement Area
Ref: [1.3](#) (Movement Area) and [2.2.1](#)
28. The area of the airport used for take-offs, landings, and taxiing aircraft, NOT including the Aprons is called the:
c. Manoeuvring Area
Ref: [1.3](#) (Manoeuvring Area) and [2.2.1](#)
29. The area of the airport where passengers and cargo are loaded and unloaded, and where aircraft are parked, fueled and serviced is called the:
d. Apron
Ref: [1.3](#) (Apron) and [2.2.1](#)

30. The Critical Area (CA) is:
c. The area of the aerodrome (airport) that includes Apron I and the part of the main terminal building that is post-security and may include any adjacent area identified by the Aerodrome Operator.
Ref: [1.3](#) (Critical Area) and [10.2](#)
31. To transfer an AVOP to a new employer, the AVOP holder must...
d. Complete and submit an AVOP application form and complete any applicable tests for the new employer AVOP within 30 days from the last day of employment.
Ref: [3.8](#)
32. To add an employer to an AVOP, the AVOP holder must...
d. Complete and submit a signed AVOP application form and complete any applicable tests required for the AVOP type before driving for the additional employer.
Ref: [3.9](#)
33. What pavement markings designate Aircraft Parking Area Boundary lines?
a. A single yellow broken line
Ref: [5.2.4](#)
34. What are lease areas?
d. All answers are correct
Ref: [3.12.1](#) and [5.3.5](#)

13.2 Answer Key: Sample Questions - DA

1. What is the speed limit on ALL Aprons, all VSRs, the cargo road, all service roads and underpasses?
b. 30 km/h
Ref: [6.6](#)
2. What is the speed limit throughout all breezeways?
b. 10 km/h
Ref: [6.6](#)
3. What vehicles are allowed to operate outside the VSRs?
d. All answers are correct (Emergency vehicles when responding to an emergency, Airport maintenance vehicles in the performance of their duties, and all vehicles if needed to avoid aircraft or authority maintenance vehicles)
Ref: [6.7](#) and [6.8.1](#)
4. Where two or more VSRs intersect, which vehicle has the right-of-way?
d. The vehicle on the right
Ref: [6.8.7](#)
5. Vehicles MUST NOT be parked or left unattended:
d. All answers are correct (on a VSR, In a bridge manoeuvring area, unless the aircraft is parked, the bridge is attached and the vehicle is there to service that aircraft., or in any area designated by a sign such as "No Parking")
Ref: [6.8.7](#) and [6.9](#)
6. Vehicles must be parked...
c. In designated parking areas or company-specific lease areas only
Ref: [6.9](#)
7. When vehicles are parked in an approved parking area, the vehicle must be:
b. Parked facing out (facing away from the building) whenever possible and with the beacon off
Ref: [6.9](#)
8. What is the speed limit on a perimeter road?
c. Maximum 50 km/h unless otherwise posted
Ref: [6.6](#)
9. Vehicles and GSE MUST NOT be parked:
d. All answers are correct (in areas identified by paint markings indicating the travel of the bridge, blocking access to fuel shut-off valves or wheeled fire extinguishers, or blocking egress through emergency exits from the building)
Ref: [6.9.1](#)
10. When must AVOP holders (vehicle operators) use the VSRs?
a. When moving further than one gate or operational stand (e.g. from Gate 31 to Gate 35 or from Operational Stand 901 to Operational Stand 903)
Ref: [6.7.2](#)

11. Which of the following rules apply when operating a vehicle on an Apron?
a. Use the left lane to pass slower vehicles but only if it can be done safely and without exceeding the speed limit
Ref: [6.7.2](#)
12. What color are the paint markings pertaining to aircraft movement?
b. Yellow
Ref: [5.1](#)
13. What color are the boundary lines that indicate a designated staging and parking area?
a. White and red
Ref: [5.3.1](#)
14. What color are the paint markings that outline vehicle service roads and passenger walkways?
c. White
Ref: [5.1](#), [5.3.2](#) and [5.3.4](#)
15. Which of the following descriptions most accurately describes how VSRs are indicated on Aprons?
a. Two solid white lines, with a single broken white center line
Ref: [5.3.2](#)
16. What color are Apron edge lights?
a. Single blue
Ref: [5.6.1 \(a\)](#)
17. What lights are used to mark the intersection of an Apron and a Taxiway?
a. Double amber (Aviation Yellow)
Ref: [5.6.1 \(b\)](#)
18. The Head of Stand (HOS) VSR around the ITB:
d. Is restricted to 2.9 meters in height and caution must always be exercised when operating vehicles through them
Ref: [5.5.1](#) and [6.7.2](#)
19. Which vehicles are allowed to operate in the ITB baggage halls:
d. Only electrically powered baggage tugs with a maximum of four baggage carts
Ref: [3.14.1](#) and [6.7.2](#)
20. Who is responsible to make sure the vehicle they are operating is functioning properly, including the required safety equipment (lights, beacons and markings)?
b. The vehicle operator
Ref: [6.1](#)
21. Who is responsible to report any vehicle or ground safety equipment (GSE) defects and malfunctions?
d. The vehicle operator
Ref: [6.1](#)

22. When may you operate a vehicle in the airside area of the airport?
d. All answers are correct
Ref: [3.1](#)
23. Unless under escort, all self-powered (gas or battery powered) vehicles with a cab, being operated airside must be equipped with:
a. Fully functioning headlights, parking lights, taillights and yellow beacon
Ref: [3.13.4](#)
24. The vehicle beacon must be on and operating:
a. Whenever the vehicle is in use and actively being driven anywhere airside
Ref: [3.13.4](#)
25. All towed (not self-propelled) equipment used on an Apron are required to be marked with reflective material. Which of the following most accurately describes how towed equipment must be marked?
b. Reflectors of sufficient size, evenly spaced on the sides and the back, or on all corners.
Ref: [3.13.5](#)
26. What is required to take a vehicle that is operated airside and drive it ground side (outside of the airport fence)?
d. A valid provincial license plate, registration and insurance as required by the province of Alberta
Ref: [3.13.1](#) and [3.13.4](#)
27. Who is responsible for the loads carried or towed, ensuring that such loads are securely fastened or covered, do not spill, and pose no danger to aircraft, vehicles or pedestrians?
c. The vehicle operator
Ref: [6.1](#)
28. What must vehicle operators do when exiting baggage halls?
d. Come to a complete STOP and look left and right to ensure the way is clear before proceeding
Ref: [6.8.7](#)
29. The maximum speed inside the baggage halls is:
b. Walking speed (5 km/h or less)
Ref: [6.6](#)
30. When not in use, vehicles and ground service equipment (GSE) must be parked:
c. In approved lease areas or approved parking areas only
Ref: [6.9](#)
31. Fuel tanker trucks:
b. May not go through any breezeway nor drive on the Head of Stand VSR
Ref: [6.15](#)
32. What is the maximum number of vehicles that may be escorted by one escort vehicle?
b. 3
Ref: [3.10](#)

33. All vehicle accidents and collisions must be reported immediately to:
a. Your supervisor and the Integrated Operations Centre (IOC)
Ref: [6.14](#)
34. Vehicle Operators must remain a safe distance from aircraft with engines running due to the danger of jet blast, prop wash or engine ingestion. When may vehicle operators pass in front of, or behind an aircraft with engines running?
d. All answers are correct
Ref: [6.8.1](#) and [6.11.2](#)
35. Company markings or logos must be displayed on all vehicles. What is the exception?
b. If vehicle is under escort
Ref: [3.13.2](#)
36. When airside, all vehicle operators must always comply with instructions from:
d. All answers are correct
Ref: [4.1](#)
37. When can you drive between an aircraft and the marshaller?
d. You are never allowed to drive between the aircraft and the marshaller
Ref: [6.11.1](#)
38. When airside, vehicles and equipment must be parked, left or placed:
a. More than 1 meter from a security fence
Ref: [6.9.1](#)
39. What is the maximum number of pallet cargo dollies that can be towed in a cargo train?
a. 4 pallet cargo dollies
Ref: [6.7.2](#)
40. All vehicle operators and passengers must present to a Non-Passenger Screening-Vehicle checkpoint (NPS-V):
c. After entering the airfield and before entering the Critical Area (CA)
Ref: [2.2.2](#) and [10.2.1](#)
41. Some vehicles may be exempt from screening at an NPS-V checkpoint. Which vehicles (operators and passengers) are NEVER exempt and must ALWAYS present for screening at NPS-V checkpoints?
d. Vehicle operators entering the Critical Area to perform their regular duties
Ref: [10.5.1](#)
42. Vehicles and equipment are guaranteed safe clearance from aircraft when...
a. Parked in a designated parking area (inside the solid white & red parallel lines)
Ref: [5.3.1](#)
43. Vehicle Operators must remain a safe distance from aircraft with engines running due to the danger of jet blast, prop wash or engine ingestion. When may vehicle operators pass behind an aircraft during an engine air-start?
b. Only if the marshaller waves permission to pass
Ref: [6.8.1](#)
44. What is the speed limit on ALL VSRs, including ALL Head of Stand (HOS) VSRs?
c. 30 km/h
Ref: [6.6](#)

45. What vehicles and GSE operators are allowed drive in or through both the operational stand and the aircraft circle of safety?
b. Only vehicles or operators actively involved in servicing the parked aircraft are allowed in the operational stand and the aircraft circle of safety
Ref: [6.11.1](#) and [6.11.3](#)
46. When can you drive between an aircraft and a terminal building at a Ground Loading area?
a. You are never allowed to drive between the aircraft and a terminal building at a ground loading area
Ref: [6.11.1](#)
47. What should a vehicle driver do when a snowplow or bobcat is approaching and actively plowing snow in the VSR?
b. Vehicle drivers must give the right-of-way to the snowplow or bobcat so it can proceed without interference and must stop or leave the VSR as needed.
Ref: [6.8](#)
48. Can a vehicle driver leave the VSR to get out of the way for any priority traffic (e.g. aircraft, emergency vehicles with red lights flashing, snow removal equipment, etc.)?
a. Yes. You can leave the VSR to avoid priority traffic.
Ref: [6.8.1](#)
49. Signs that an aircraft will be arriving at a gate or operational stand include:
d. All answers are correct
Ref: [6.12.1](#)
50. Signs that an aircraft is ready to pushback include:
d. All answers are correct
Ref: [6.12.2](#)
51. Which of the following statements are correct for seat belt requirements when driving airside?
d. All answers are correct
Ref: [6.7.1](#)
52. Which of the following statements are correct regarding Apron edge lines?
d. All answers are correct
Ref: [5.2.7](#)
53. When should vehicle operators use their turn signal (for vehicles equipped with turn signals)?
d. All answers are correct
Ref: [3.13.4](#) and [6.8.7](#)
54. Which vehicles are allowed to operate inside buildings, including in all baggage halls:
d. Only non-hydrocarbon powered vehicles are allowed inside buildings, including in all baggage halls
Ref: [3.14.1](#)
55. What are vehicle operators and airside workers required to do anytime there are emergency vehicles at or near an operational stand with red lights flashing?
d. All of the above
Ref: [6.13.1](#)

13.3 Answer Key: Sample Questions - DA West & DA South

1. What best describes lease lines?
b. Double white lines
Ref: [5.3.5](#)
2. A DA South AVOP allows the vehicle operator to drive on:
a. Taxiway P
Ref: [6.4](#)
3. A DA South AVOP allows the vehicle operator to drive on:
a. The perimeter road around the threshold of Runway 35L
Ref: [6.4](#)
4. A DA West AVOP holder is allowed to drive on Taxiway W:
b. Only when needed to drive directly to or from an aircraft requiring towing or other operational servicing
Ref: [6.5](#)
5. A vehicle operator must use the VSRs on Aprons VII and IX:
d. Whenever VSRs are available and when going further than the next (adjacent) operational stand
Ref: [6.5](#)
6. DA West AVOP holders are:
c. Allowed to operate on Apron VII, Apron IX, Apron IX de-ice and on the perimeter road of Runway 11
Ref: [6.5](#)
7. When can a DA West or DAS AVOP holder drive a vehicle on Taxiway J?
d. A DA West or DAS AVOP holder is never allowed to drive on Taxiway J
Ref: [6.2](#)
8. What is the name of the common use gate on Apron VII?
b. Gate 401
Ref: See Map – [11.10](#) West Side Aprons
9. Vehicle operators must use the Head of Stand (HOS) VSRs on Apron VII and Apron IX...
a. When moving further than one operational stand (e.g. from Operational Stand 902 to Operational Stand 904)
Ref: [6.5](#) and [6.7.2](#)
10. Is a DAS AVOP holder allowed to drive on Taxiway M?
c. A DAS AVOP holder is never allowed to drive on Taxiway M
Ref: [6.2](#)
11. What does it mean when the striped green and white barrel pylon is out on Apron VI between the STARS helicopter and the VSR?
c. It is safe for all AVOP holders to proceed in the VSR past the helicopter.
Ref: [6.4](#) Note Box

12. When driving in the VSR beside Apron VI, the vehicle operator:
d. All answers are correct
Ref. [6.4](#), [6.8](#) and [6.8.1](#)
13. What is the name of the common use gate on Apron IX?
c. Gate 402
Ref: See Map – [11.10](#) West Side Aprons

13.4 Answer Key: Sample Questions - D (Manoeuvring Area)

1. When an operator is instructed by Air Traffic Control (ATC) to "Leave or Get Off the Runway" what must the operator do?
d. All answers are correct (acknowledge the instruction, proceed across the Runway holding position markings or to a safe position the correct distance off the Runway edge, inform Air Traffic Control (ATC) when 'OFF' the Runway and give their exact location)
Ref: [8.5](#)
2. When is an AVOP operator allowed to operated within the Runway Holding Position markings and the Runway edge?
d. When Air Traffic Control (ATC) has given permission and a radio listening watch is maintained
Ref: [8.5.3](#)
3. You are in the manoeuvring area when your vehicle breaks down and you are unable to move it. The radio still functions. What should you do?
d. Immediately notify Air Traffic Control (ATC) of your location and the issue, ask for assistance and stay with your vehicle until help arrives.
Ref: [8.6](#)
4. An AVOP holder with a disabled radio has received a Air Traffic Control (ATC) instruction by light signal to "Return to Starting Point on The Airport." To get there, the vehicle must cross a Runway to reach the Apron. What must the AVOP holder do?
d. Hold Short of the Runway and wait for a green flashing light from the control tower before proceeding
Ref: [8.7](#) and [8.8](#)
5. You are operating a radio-equipped vehicle in the manoeuvring area when the radio fails and you must cross a Runway to get to your destination. What should you do?
d. Turn your vehicle to face the control tower and flash your headlights on and off; wait for Air Traffic Control (ATC) to respond using light signals
Ref: [8.8](#)
6. What does a flashing green light signal from the Control Tower signify?
b. Proceed
Ref: [8.8](#)
7. What does a steady red light signal from the Control Tower signify?
b. STOP, hold your position
Ref: [8.8](#)
8. What does a flashing red light signal from the Control Tower signify?
c. Leave/vacate the Runway or Taxiway immediately
Ref: [8.8](#)
9. What does a flashing white light signal from the Control Tower signify?
b. Return to starting point on the airport
Ref: [8.8](#)

10. What do flashing white Runway lights signify?
c. Leave/vacate the Runway immediately
Ref: [8.8](#)
11. What must the operator/driver with a ROC-A do before making a radio call?
d. All answers are correct. (Check to ensure the radio is on the correct frequency, Plan what you're going to say before making the radio call, Monitor the correct frequency and listen before making the call to avoid interfering with other transmissions)
Ref: [8.1](#) and [8.10.4](#)
12. Where are the radio blind spots located at YYC?
d. There are no known radio blind spots
Ref: [8.7](#)
13. What protocol must be followed for all radio communications?
d. All answers are correct (Keep all communications clear and concise, use correct radio phraseology, and use vehicle call signs or aircraft identification at all times)
Ref: [8.1](#) and [8.10.4](#)
14. Vehicles operating in the manoeuvring area must have a radio capable of receiving and transmitting on ATC ground control frequencies. What is the exception to this requirement?
c. If it is under escort of a radio-equipped vehicle operated by a qualified employee responsible for requesting and acknowledging all Air Traffic Control (ATC) instructions
Ref: [8.4.1](#)
15. An AVOP holder (ROC-A operator) must acknowledge instructions from ATC by:
d. Reading back the instructions to confirm as understood, including saying your vehicle call sign or aircraft identification
Ref: [8.1](#) and [8.10.4](#)
16. Low Visibility procedures (LVOP) are initiated when the reported or observed ground visibility is less than 1200 feet. Which of the following apply during Low Visibility (LVOP) procedures?
d. All answers are correct (vehicle movements are restricted to essential airport operations, vehicle movements require Air Traffic Control (ATC) authorization and Air Traffic Control (ATC) will notify the IOC when low or reduced visibility procedures are initiated and terminated)
Ref: [1.3](#) and [8.9.2](#)
17. What lights, signs and markings confirm an operator is Holding Short of a Runway when on a Taxiway?
d. All answers are correct:
- Runway Designator Sign with a Locater Sign on the outboard side;
 - Runway Guard Lights and an Enhanced Taxiway Centerline,
 - Runway Holding Position Markings and a Surface Painted Runway Designator
- Ref: [5.9.3](#), [5.11](#), [5.12.1](#) and [5.13.1](#)

18. What do the yellow lines used to indicate the “Hold” position on a Taxiway at a Taxiway/Runway intersection look like?
a. Two solid and two broken yellow lines with the solid lines closest to the Taxiway
Ref: [5.9.3](#)
19. What color are the boundary lines that indicate a designated staging and parking area?
a. White and red
Ref: [5.3.1](#)
20. What color is a Runway designator sign?
b. White numbers or letters on a red background
Ref: [5.12.1](#)
21. What color are the signs used to indicate direction to various movement areas (direction signs)?
b. Black letters or numbers on a yellow background
Ref: [5.5.3](#) (a)
22. What is the color of an information sign?
b. Black letters or numbers on a yellow background
Ref: [5.5.3](#) (c)
23. What is the color of a location sign?
a. Yellow letters or numbers on a black background
Ref: [5.5.3](#) (b)
24. What color are the lights used to indicate the Apron Limit?
a. Double amber (Aviation Yellow)
Ref: [5.6.1](#) (b)
25. What color are the lights of an inset STOP bar?
a. Solid red
Ref: [5.13.1](#) (b)
26. What color are Runway edge lights?
b. White (with some yellow on Runway 17L-35R)
Ref: [5.13.2](#) (a)
27. When holding short of the Runway on a Taxiway, which of the following statements are correct for each of the given locations?
d. All answers are correct:
- Runway Guard Lights holding short of Runway 17R/35L on a Taxiway
 - Runway Guard Lights and STOP Bar Lights holding short of Runway 17L/35R on a Taxiway
 - Runway Guard Lights holding short of runway 11/29 on a Taxiway
- Ref: [5.13.1](#)

28. What lights would be active at the Runway Holding Positions for Runway 17L/35R during RVOP or LVOP conditions?
c. STOP Bar Lights (red)
Ref: [5.13.1](#) including Note Box
29. What lights, signs and markings confirm you are Holding Short of a Runway when on another Runway?
d. Both b & c are correct:
- **Runway Designator Sign**
 - **Runway Holding Position Markings**
- Ref: [5.9.3](#) and [5.12.1](#)
30. What color are the lights used to indicate the end of a paved surface?
c. Single red
Ref: [5.13.4](#)
31. Two-sided threshold marker lights are what colors?
c. Red and green
Ref: [5.13.2](#) (b)
32. What color are the threshold marker lights that face toward a Runway?
d. Red
Ref: [5.13.2](#) (b)
33. At YYC, Air Traffic Control (ATC) is responsible for directing which of the following traffic?
b. Aircraft and vehicles in manoeuvring areas
Ref: [8.4](#)
34. Which of the following procedures should vehicle operators apply to the greatest extent possible?
d. All answers are correct (Minimize Runway crossings, Use perimeter roads around thresholds whenever possible, When crossing Runways, cross at the thresholds whenever possible)
Ref: [7.2](#)
35. When responding to a specific location in an emergency situation (e.g. Response Gate East), which of the following apply?
d. All answers are correct (The AVOP holder does not have to use perimeter roads, the AVOP holder must use the words "Responding to", the AVOP holder must use proper radio communication procedures)
Ref: [7.2](#), [8.4](#) and [8.5.1](#)
36. Can you enter Runway 17L/35R when the Inset STOP Bar is lit?
d. No
Ref: [5.13.1](#) (b) and [8.5.1](#)
37. What pavement markings designate Aircraft Parking Area Boundary lines?
a. A single yellow broken line
Ref: [5.2.4](#)

38. Where are the radio frequency boundaries to change between East and West Ground?
a. On Taxiway J between JS and JT, and between Taxiway F and Taxiway R
Ref: [8.3](#) and [8.11](#) (map)
39. The Runway Protected Area (RPA) includes:
d. All answers are correct
Ref: [5.10.4](#) and [8.5.2](#)
40. Does the AVOP operator have to physically be on the paved surface of a Runway to have a Runway Incursion?
b. & c. A Runway Incursion occurs when:
- **Any part of a vehicle or aircraft enters anywhere within the Runway Protected Area (RPA) without permission from ATC, or**
 - **Any part of a vehicle or aircraft crosses any portion of the solid yellow line of the Runway Holding Position Markings without permission from ATC.**
- Ref: [8.5.1](#) Note Box
41. What lights are used to mark the intersection of an Apron and a Taxiway?
a. Two pairs of double amber (Aviation Yellow) lights
Ref: [5.6.1](#) (b)
42. What lights mark the edge of the Taxiways?
c. Single blue lights
Ref: [5.6.1](#) (a)
43. Every new D, D-AME and D-Tow type AVOP holder must successfully complete and pass the mandatory Competency Check/Night Endorsement:
c. No sooner than 30 days after the initial practical test AND within 180 calendar days from the initial practical test.
Ref: [3.3.5](#)
44. What vehicles and aircraft must be under positive control all times, when operating in the manoeuvring area?
d. all of the above (fuel trucks, slow moving GES & heavy equipment, and slow moving aircraft under tow)
Ref [8.10.2](#)

13.5 Answer Key: Sample Questions - D-AME and D-Tow

Note: All D-AME AVOP applicants must also know and successfully complete the general knowledge test questions (sample questions [12.2](#)) and D Manoeuvring Area (sample questions [12.5](#)). (**Note:** Vehicle specific questions are not included in the D-AME test.)

All D-Tow AVOP applicants must have a DA type AVOP and must also know and successfully complete the general knowledge test questions (sample questions [12.2](#)), DA test questions (sample questions [12.3](#), [12.4](#)) and D Manoeuvring Area (sample questions [12.5](#)).

1. When told to hold short of Runway 35L, an AME operator must respond with...
d. "Holding short Runway 35L" followed by call sign
Ref: [8.5](#) and [8.10.4](#)
2. What is the frequency for East Ground?
c. 125.35 MHz
Ref: [8.3](#) and [8.3.1](#)
3. What is the frequency for West Ground?
a. 121.9 MHz
Ref: [8.3](#) and [8.3.1](#)
4. As you approach the threshold of Runway 17R on Taxiway A and the threshold of Runway 29 on Taxiway U, what will you see that is unique to these locations?
c. A CAT I Hold Line
Ref: [5.9.4](#)
5. How are CAT I Hold Lines to be used by an AME operator?
d. As you are under positive control, you "Hold Short" at the conventional Hold Line or "Hold Short the CAT I Hold Line" as instructed by Air Traffic Control (ATC)
Ref: [5.9.4](#)
6. What is meant by the radio phrase "Expedite"?
b. An instruction issued by Air Traffic Control (ATC) to proceed without delay
Ref: [1.3](#)
7. When instructed to Hold Short of a Taxiway on another Taxiway, what lights, signs or markings are used by the vehicle or aircraft operator to determine where they must stop and Hold Short?
d. Both a & b are correct (Hold short of the Taxiway Intersection markings, and Hold short of the Taxiway Directional sign)
Ref: [5.5.3](#) a, b including Note Box and [5.9.5](#) including Note Box
8. When told by East Ground to contact West Ground '121.9' an AME operator must:
b. Read back "Contact 121.9," followed by the call sign, switch, and call West Ground
Ref: [8.1](#)

9. Which statement best describes an Apron Limit Line?

d. All answers are correct:

- **An Apron Limit Line is a single broken yellow line located between two pairs of double amber lights**
- **An Apron Limit Line can also be a MAD line consisting of two parallel yellow lines, one solid and one broken with the solid line closest to the Apron, and**
- **An AVOP holder must hold a D, D-AME or D-Tow AVOP to cross an Apron Limit Line**

Ref: [5.2.3](#)

10. All taxi or tow operations on the airside area of the airport, outside or beyond a leased area, must be performed:

d. All answers are correct. All taxi or tow operations outside or beyond a leased area must be performed by:

- **A person with a valid YYC and employer-specific AVOP that allows for the performance of aircraft taxi or tow operations under positive control by ATC**
- **A person who is escorted or accompanied by a person who holds a YYC and employer-specific AVOP that allows for the performance of aircraft taxi or tow operations, or**
- **A person who holds a valid and current pilot's license or is accompanied by a person who holds a valid and current pilot's license and the taxi or tow is for aircraft maintenance purposes only.**

Ref: [3.1](#)

13.6 Answer Key: Sample Practical Test - DA & D

1. Identify the follow areas, including the layout, location, gates, and major landmarks on Apron I, VII and IX, including:
 - a. **VSRs**
 - b. **Perimeter roads**
 - c. **Service roads**
 - d. **Cargo road**
 - e. **All Taxiways and Taxiway Entrances around Aprons I, and around any other Apron applicable to the applicant and employer's work areas**
 - f. **All airfield entry and exit Gates applicable to the applicant and employer's work areas**
 - g. **NPS-V North and South, including escorting procedures (as applicable to the applicant and employer's duties and responsibilities)**
 - h. **Menzies Aviation, including entry & exit to the vehicle fuel pump area**
 - i. **Aircraft Parking Pads, including access, use and situational awareness**

Ref: Site Maps for Aprons I, VII & IX ([11.1](#) and [11.6](#))
2. What are the ground loading gates and positions on Apron I?
 - a. **On Apron 1: Gates 1-6, Gate 32, 36, 37, 38, 39, 40 and Gate 96 & 97**
 - b. **On other Aprons applicable to the applicant's employer: Anywhere passengers walk on the ground (apron pavement) between the aircraft and the passenger waiting area (building) is considered a ground loading position.**

Ref: Site map for Apron I ([11.6](#))
3. What color are Apron edge lights?

Single blue
Ref: [5.6.1](#) (a)
4. Where else are single blue lights located?

Edges of Taxiways
Ref: [5.6.1](#) (a)
5. What are the lights, signs and markings that indicate you are leaving Apron I and going onto a Taxiway?
 - a. **Two sets of double amber (aviation yellow) lights**
 - b. **Apron Limit Line (Single yellow broken line) or MAD line (Solid yellow line and broken yellow line)**
 - c. **Taxiway Location and Directional Signs**
 - d. **Information Sign with Ground Control frequency**

Ref: [5.6.1](#) (b) including Note Box, [5.2.3](#), [5.2.5](#), and [5.5.3](#) (a,b,c)
6. Why should an operator look for signs that an aircraft will not Pushback?

To know if it is safe and if they have enough time to safely drive behind the aircraft without risk of it pushing back. Aircraft always have the right-of-way, so all drivers must make sure that there is enough time to safely drive behind the aircraft before the push-back is started

Ref: [6.12.2](#)
7. Why do snow plows have right-of-way over other ramp vehicles?

Snow plows are difficult to manoeuvre and drivers have limited visibility due to blowing snow. Vehicle operators and pedestrians must give ample room to avoid risk of injury or accident.

Ref: [6.8](#)

8. What is the speed limit on perimeter roads?
50 km/h maximum unless otherwise posted
Ref: [6.6](#)
9. What route should DA drivers use to get from Apron I to Gate 306A?
DA driver must use the Juliet/Echo Underpass
Ref: [6.3](#) and [11.6](#) (Map - Apron I)
10. Can you drive on a Taxiway with a DA AVOP? Give details.
DA AVOP holders cannot drive on controlled taxiways. DAS (and DA) AVOP holders may drive on uncontrolled Taxiway P or if approved by the AVOP Coordinator for an exemption on Taxiway N.
Ref [6.2](#) and [6.4](#)
11. What are the speed limits on Aprons, VSRs, HOS VSR, the cargo road, service road, underpass, NPS-V, and any other applicable airside area?
30 km/h maximum
Ref: [6.6](#)
12. What is the speed limit through any breezeway? Give details of when and where the speed limit applies.
10 km/h maximum. The speed limit applies for the entire distance of the breezeway. The vehicle operator must slow down before entering the breezeway and must stay at 10 km/h until clear of the breezeway.
Ref: [6.6](#)
13. What are some of the indications that an aircraft is preparing for a Pushback?
**Anti-collision lights on
Marshalls
All service vehicles are gone
Pylons (cones) removed
Wheels not chocked
Bridge retracted
Doors, hatches and cargo holds closed
Hooked up to tow tractor
Engines running**
Ref: [6.12.2](#)
14. Identify the following areas:
 - a. **Concourse A**
 - b. **Concourse B**
 - c. **Concourse C**
 - d. **Concourse D**
 - e. **Concourse E**
 - f. **Domestic Terminal Building (DTB)**
 - g. **International Terminal Building (ITB)**
 - h. **Menzies fuel pumps**
 - i. **ITB GSE building**
 - j. **Ground loading gates/positions**
 - k. **Pedestrian walkways**Ref: See Map [11.6](#) (Map - Apron I)

15. What is the significance of a blast wall for a vehicle operator?
Do not go between a departing aircraft and a blast wall due to jet blast. Do not park or store equipment in front of a blast wall
Ref: [6.9](#) and [6.10](#)
16. What does FOD stand for?
Foreign object debris or foreign object damage: Any foreign material in the manoeuvring area, such as plastic bags, drink containers, coffee cups, paper, plastic, baggage straps and tags, chunks of ice, gravel, rocks, crack sealant or other materials that may cause damage to an aircraft, an aircraft engine or vehicle if not cleared away
Ref: [2.3](#) and [1.3](#)
17. Give 5 examples of FOD.
Gravel, baggage straps and tags, paper, plastic, Styrofoam cups, crack sealant, chunks of ice, etc
Ref: [1.3](#)
18. Who (ordered from highest to lowest) has the right-of-way over everyone else on an Apron?
a. Aircraft under their own power or under tow
b. Emergency vehicles (red lights flashing)
c. Airport snow, ice, line painting and FOD control equipment (while performing their duties)
d. Marshallers and tractors during aircraft arrival, push-back, and when returning from a push-back
e. Fuel trucks and fuel carts engaged in fueling operations, including when manoeuvring into or backing out of an operational stand
f. Pedestrians in walkways, crosswalks, bag halls and load sheds
g. All other vehicles
Ref: [6.8](#)
19. A vehicle is in a designated VSR (white road markings) and another vehicle is entering. Who has the right-of-way?
Vehicle operators must give the right-of-way to vehicles already on designated VSRs, cargo roads, or perimeter roads.
Ref: [6.8.6](#)
20. Who has the right-of-way at the intersection of two VSRs?
Vehicle operators must obey all signs at intersections. Where two or more VSRs intersect with no signs, it must be treated as an uncontrolled intersection, and the vehicle on the right has the right-of-way
Ref: [6.8.7](#)
21. What is the name of the single yellow line an aircraft follows to enter an operational stand and park 'on gate'?
Aircraft Stand Taxilane
Ref: [5.2.1](#)

22. What is the purpose of an Apron Taxiway (single yellow lines) on the Apron?
Aircraft put the nose wheel on the Apron Taxiway (single yellow line) to know they are clear of obstructions (as a continuation of Taxiway center lines)
Ref: [5.2.2](#)
23. Can you drive between an aircraft and the building at a ground loading position on any Apron, whether or not there is a bridge?
No. You are never allowed to drive between an aircraft and the building at a ground loading position on any Apron.
Ref: [6.11.1](#) and [1.3](#)
24. What is the purpose of the parallel solid red and white lines at an operational stand?
The parallel solid white and red lines define the designated parking and staging areas in an operational stand. These areas are to be used for staging or for temporary parking of vehicles and GSE servicing an aircraft at that location.
Ref: [5.3.1](#)
25. What is the purpose of the single broken yellow line around the Aircraft Parking pads?
An Aircraft Parking Boundary Line is a single yellow broken line, often parallel to the Apron Taxiway and is used to outline aircraft parking pads. Aircraft are parked behind Aircraft Parking Boundary Lines to ensure they are safely separated and clear of taxiing aircraft.
Ref: [5.2.4](#)
26. Do pedestrians always have the right-of-way on an Apron?
No. With some exceptions, pedestrians do not have right-of-way on the Apron.
Ref: [6.8.1](#) including note box
27. Where do pedestrians have the right-of-way on the Apron?
When in a designated walkway, walking between aircraft and buildings, boarding or deplaning, or when the pedestrian is a marshaller walking with the aircraft for a push-back or walking back to the building after completion of a push-back.
Ref: [6.8.6](#)
28. What is the meaning of the red and green STOP lights found at the entrances to the Juliet/Echo Underpass?
a. What does it mean and what should you do if the lights are red?
The lights are red when it is unsafe to enter the J/E underpass. Do not proceed past the lights. Notify your supervisor and the IOC of the problem. The IOC will arrange for all vehicles to travel under escort via another route.
b. What does it mean if the lights are green?
The lights are green when it is safe to proceed through the J/E underpass.
Ref: [5.6.2](#)
29. What is the purpose of the “No Parking” pictograms?
Do NOT park in that area. The no parking areas are there to ensure quick and easy access to emergency equipment (fire extinguishers, fuel shut-off valves, etc.) and provide unrestricted egress from emergency exits.
Ref: [5.4.3](#)

30. What is the meaning of the single yellow broken line or the combination single yellow solid line and single yellow broken line at the intersection of an Apron and a Taxiway.

This is called an Apron Limit Line. DA, DA West and DA South AVOP holders are not allowed to cross this line to exit an Apron onto a Taxiway.

Ref: [5.2.3](#)

31. Stop lines:

a. What does a STOP line look like?

A STOP line is a single solid white line.

b. Is a STOP sign always located with a STOP line?

No. A STOP sign is not required. A STOP line means STOP, with or without a STOP sign.

c. When does an AVOP holder have to stop at a STOP line?

All AVOP holders must stop at all stop lines and a stop signs.

d. Where does the front of the vehicle and its wheels need to be in relation to the STOP line?

The entire vehicle must be completely behind the stop line (or stop sign) to ensure safe clearance for aircraft and other traffic.

Ref: [5.3.3](#)

32. A-VDGS:

a. What is the A-VDGS?

The Advanced-Visual Docking Guidance System is a visual display unit at every operational stand on Apron I that provides real-time flight data and accurate aircraft docking guidance information to pilots and ground crew during aircraft arrival 'on-gate.'

The system was initially intended to allow aircraft to dock safely and deplane passengers without risk to ground personnel during lightning events.

b. When is it used?

The A-VDGS is used to provide safe guidance to dock the aircraft in the correct position for safe clearance from all obstacles and correct connection with the passenger boarding bridge or walkway. It also allows the aircraft to dock safely without risk to ground personnel during lightning events.

c. What is important for vehicle and GSE operators to know regarding the 10 minutes prior to aircraft scheduled arrival?

The A-VDGS scans the operational stand safe area for obstacles during the 10 minutes prior to the displayed aircraft arrival. Vehicle and GSE operators must stay clear of the 'safe area' during this time.

Ref: [1.3](#) and [6.12.1](#)

33. What are the indications an aircraft is arriving?

Signs of an aircraft arriving 'on gate' include:

- **GSE (tow tractor, baggage carts, chocks and pylons) is present or arriving**
- **Marshaller (or marshallers) are present**
- **Bridge is staged**
- **A-VDGS may be 'active'**

Ref: [6.12.1](#)

34. Circle of Safety:
- a. What is the Circle of Safety?
The Circle of Safety is two unmarked circles around a parked aircraft, intended to protect the aircraft from damage.
 - b. Where is it?
It is a circle outside of the wingtips, nose and tail.
 - c. What are the procedures & speed limits when entering and operating within the Circle of Safety?
**Only vehicles needed and assigned to service the aircraft can enter the circle of safety. All vehicles must come to a complete stop and check their vehicle's brakes before entering both the outer and inner circles.
The speed limit in the outer circle is maximum 10 km/h and 5 km/h in the inner circle.**
Ref: [6.11.3](#)
35. Can a DA (DAW, DAS) AVOP holder leave the VSR?
- a. When can an AVOP holder leave the VSR?
Vehicle operators/AVOP holders may leave the VSR to give right-of-way to other priority traffic (Aircraft, Emergency Vehicles with their red lights flashing, Authority Maintenance vehicles in performance of their duties - sweepers, etc.).
 - b. Why?
Similar to interacting with emergency vehicles when driving ground-side, all vehicle & GSE operators are responsible to give right-of-way
 - c. How?
Safely move out of the way as quickly as possible and safely return to the VSR as soon as it is safe to do so.
Ref: [6.8](#) and [6.8.2](#)

13.7 Answer Key: Sample Practical Test - DA, DA West & DA South

1. Where are the following Aprons located?

- a. A
- b. C
- c. J
- d. JZ
- e. J2
- f. L
- g. M
- h. N
- i. P
- j. Y
- k. YB
- l. YD
- m. YE
- n. W
- o. WB

Ref: Maps - South Side & West Side Aprons ([11.8](#), [11.9](#), [11.10](#), [11.11](#))

2. What is unique about Taxiway P?

Taxiway P is an uncontrolled Taxiway

a. What does this mean?

You can drive on Taxiway P with a DA South AVOP. No radio contact is required with Air Traffic Control (ATC).

Ref. [6.4](#)

b. Can a DA, DAS or DAW AVOP holder drive on any other taxiway?

DA, DAS & DAW AVOP holders who work on Apron VII are allowed to drive on Taxiway W for the sole purpose of driving to or from an aircraft that requires towing or other operational servicing. Permission to drive on any other taxiway (e.g. Twy N) requires an approved company exemption.

Ref. [6.4](#) and [6.5](#)

3. What is the building located at the north end of Apron VI (near the intersection with Taxiway P)?

Canada Customs

Ref: Map - South Side Apron ([11.8](#))

4. What does a vehicle operator need to do when leaving the perimeter road around the threshold of runway 35L and proceeding towards Apron III or Apron VI?

Vehicle operators must give right-of-way to aircraft with more than enough safe clearance for the aircraft and risk of jet blast. Vehicle operators must also exercise caution to ensure they do not cross the Apron Limit Line onto the taxiway, or enter the runway holding bay or runway threshold areas.

Ref: [6.4](#) including Note Box

5. Where are the following Taxiways located?
- a. A
 - b. C
 - c. J
 - d. JZ
 - e. J2
 - f. L
 - g. M
 - h. N

Ref: Maps - South Side & West Side Aprons ([11.8](#) and [11.10](#))

6. Where are the following buildings located?
- a. Avmax
 - b. Cargo Building
 - c. CBSA satellite Building
 - d. FedEx
 - e. Kenn Borek
 - f. Live Animal Facility
 - g. Million Air
 - h. Purolator
 - i. Skyservice
 - j. Signature
 - k. Sunwest
 - l. UPS

Ref: Maps - South Aprons, West Aprons & West Airfield ([11.1](#), [11.8](#) and [11.10](#))

7. Can you drive between an aircraft and the building at a ground loading position on any Apron, whether or not there is a bridge?
- No. You are never allowed to drive between an aircraft and the building at a ground loading position on any Apron.**
- Ref: [6.11.1](#)*

8. Where are the compass rose locations? (as applicable to either a DAS or DAW)
- a. **Where Taxiway P widens, across from Apron VIII on the Aircraft Parking Pad**
 - b. **East end of Taxiway M**
 - c. **On Apron IX de-ice pad (Compass Rose)**
- Site map*
- Ref: Maps - South Side & West Side Aprons ([11.8](#) and [11.10](#))*

9. Where are the following gates and roads located? (as applicable to a DAS or DAW)
- Gates 205, 401, 402**
 - NPS-V North and NPS-V South**
 - Perimeter Road Threshold Runway 11**
 - Perimeter Road Threshold Runway 35L**
 - Perimeter Road Threshold Runway 26**
 - VSR (beside Apron VI)**
 - HOS VSR on Apron VII and Apron IX**
 - Service Road between Apron III and Apron V**
 - Perimeter Road parallel with Taxiway A and Million Air**
 - Air Canada cargo building**
 - Operational Stand numbers on Apron VII and Apron IX**
- Ref: Maps - South Side & West Side Aprons ([11.8](#) and [11.10](#))*

13.8 Answer Key: Sample Practical Test - D, D-AME & D-Tow

Note: All D, D-AME and D-Tow AVOP applicants must also know the applicable DA and D Sample Practical Test information (10.8, 10.9 & 10.10).

(Vehicle specific questions are not included in the D-AME test.)

1. How many Runways are there at YYC?

Four Runways

Ref: Maps - West Airfield & East Airfield ([11.1](#) and [11.3](#))

2. How many Runway headings are there at YYC?

Eight Runway headings: 08, 11, 17L, 17R, 26, 29, 35L and 35R

Ref: Maps - West Airfield & East Airfield ([11.1](#) and [11.3](#))

3. What are the main Runways?

The parallel Runways 17R-35L and 17L-35R

Ref: Maps - West Airfield & East Airfield ([11.1](#) and [11.3](#))

4. What are the Taxiways that:

- Run parallel to Runway 17R/35L
- Run parallel to Runway 17L/35R?

Site Map

Ref: West Airfield ([11.1](#))

5. Going south on Taxiway A from Threshold 17R to Threshold 35L, what are the Taxiways and/or Runways you cross or intersect (in order)?

Site Map

Ref: West Airfield ([11.1](#))

6. Going east on Taxiway U, from the intersection of Taxiways U and A to Threshold 29, what are the Taxiways and/or Runways you cross or intersect (in order)?

Site Map

Ref: West Airfield ([11.1](#))

7. Going north on Taxiway C from Threshold 35L to Threshold 17R, what are the Taxiways and/or Runways that lead onto Taxiway C from both the east side and the west side (in order)?

Site Map

Ref: West Airfield ([11.1](#))

8. Going south on Taxiway D from Threshold 17L towards Threshold 35R, what are the Taxiways and/or Runways you cross or intersect (in order)?

Site Map

Ref: East Airfield ([11.3](#))

9. Going south on Runway 17L/35R, what are the Taxiways you cross or intersect (in order)?

Site Map

Ref: East Airfield ([11.3](#))

10. Going east on Taxiway J from Threshold 11 to the intersection of Taxiway J and Taxiway D, what are the Taxiways and/or Runways you cross or intersect (in order)?
Site Map
Ref: West Airfield & East Airfield ([11.1](#) and [11.3](#))
11. Going north on Taxiway B to the intersection of Taxiway B and Taxiway D, what are the Taxiways and/or Runways you cross or intersect (in order)?
Site Map
Ref: East Airfield ([11.3](#))
12. Exiting Apron I on Taxiway JR enroute to the threshold of Runway 11, what are the Taxiways and/or Runways you cross or intersect (in order, can be done in both directions)?
Site Map
Ref: West Airfield ([11.1](#))
13. Referring to question 12: Which Taxiway are you on?
Taxiway J
Ref: West Airfield ([11.1](#))
14. Which Taxiways give you direct access to the Runways of 08, 11, 17R, 17L, 26, 29, 35R and 35L?
Site Map
Ref: West Airfield & East Airfield ([11.1](#) and [11.3](#))
15. What are the colors of the lights for the following areas?
a. Apron edge lights - single blue
b. Taxiway edge lights - single blue
c. Runway edge lights - single white, some yellow on Runway 17L-35R
d. Intersection of Taxiway and Apron - double amber (Aviation Yellow)
e. End of paved surface - single red
f. Intersection of a Taxiway and a CAT I Runway - yellow Elevated Runway Guard Lights
g. Intersection of a Taxiway and a CAT III Runway - yellow Elevated and Inset Runway Guard Lights, red Elevated and Inset STOP Bars
h. Threshold marker lights - Two-sided lights, half red and half green, with the red half facing the Runway and the green half pointing towards the approach of the Runway
i. Runway lights on a CAT III Runway - white (and some red) Center Line Lights, Touch Down Zone Lights, Rapid Exit Center Line Lights and Rapid Exit Indicator Lighting
j. Rapid Exit Indicator - Yellow
k. Taxiway Center Line Lights - Green
Ref: [5.6.1](#), [5.13.3](#), [5.13.3](#), and [5.13.4](#)
16. As a D AVOP holder, describe how to drive from Apron II to Apron VII without crossing a Runway or the threshold of a Runway.
Site Map
Ref: West Airfield ([11.1](#))
17. As a D AVOP holder, describe how to drive from Apron VII to Apron V without crossing a Runway or a threshold of a Runway.
Site Map
Ref: West Airfield ([11.1](#))

18. Describe how to drive from Apron V to Apron II. (For the purpose of this question, provide two options: first, crossing a Runway and a threshold and second, not crossing a Runway or threshold).
Site Map
Ref: West Airfield ([11.1](#))
19. If you have a radio breakdown in the manoeuvring area, what do you have to do?
Turn the vehicle to face the Control Tower, flash the headlights On and OFF, wait for light signals and follow the light signal instructions
Ref: [8.8](#)
20. What do the following light signals from the Tower mean?
a. Flashing green light – Proceed
b. Steady red light – STOP, hold your position
c. Flashing white light – Return to starting point on the airport
d. Flashing red light – Immediately vacate the Runway or Taxiway
Ref: [8.8](#)
21. If you are on a Runway and the white Runway lights start to flash ON and OFF, what does this mean?
All vehicles to immediately leave the Runway
Ref: [5.13.2](#)
22. What are the correct radio frequencies and correct phraseology for radio calls to YYC East Ground and YYC West Ground for permission to cross a Runway?
East/West Ground, this is (vehicle identifier) at (location), request/message
Ref: [8.10.4](#)
23. What does it mean when Air Traffic Control (ATC) says to “Hold Short”?
“Hold Short” means to STOP behind the Runway Holding Position Markings and wait for permission to cross or proceed onto the Runway. It may be necessary to imagine a line drawn in the grass, parallel with the Runway, that extends from the Runway Holding Position Markings (or the Runway Designator Sign.)
Ref: [8.5](#) including Note Box, [8.5.1](#), [8.5.3](#) and [1.3](#)
24. What does it mean when Air Traffic Control (ATC) says to “Expedite”?
“Expedite” means to proceed without delay
Ref: [1.3](#)
25. What does it mean when Air Traffic Control (ATC) says “No Delay”?
“No Delay” has the same meaning as “Expedite” (proceed without delay)
Ref: [1.3](#)
26. What is the correct radio call when you are escorting two other vehicles?
East/West Ground, this is (vehicle identifier), plus two, at (location), request/message
Ref: [8.10.4](#)
27. If another vehicle receives ATC permission to enter or cross a Runway, can you enter or cross at the same time?
No. ATC authorization is specific and limited to the vehicle (or group) that called. Each vehicle (or vehicle group) must ask and receive it’s own permission to enter or cross a Runway.

28. What is Dual Ground Control frequency?
The use of two separate Ground frequencies to control Airfield users at the Calgary International Airport
Ref: [8.3](#) and [8.3.1](#)
29. Why do you have to maintain a listening watch at all times when you are in the manoeuvring area?
In order to know where other aircraft and vehicles are, to plan a routing and to be prepared in the event Air Traffic Control (ATC) calls you
Ref: [8.4](#)
30. Where are the following Security Perimeter Gates located? What is their importance?
- Response Gate East - is on the east airfield perimeter fence across from Apron I (roughly in line with BA) and is the primary gate and staging area for off-airport emergency response vehicles responding to an emergency on the east airfield**
 - (Temporary) Response Gate East - Gate 306A is the back-up to response Gate East staging area for off-airport emergency response vehicles**
 - Response Gate West - Gate 107 is the alternate staging area**
 - Gates 201, 205, 234, 321, 340, 401, 420:**
 - Gates 201/205 are the main access to the south end of the airfield**
 - Gate 234 is the main access to Apron X de-ice and the Fire Training**
- Mock-up site**
- Gate 321 is the north airfield exit gate**
 - Gate 340 is the Medical Emergency access gate**
 - Gate 401 is the main access to Apron VII**
 - Gate 420 is the north side Guardhouse and the main access to the north (and west) areas of the airfield**
- Ref: [11](#) (All Maps)
31. What is the location of each of the following?
- Control Tower**
 - East and West FEC**
 - Authority Airport Maintenance Center**
 - Big Top/ Baggage Search Shelter**
 - Mock-up**
 - Isolation Area(s)**
 - YYC Station 1**
 - GSE Building**
- Site Map**
Ref: [11](#) (All Maps)
32. What are the names and the information provided for each of these signs?
- Black letters or numbers on a yellow background are information signs, and indicate the correct frequency to use to contact ATC or Ground**
 - Black letters or numbers on a yellow background with a black arrow are directional signs and indicate the direction of travel to Aprons, Runways and Taxiways**
 - Yellow letters or numbers on a black background are location signs and identify the location of the Taxiway**
- Ref: [5.5.3](#) a, b, c

33. Where are the "No Entry" signs located?
The Apron Entrances between Taxiways G & GB, and the intersection of Taxiways G & GD.
Ref: [5.12.3](#)
34. Explain the importance of reading back instructions received from Air Traffic Control (ATC).
The read back confirms you have understood the information and confirms you will follow the instructions given by ATC. Read backs must include all relevant information and all specific instructions including Hold Short instructions and traffic.
Ref: [8.1](#)
35. Describe the pavement markings on a Taxiway before crossing a Runway?
Two solid yellow lines and two broken yellow lines with the broken lines closest to the Runway.
Ref: [5.9.3](#)
36. Where are the threshold perimeter roads located?
Threshold perimeter roads are located around Runways 08, 11, 17R, 17L, 26, 29, 35R and 35L.
Ref: [7.2](#)
37. What does the sign with white numbers or letters on a red background mean?
This is a Runway designator sign and indicates either one Runway extremity or both Runway extremities and carries the combined message to hold short.
Ref: [5.12.1](#)
38. The Runway Designator Sign may have another sign on the outboard side. What is this sign and what does it indicate?
This sign is a location sign (i.e. yellow letters on a black background). This sign indicates what Taxiway you are on.
Ref: [5.5.3](#) and [5.12.1](#)
39. When are reduced or low visibility procedures implemented?
Reduced visibility procedures are implemented when the RVR is below 2600 feet. Low Visibility procedures are implemented when the RVR is below 1200 feet (and can be implemented anytime during RVOP). Vehicle movements are restricted during RVOP/ LVOP
Ref: [8.9](#)
40. What are the high speed (rapid exit) Taxiways off of Runway 17R?
A1, A3, C1 and C3
Ref: *West Airfield* ([11.1](#))
41. How many holding bays do we have and where are they located?
Three. Threshold 29 (at U), Threshold 17R (at A) and Threshold 35L (at C).
Ref: *West Airfield* ([11.1](#))
42. What is the purpose of the single broken yellow line at the intersection of Taxiway J and C?
The purpose is to provide clearance while behind the line for aircraft moving on the crossing taxiway.
Ref: [5.9.5](#)

43. Where are the compass rose markings located?
The holding bay of Runway 29, the East end of Taxiway M, on the uncontrolled Taxiway P where it widens and on Apron IX de-ice pad.
Ref: West Airfield (11.1)
44. Before asking permission to cross a Runway, there are at least two things you must do.
What are they?
a. Perform a visual check by looking left and right to see if an aircraft is getting ready to take-off or is landing or on final approach.
b. Listen first to avoid interfering with other transmissions.
Note: Proper frequency must already have been selected.
Ref: 8.4 and 8.5
45. If a perimeter road or alternate routing is available, should you cross a Runway?
No
Ref: 7.2 including Note Box
46. What is special about the intersection of Taxiways C, G and Runway 29?
This intersection is a cautionary area/hot spot. Taxiway C continues in a straight line across Runway 29. Taxiway G ends at Runway 29 and a slight left turn is required to enter Taxiway C when crossing Runway 29.
Ref: 7.5 & West Airfield (11.1)
47. What are some of the things you can do to determine which Runway(s) is/are active?
Look at the windsock direction, observe aircraft taking off, landing and/or taxiing, observe Runway lighting, listen to radio communication (or the ATIS), ask Air Traffic Control (ATC) 48.
48. If Runway 29 is active and you ask permission to cross Runway 29 on A northbound and Air Traffic Control (ATC) gives permission to cross Runway 11 on A, what do you do? Why?
Read back the instructions to Air Traffic Control (ATC) as understood and then cross the Runway.
As there are two Runway headings, the controller will determine which Runway heading to cross (usually is the active Runway)
Ref: 8.5 including Note Box and 8.4
49. If you ask permission to cross Runway 29 on A northbound and the controller gives you permission to cross Runway 26, what do you do? Why?
Use the words "SAY AGAIN" or "CONFIRM" to clarify but do not cross. The permission to cross is location specific.
Ref: 8.1, 8.5 including note box and 8.4
50. Can you drive from east to west on the perimeter road around 35L with a large aircraft sitting at the threshold ready to take-off?
No, because of the close proximity of the road to the threshold and the devastating effect of "JET BLAST".
Ref: 6.4, 6.11.2 and 6.11.3
51. What are the two parts that make up the ILS?
The localizer and the glide path.
Ref: 1.3 and 7.2

52. What is the radio call to cross a Runway?
**What is the radio call to cross a Runway when escorting 2 other vehicles?
West Ground, Staff four eight. Permission to cross Runway 26 north on Charlie.
West Ground, Staff four eight Plus two. Permission to cross Runway 29 south on
Alpha.**
Ref: [8.10.4](#)
53. What are the 'SPOT' numbers on Apron I?
The 'SPOT' numbers on Apron I are numbers 4 through 24
- What are they used for?
'SPOT' numbers are used by ATC to provide the initial aircraft hold location at a taxiway entrance on Apron I
 - How do they help vehicle operators with situational awareness for aircraft traffic?
Knowing the location of the 'SPOT' numbers gives information on where an aircraft is headed and some insight into what direction they are coming from
 - Where is SPOT 3, 4, 5, etc? (Applicants must know all SPOT locations)
Use Apron I map ([11.6](#)) to learn all 'SPOT' numbers & locations
Ref. [5.2.5](#) and [11.6](#)
54. What is the Maximum Wing Span limitation on Apron I? Where is this located? How does it impact taxi or towing operations?
Max wing span is 36M on Apron I between Taxiway EA and Taxiway BC. This area is restricted to AGNII aircraft (B737, A321) or smaller for taxi and tow operations.
Ref. [5.2.8](#)
55. What is a CAT I Hold Line? Where are the CAT I Hold Lines located at YYC?
CAT I Hold Lines are place further from the Runway than the standard Runway Holding Position markings to prevent aircraft and vehicles from entering the ILS critical area. CAT I Hold Lines are located in the Holding Bays of Runway 17R and Runway 29.
Ref: [5.9.4](#)

Appendices

A Airside Vehicle Operator's Permit (AVOP) Application

The AVOP Application Form is on the next 2 pages.

Both pages of the AVOP application form must be completed for all AVOP applications (new, renewal, change of employer, add an employer, etc.).

Airside Vehicle Operator's Permit (AVOP) Application

Please type (or print clearly). Complete both pages of the application form for ALL AVOP applications (new, renewal, Change of Employer & Second Employer).

All AVOP applicants must bring the completed AVOP Application form, a signed printout of their test certificate, their valid Driver's License & RAIC when applying for an AVOP.

D, D-Tow and D-AME AVOP applicants must bring their ROC-A, & their D-AME licenses.

Renewal:

All requirements must be completed & submitted to the AVOP Administration Office prior to expiry of current AVOP. Renewal requirements, if completed prior to expiry, including issue of new AVOP card, are:

- D, D-TOW, D-AME: application form, written and practical tests
- DA, DAS, DAW: application form and written test

Failure to complete the Competency Check/Night Endorsement, or renewal requirements within the required time limit will result in the AVOP being cancelled. Reinstatement requires a new application form, written & applicable practical tests.

Application Type			
New	Renewal	Change of Employer	Second Employer
Applicant			
Last Name:		First Name:	
Address & Postal Code:			
Business Phone:		Home Phone:	
Driver's Licence No.:		RAIC No.:	Green: Red:
Have you previously held a YYC AVOP: Yes No		RAIC Expiry Date:	ROC-A: Yes No
Applicant's Signature:			

Employer's Statement		
Need and Right/Duties (justification): The above named applicant is an employee of this Company and has been trained in Calgary Airside Traffic Directives. Listed below are the duties of this employee.		
Name & Title of Requesting Authority (Employer):		
Company Name:	Date:	Signature (Employer):

Type of AVOP Requested:	D (All Airside Areas)	D-AME
DA (Aprons I & All Aprons)	DA South	DA West
D-Tow North	D-Tow South	DDT
Comp Check/Night E	DBW (Springbank)	

Online/Written Test (Print Tester's name):	Tester's Signature:	Test Date:
Practical Test (Print Tester's name):	Tester's Signature:	Test Date:
Competency Check/Night Endorsement (Print Tester's name):	Tester's Signature:	Test Date:

AVOP Training Checklist:

To be read and signed by the Applicant

Applicant has read, understood and will comply with the Airside Traffic Directives.

Applicant has and must maintain a current and valid driver's license to drive airside.

Applicant is aware the practical test must be completed within 60 days of the written test.

Applicant is aware their completed application form, test certificate, RAIC, Driver's License (ROC-A, AME license) must be submitted the AVOP Office within 14 days of the practical test (for initial AVOPs).

Applications for renewals must be submitted BEFORE the current AVOP expires or within 14 days of the written or practical test - whichever is less, and as applicable to the category of AVOP.

Applicant is aware the Competency Check/Night Endorsement must be completed no sooner than 30 days after the initial practical test AND within 180 calendar days from the initial practical test or their AVOP will be automatically cancelled.

Applicant is aware that they must exchange their current AVOP card for an updated AVOP card within 14 days of successfully completing their Night Endorsement and BEFORE their current AVOP expires.

Applicant is aware that the use of personal audio/video/gaming, cell phones, or similar devices is prohibited when driving or actively working airside to prevent unnecessary distractions.

Applicant is aware that a photograph and some personal information will be maintained in the AVOP database for identification purposes.

Print Name:	Date:
Applicant Signature:	

To be signed by the Employer (Authorized Company Representative)

Applicant has demonstrated good theoretical knowledge of the Airside Traffic Directives.

Applicant has been given an Airside Orientation Tour (multiple outings may be required).

Applicant has operated a vehicle airside under appropriate supervision (multiple outings may be required).

Applicant has demonstrated a good practical understanding of driving a vehicle airside.

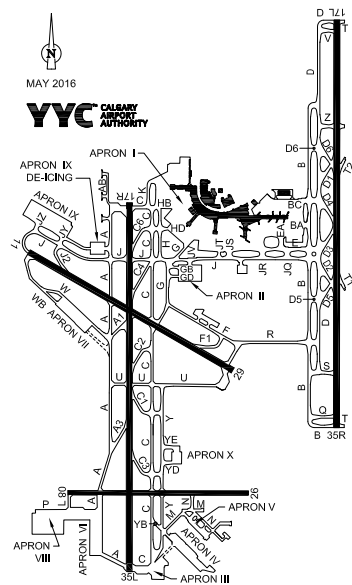
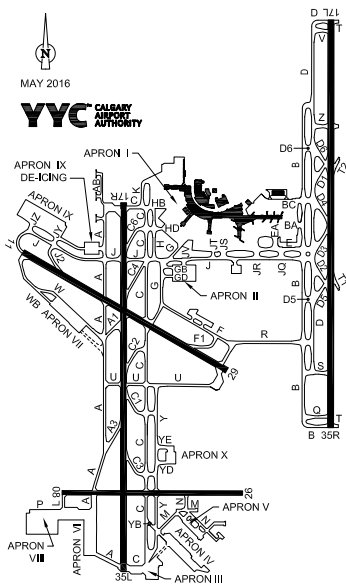
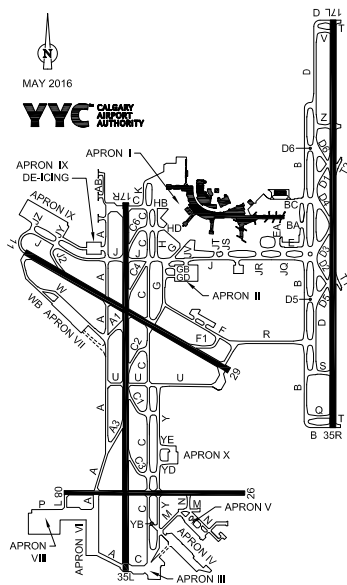
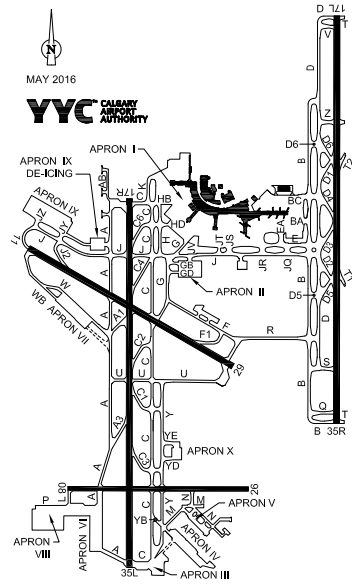
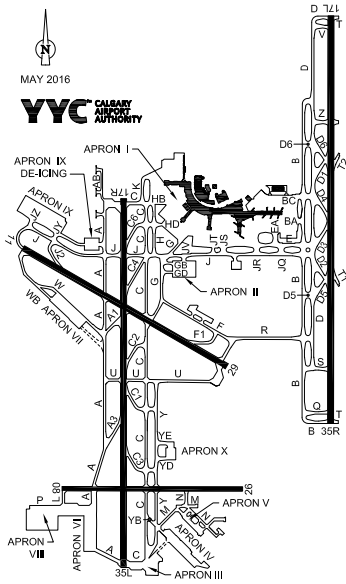
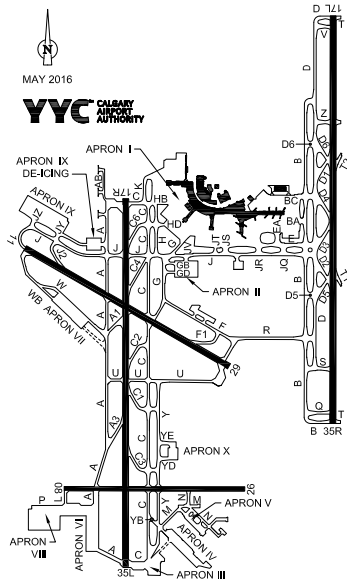
The employer has retained training records for this applicant which will be made available to the Calgary Airport Authority upon request.

Applicant holds and must maintain a valid Driver's License (minimum Class 5 with no applicable limiting restrictions).

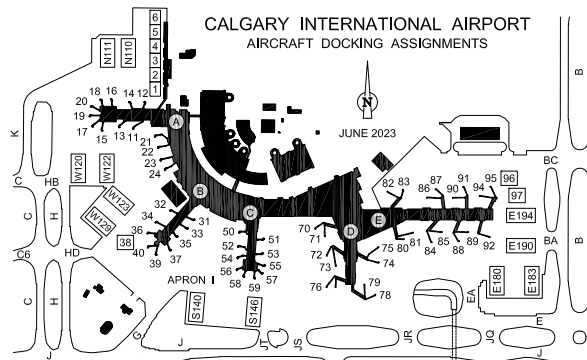
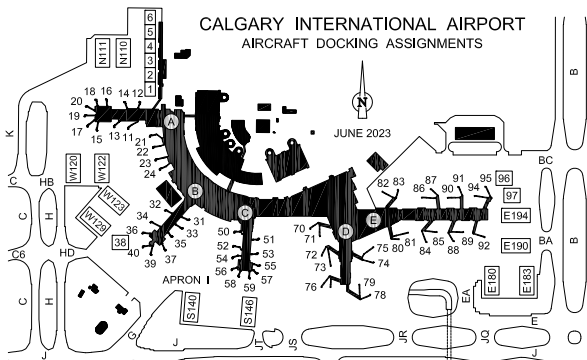
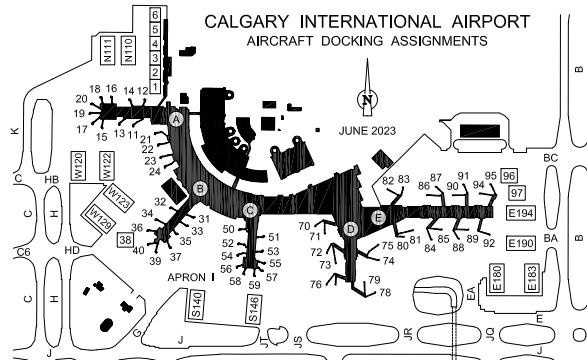
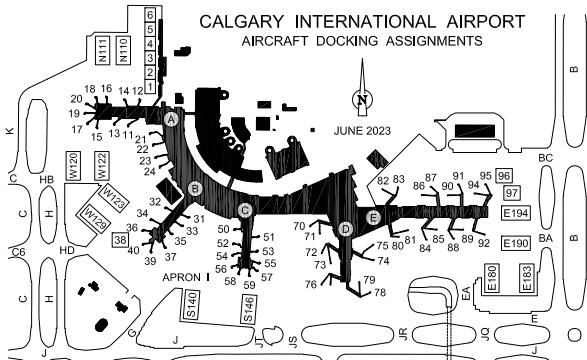
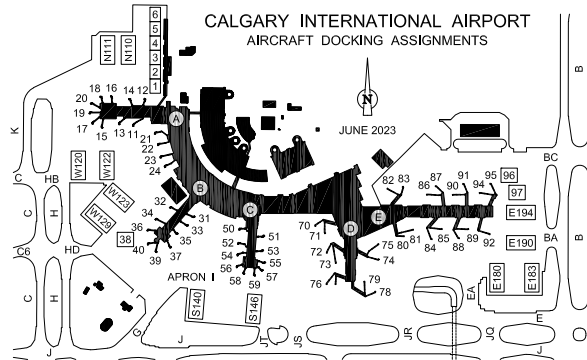
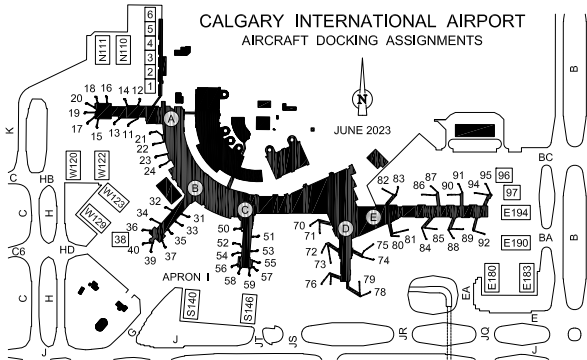
Applicant holds and must maintain a valid ROC-A & AME licence (as applicable for all D, D-Tow & D-AME type AVOPs).

Print Name:	Date:
Company Representative Signature:	

B Lanyard Pocket Cards - Airfield



C Lanyard Pocket Cards - Apron I



APPENDIX D

Airside Vehicle Operators Permit (AVOP) Schedule of Fees & Company Tester Program Guidelines

Effective: 01 April 2024

Schedule of Fees

To provide Airside Vehicle Operators Permit (AVOP) services at the volume and quality required, the Authority has the following Schedule of Fees for AVOP-related services in place.

Service	Fee	Billed To
Written Test (AVOP Office)	\$25.00	Company
Practical Test (YYC Tester/SCO)	\$125.00	Company
Competency Check/Night Endorsement (YYC Tester/SCO)	\$75.00	Company
D-level Familiarization Drive (YYC Tester/SCO)	\$200.00	Company
Missed Appointment/Short Notice Cancel*	\$100.00	Individual
Violation Retest (YYC Tester/SCO)	\$200.00	Company
Company Tester Re-Audit (YYC Tester/SCO)	\$500.00	Company
AVOP Card Issue – New/Renewal/Transfer	\$25.00	Company
AVOP Card – Lost & Re-Issue	\$50.00	Individual
AVOP Card – Not Returned	\$50.00	Company
Company Tester – Written Exam (Annual)	\$500.00	Company
Company Tester – Practical Exam (Annual)	\$3,000.00	Company
Company Tester – Competency Check/Night Endorsement (Annual)	\$1,500.00	Company

Company fees are invoiced by the Authority while individual fees are processed via a point-of-sale device at the AVOP Administration Office.

There is a limited exception from this Schedule of Fees for AVOP-related services which are being obtained by a company on a temporary basis solely for the purposes of completing a discrete project at the airport in respect of which the company has contracted directly with the Authority.

* Missed Appointment/Short Notice Cancel

Missed appointments and short notice cancellations are defined as:

- Any cancellation within 24-hours of scheduled appointment time.
- Appointment no-shows.
- Arriving to an appointment >15 minutes late.
- Arriving to an appointment without a drivers' license, a signed and completed AVOP Application Form, and signed written test certificate.
- Arriving to an appointment in an unsafe vehicle or unsafe manner (e.g., driving airside without an AVOP to the appointment).

Company Tester Program Guidelines

Participation in the Company Tester Program is offered via the following guidelines, exceptions may be available in extraordinary circumstances with appropriate justifications being made to the Authority by the company:

- Companies are eligible to have one tester certified per 100 employees who are required to operate vehicles airside.
 - Companies who have less than 100 employees who are required to operate vehicles airside are eligible for one tester.
- Companies may choose whether to certify their testers to conduct written, practical and/or competency check/night endorsement test types.
 - The annual fee applies for each test type a tester is certified to conduct.
- To ensure quality of testing is maintained, for each calendar year, testers will be expected to offer at least 20 of each test type they are certified to conduct.
 - For every test under 20 not delivered, the company will be charged the fees associated with those test(s).
- D-level practical tests will not be eligible to be conducted by Company Testers and will continue to be conducted by the Authority only.

Fees associated with the AVOP Tester Program are charged annually on the anniversary of the tester's certification date for the specific test type. Fees for testers certified prior to 01 April 2024 are charged from 01 April 2024 to the tester's anniversary date(s).

Participation in the Company Tester Program is authorized by the Authority AVOP Coordinator, who may approve exclusions or exemptions to these guidelines at their discretion.

APPENDIX E

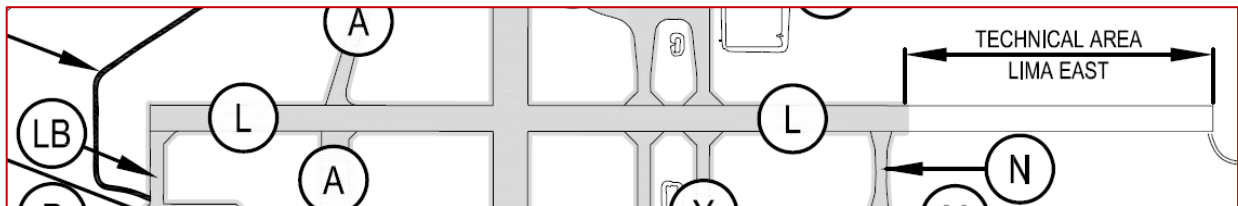
Runway 08-26 Conversion to Taxiway L and Technical Area Lima East

Effective: 02 October 2024 06:00 LT

Summary of Changes

Effective 02 October 2024 at 06:00 LT:

- Runway 08-26 is converted from a runway to:
 - Taxiway L.
 - Technical Area Lima East.
- Taxiway L is converted to Taxiway LB.



- The surface unofficially known as "Old Taxiway W" is officially named Technical Area VII South (spoken Technical Area Seven South).

As of 2 October 2024 at 06:00 LT, all vehicle operators utilizing these surfaces and technical areas are required to utilize proper nomenclature and area identification for all AVOP assessments and when speaking with Air Traffic Control.



Requirements Pre-Transition

D and D-TT (DDT, DTS, D-AME) AVOP holders are expected to remain vigilant and maintain safety standards. Until the transition date and time, all operators must continue to treat the surface of Runway 08-26 as a runway and follow all runway related procedures.

Operators may notice a change in signage, lighting, or surface markings. These changes do not permit the vehicle operator from entering Runway 08-26 without the permission of Air Traffic Control.

Physical Changes and Construction Activities

Physical alterations are required to meet taxiway standards. Construction work began 9 September 2024 with an anticipated completion of end of November 2024.

The following alterations will be made throughout the construction project:

- **Pavement markings** – current runway markings will be removed and replaced with dedicated taxiway markings.
- **Lighting** – current lighting will be updated or removed as necessary and new edge lighting will be installed to ensure we meet regulatory requirements.
- **Signage** – all guiding and directional signage will be updated to reflect the change.

AVOP Requirements

Vehicle operators accessing these surfaces and technical areas must possess the appropriate AVOP or have an active exemption issued by the Calgary Airport Authority:

Surface or Technical Area	AVOP Required
Technical Area VII South	D, D-TT (DDT, DTN, D-AME)* DA, DA-WS (DA-S, DA-W)
Taxiway LB	D, D-TT (DDT, DTN, D-AME)*
Taxiway L	D, D-TT (DDT, DTN, D-AME)*
Technical Area Lima East	D, D-TT (DDT, DTS, D-AME)*

* In support of aircraft taxi/tow only

AVOP Testing

Effective 02 October 2024, AVOP written and practical testing for all D-level licenses will include competency checks for Technical Area VII South, Taxiway LB, Taxiway L, and Technical Area Lima East.

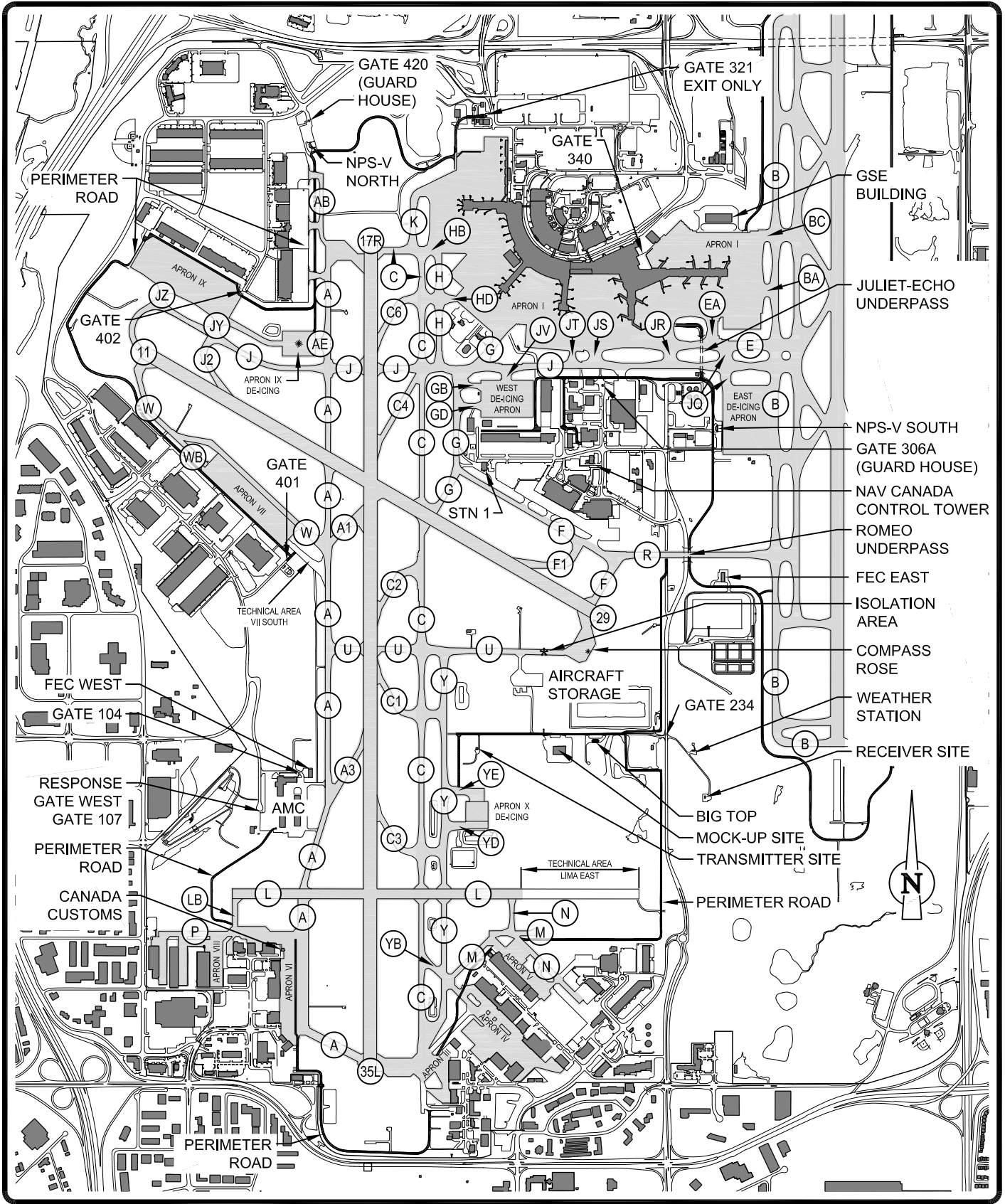
Airside Traffic Directives and AVOP Reference

The ATD & AVOP Manual will not be fully updated to include references to Technical Area VII South, Taxiway LB, Taxiway L, and Technical Area Lima East until a later date. Applicants and individuals referencing the manual are expected to refer to this appendix for information on these surfaces and technical areas.

Airfield Maps

A complete set of updated airfield maps are included in this appendix.

Effective 2 October 2024, these airfield maps will be utilized for all AVOP written and practical testing.



Date: Sep 27, 2024 Time: 1:32 PM

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YYC™ CALGARY AIRPORT AUTHORITY

PROJECT **CALGARY INTERNATIONAL AIRPORT AVOP WEST AIRFIELD**

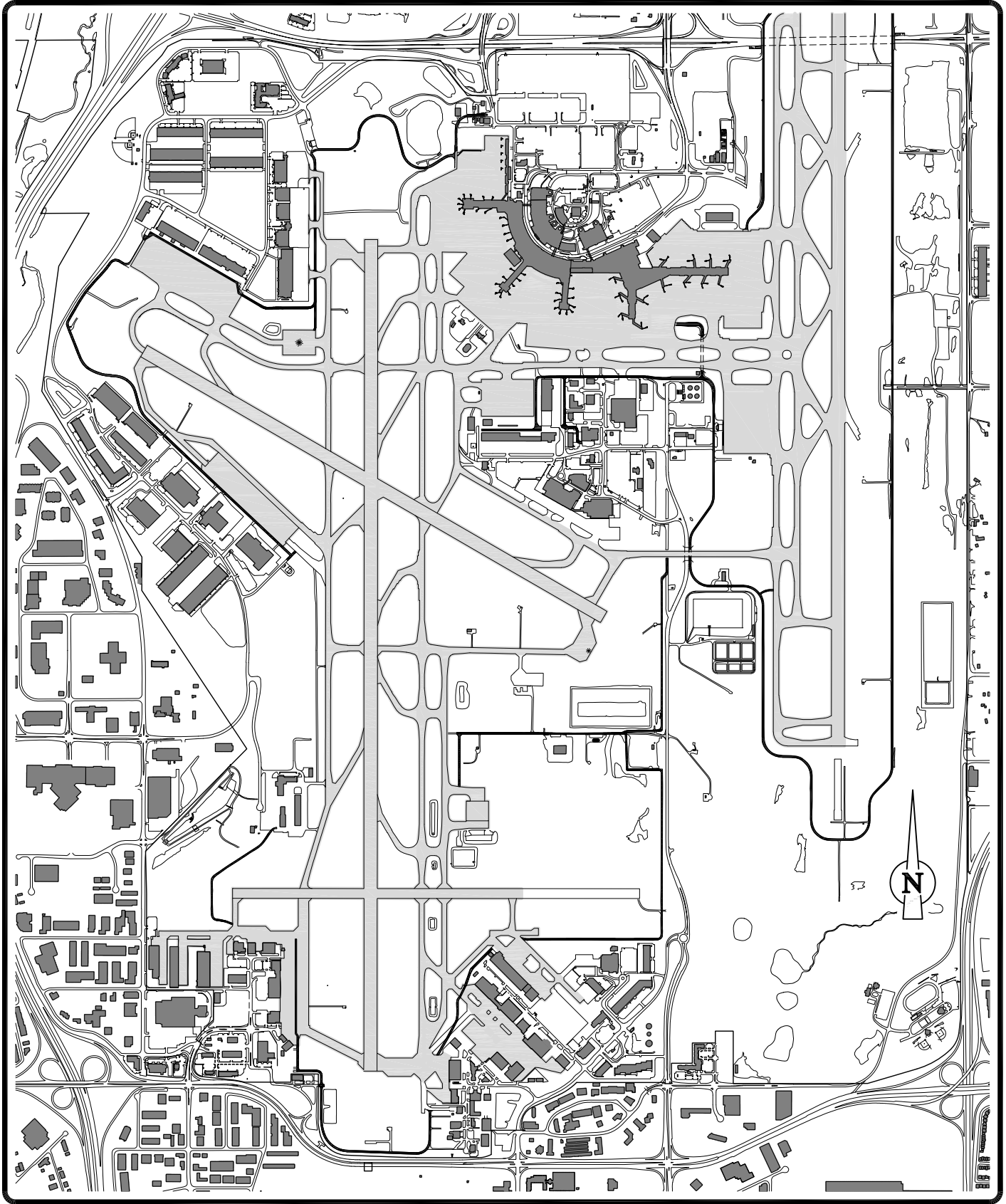
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DATE **SEPT. 2024**

SHEET No. **1 of 13**



Date: Sep 10, 2024 Time: 2:23 PM

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YYCTM CALGARY AIRPORT AUTHORITY

PROJECT
CALGARY INTERNATIONAL AIRPORT
AVOP
WEST AIRFIELD

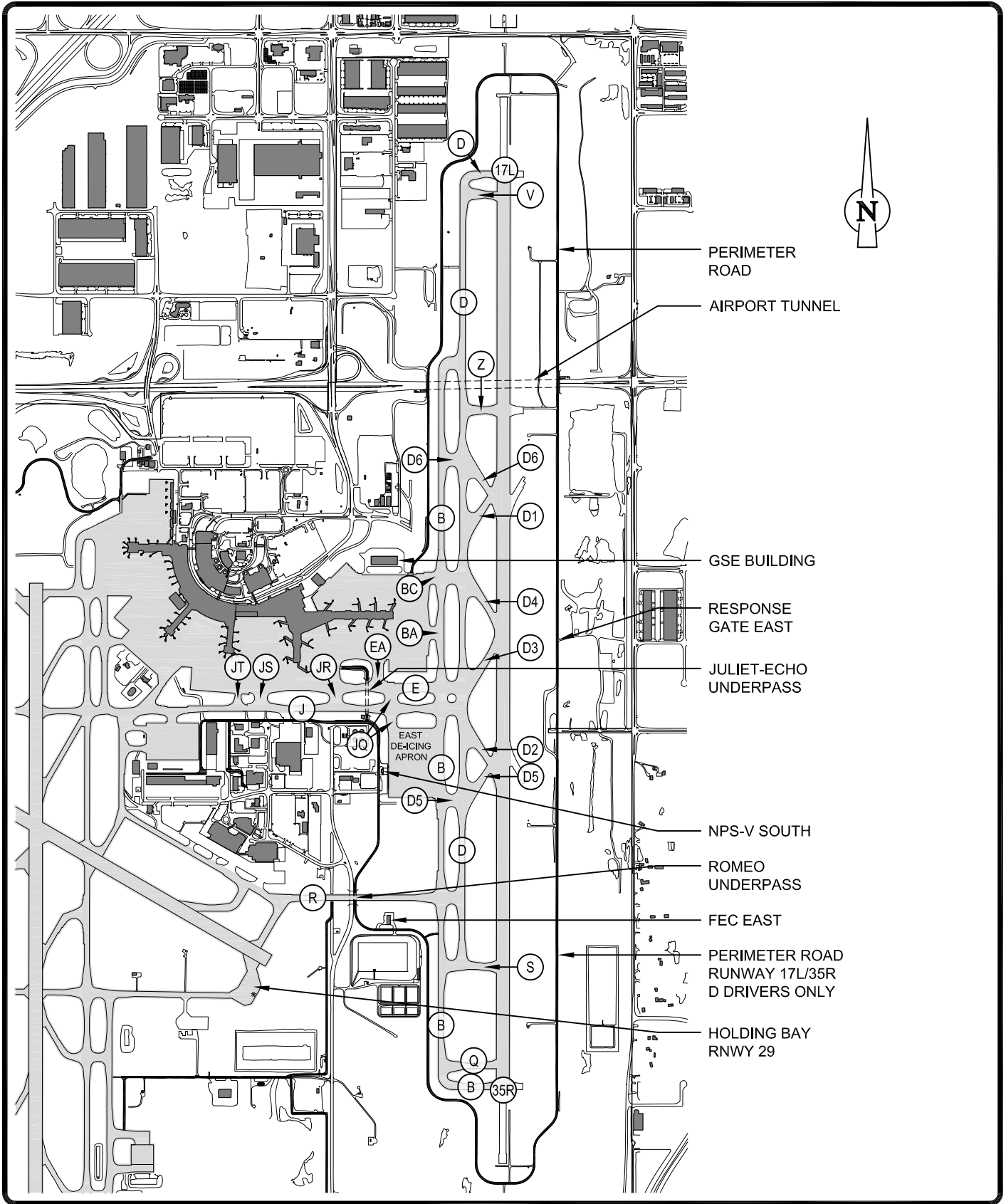
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AJ

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DATE
SEPT. 2024

SHEET No.
2 of 13



Name: yyc-avop-airfield.dwg Date: Sep 10, 2024 Time: 2:24 PM

YYC™ CALGARY AIRPORT AUTHORITY

PROJECT **CALGARY INTERNATIONAL AIRPORT AVOP EAST AIRFIELD**

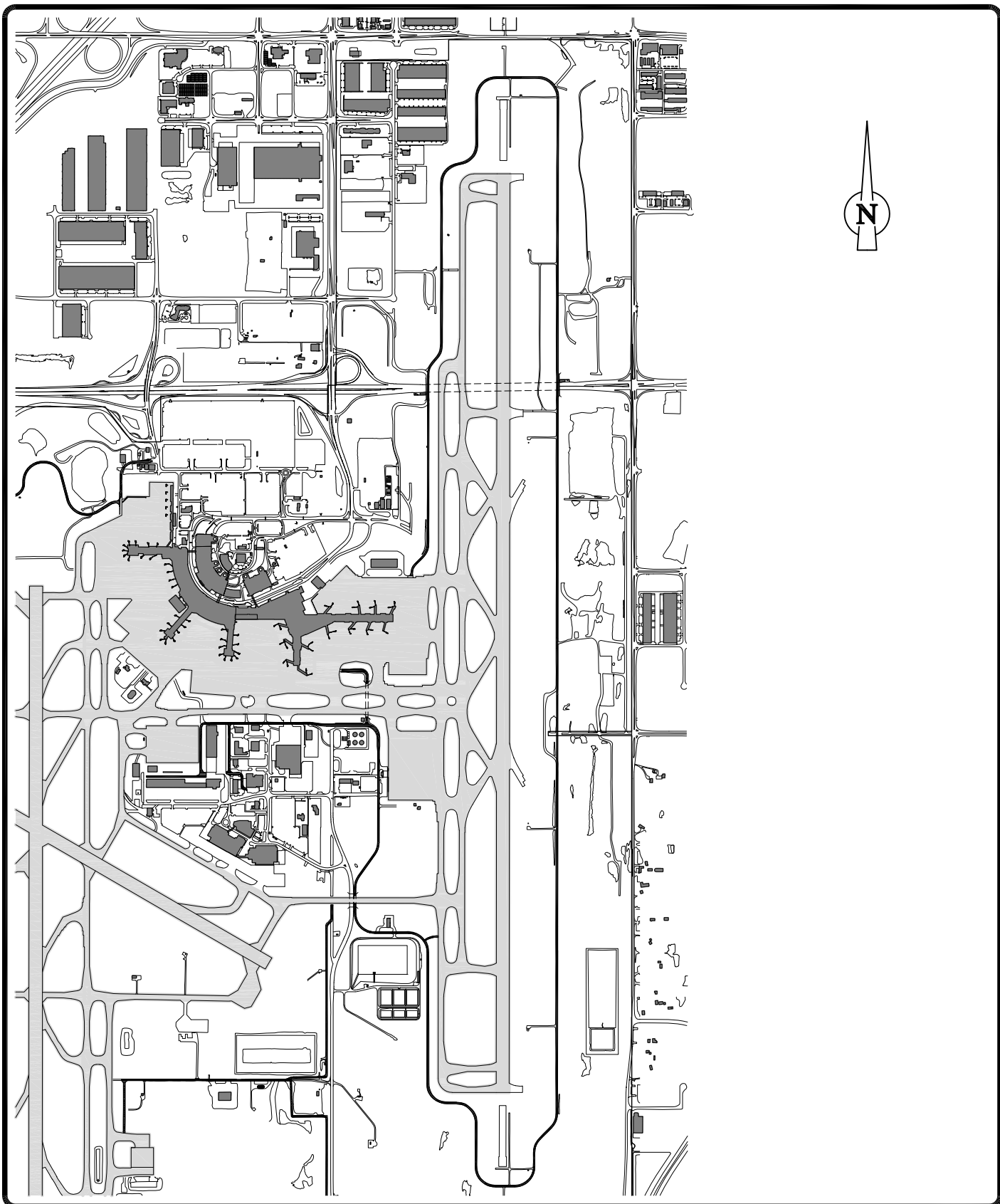
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DATE **SEPT. 2024**

SHEET No. **3 of 13**



Date: Sep 10, 2024 Time: 2:26 PM

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YYC™ CALGARY AIRPORT AUTHORITY

PROJECT CALGARY INTERNATIONAL AIRPORT
AVOP
EAST AIRFIELD

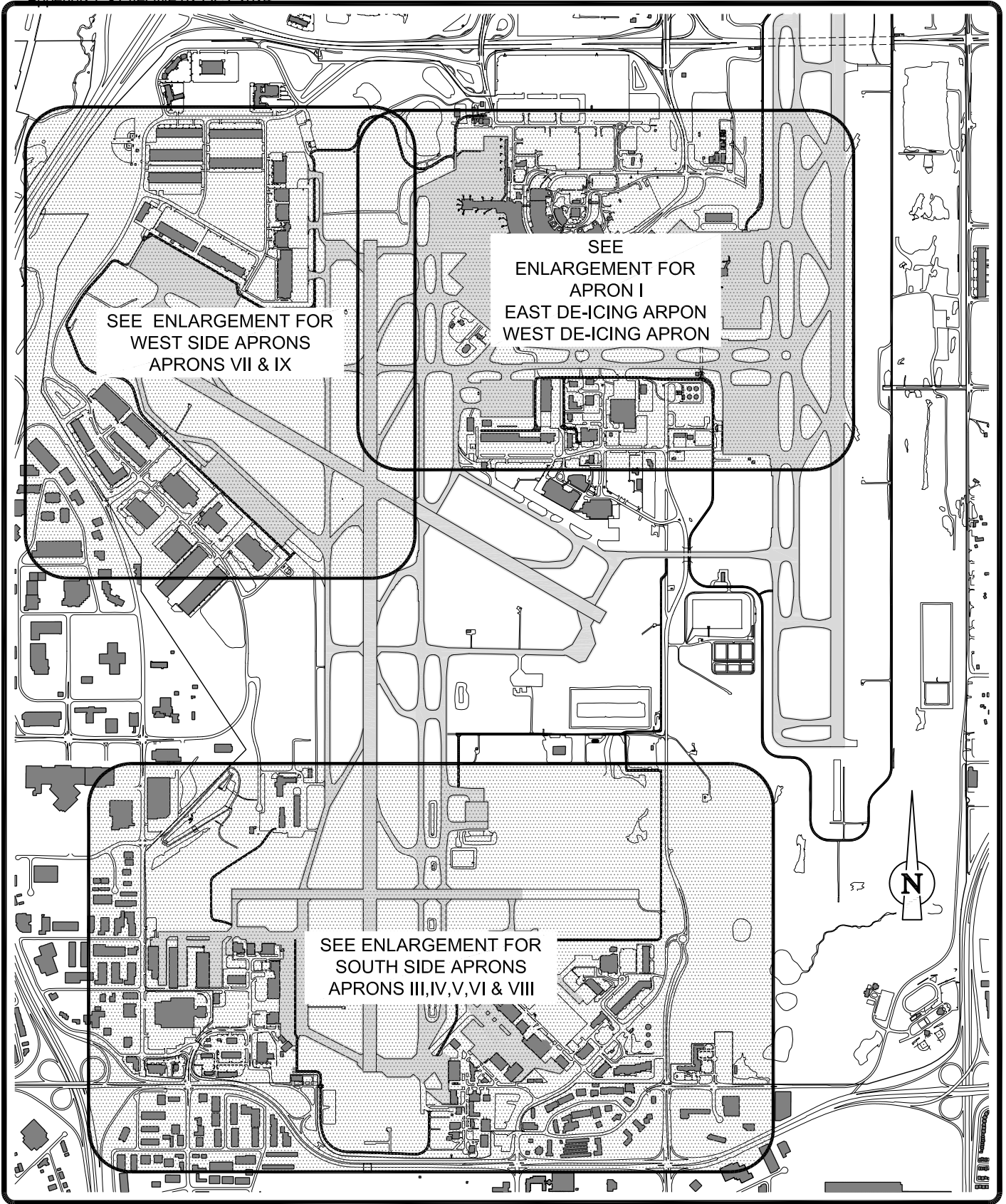
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DATE SEPT. 2024

SHEET No. 4 of 13



Date: Sep 10, 2024 Time: 2:28 PM

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PROJECT **CALGARY INTERNATIONAL AIRPORT**
AVOP
 AIRFIELD (AREAS OF ENLARGEMENT)

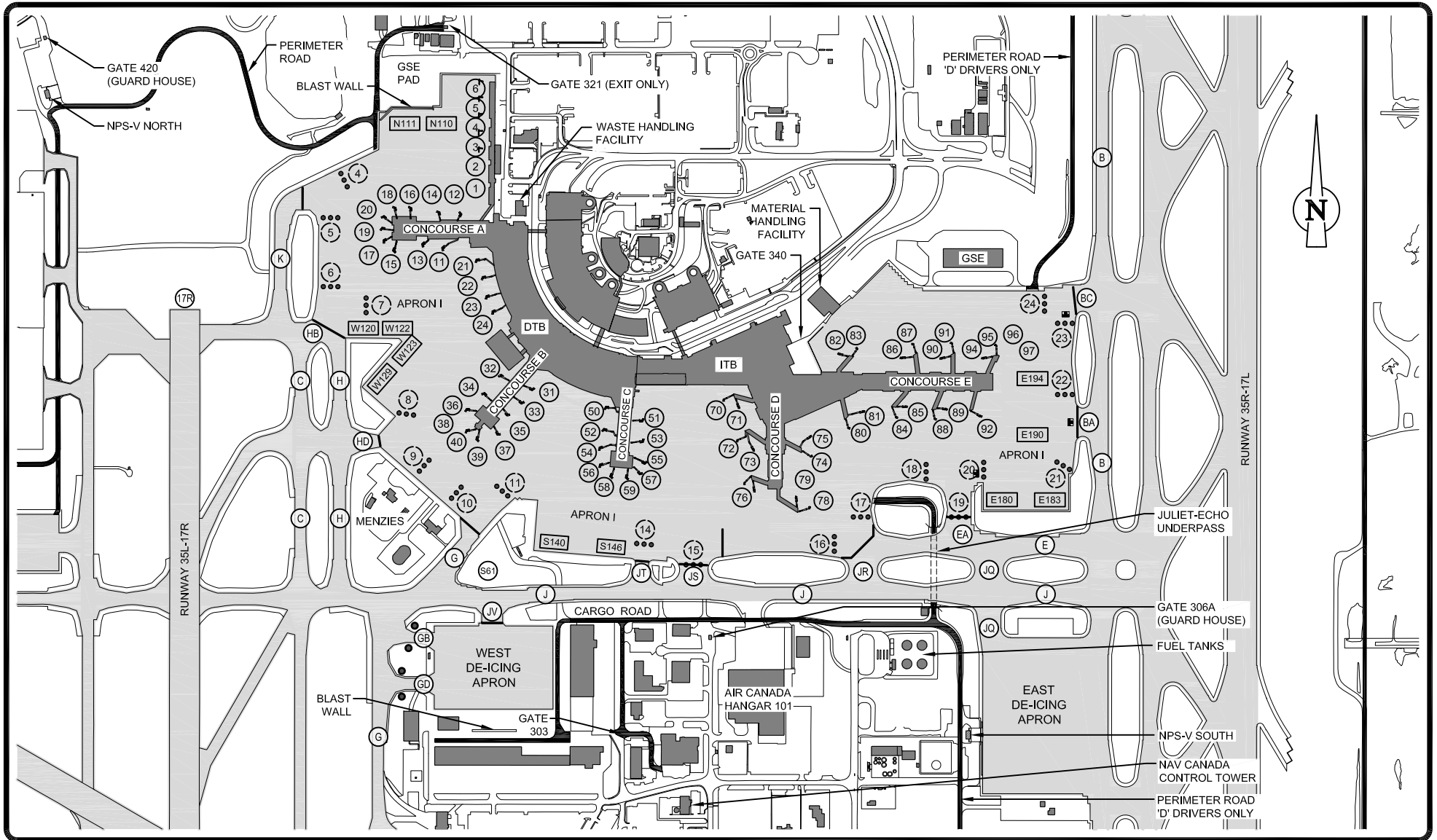
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DRAWN BY **AJ**

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DATE **SEPT. 2024**

SHEET No. **5 of 13**



Name: yyc-avop-airside-apron1&2.dwg Date: Sep 10, 2024 Time: 2:35 PM

YYC™ CALGARY AIRPORT AUTHORITY

PROJECT **CALGARY INTERNATIONAL AIRPORT**
AVOP
 APRON I, EAST DE-ICING APRON, WEST DE-ICING APRON

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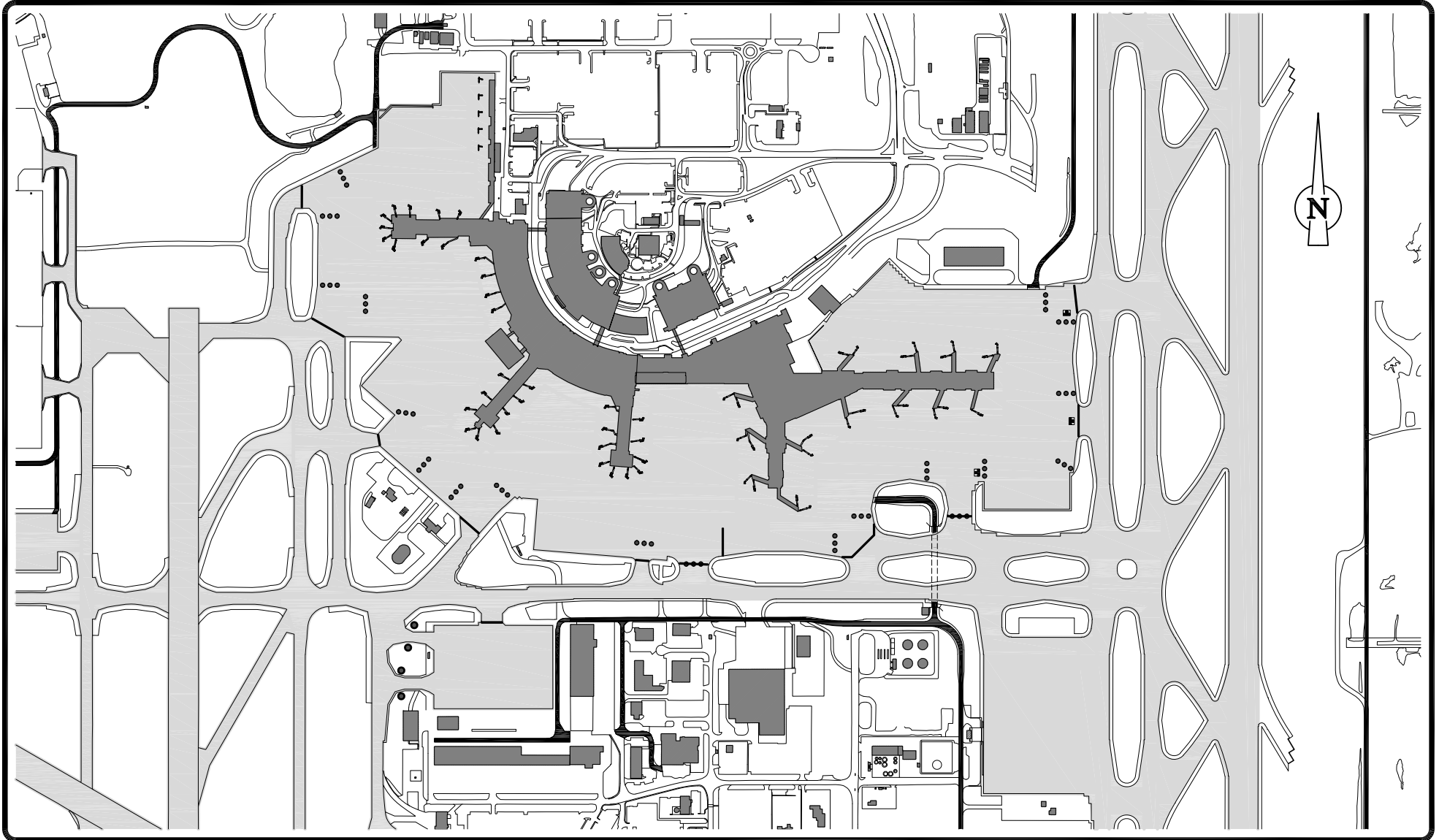
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SCALE **N.T.S.**

DATE **SEPT. 2024**

SHEET No. **6 of 13**

Name: yyc-avop-airside-apron1&2.dwg Date: Sep 10, 2024 Time: 2:37 PM



YYC™ CALGARY AIRPORT AUTHORITY

PROJECT

CALGARY INTERNATIONAL AIRPORT

AVOP

APRON I, EAST DE-ICING APRON, WEST DE-ICING APRON

CADD FILE No.

yyc-avop-airside-apron1&2

DRAWN BY

SAK

SCALE

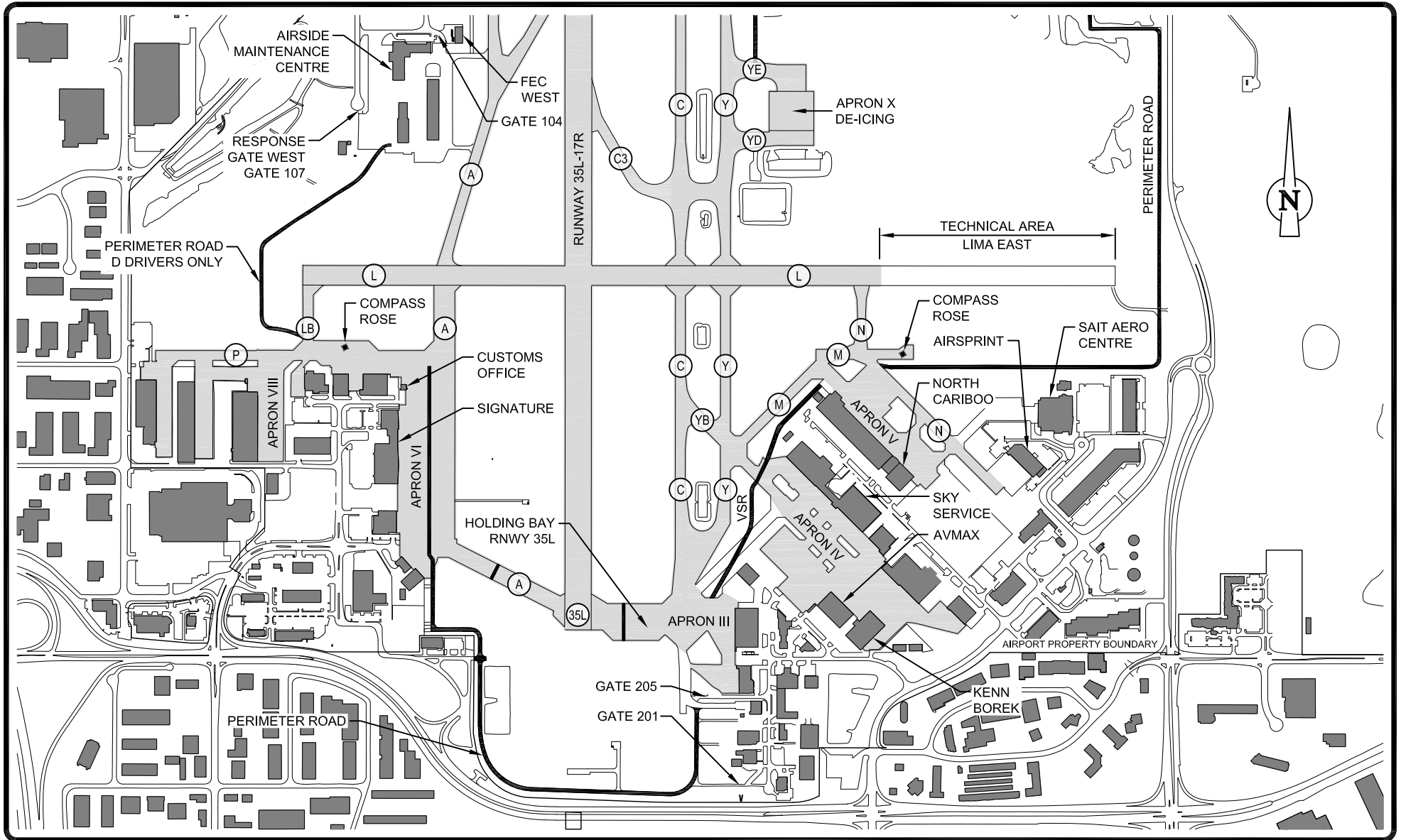
N.T.S.

DATE

SEPT. 2024

SHEET No.

7 of 13



Name: yyc-avop-airside-apronsouth.dwg Date: Sep 27, 2024 Time: 1:33 PM

YYC™ CALGARY AIRPORT AUTHORITY

PROJECT **CALGARY INTERNATIONAL AIRPORT**
AVOP
SOUTH SIDE APRONS

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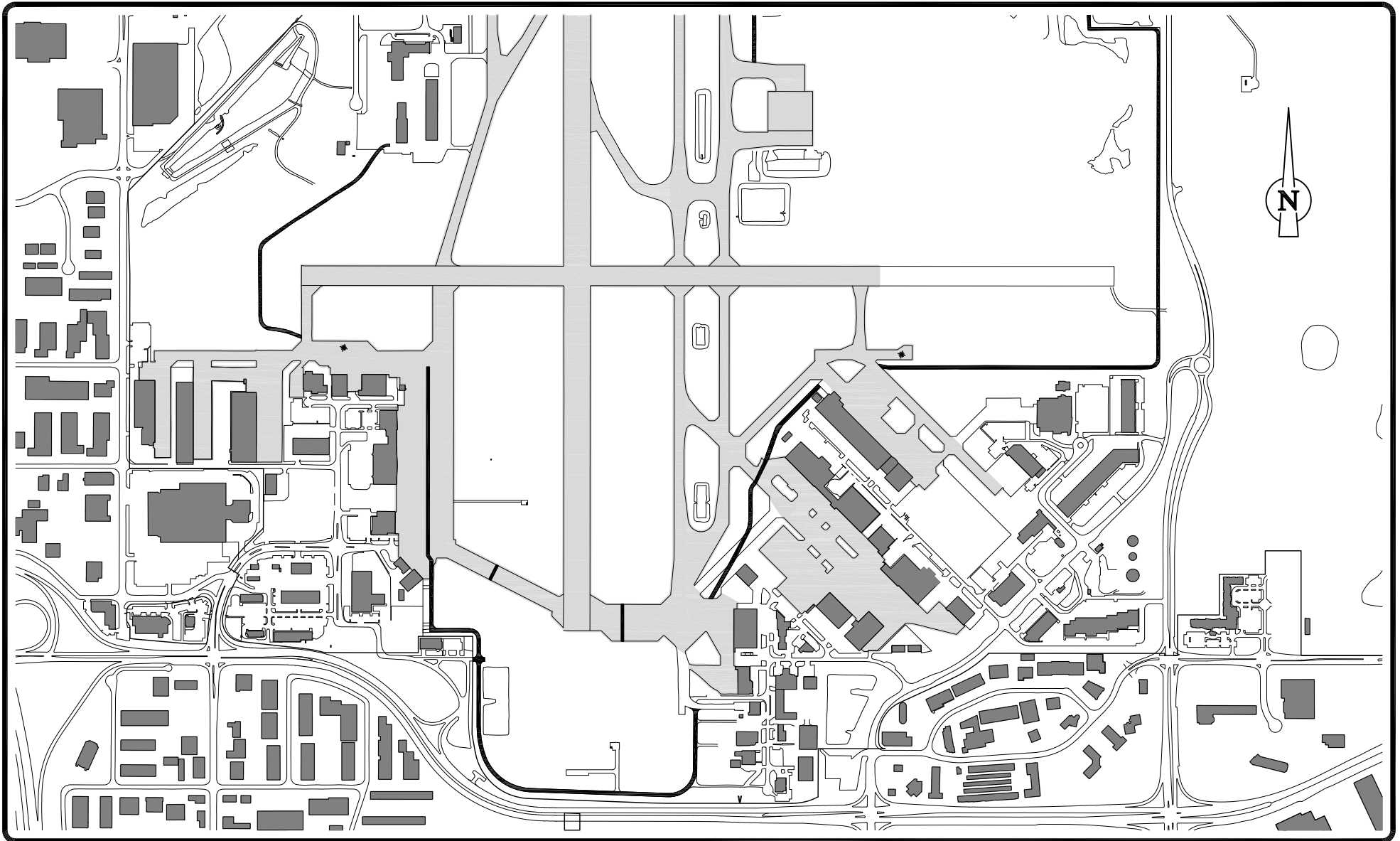
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DATE **SEPT. 2024**

SHEET No. **8 of 13**

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YYCTM CALGARY
AIRPORT
AUTHORITY

PROJECT

CALGARY INTERNATIONAL AIRPORT
AVOP
SOUTH SIDE APRONS

CADD FILE No.

yyc-avop-airside-apronsouth

DRAWN BY

AJ

SCALE

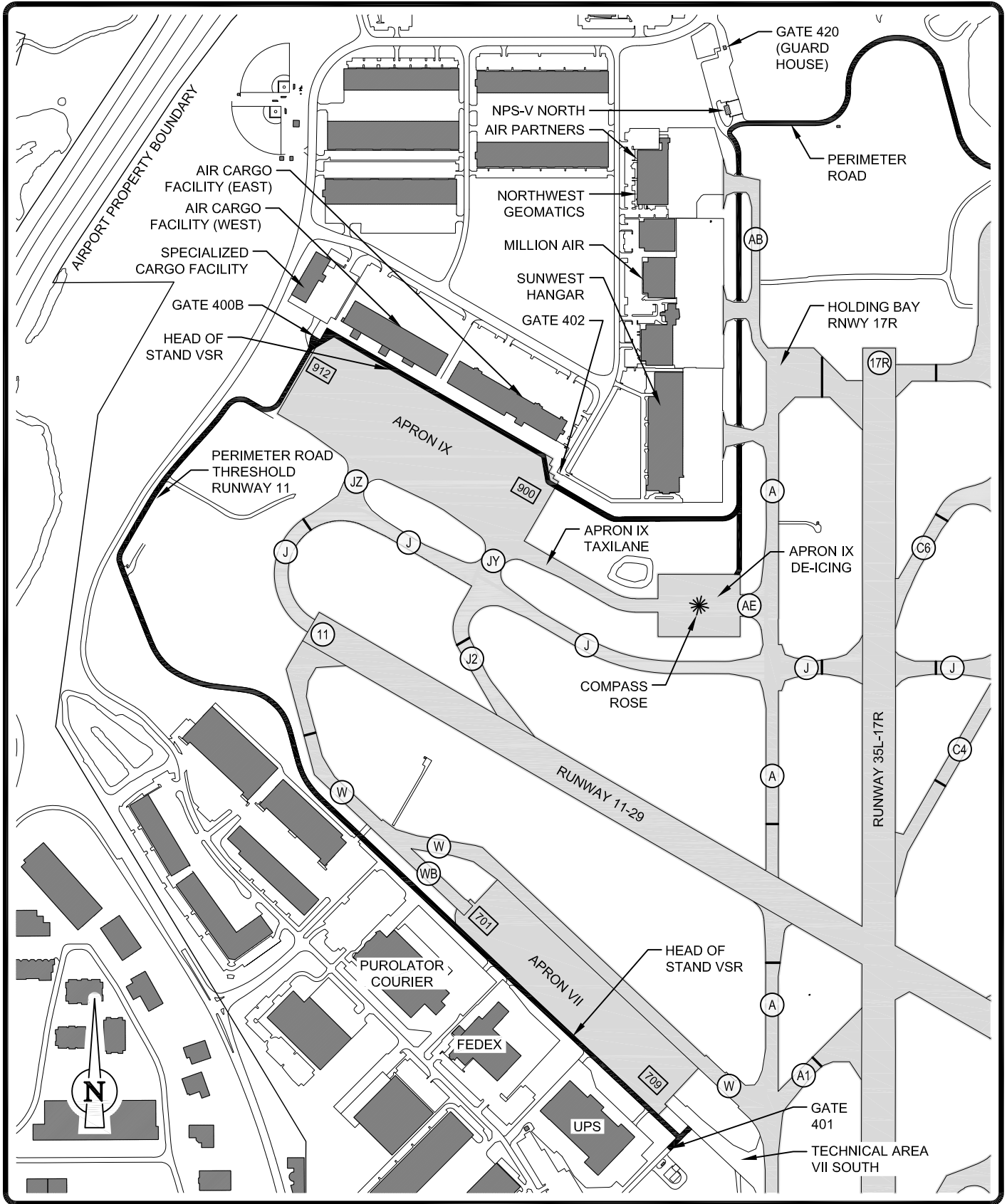
N.T.S.

DATE

SEPT. 2024

SHEET No.

9 of 13



Name: yyc-avop-airside-apronwest.dwg Date: Sep 27, 2024 Time: 10:07 AM



PROJECT **CALGARY INTERNATIONAL AIRPORT
AVOP
WEST SIDE APRONS**

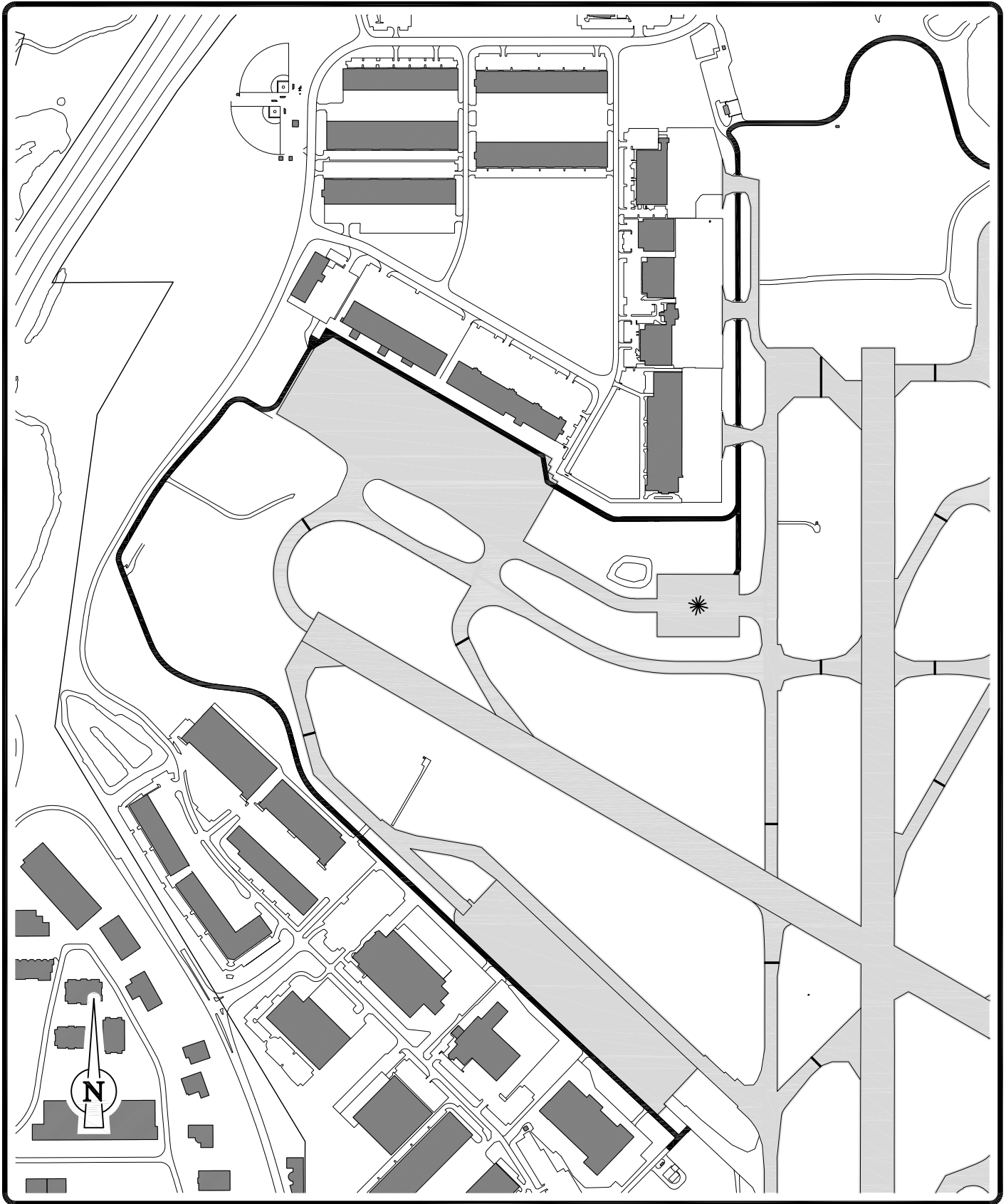
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SCALE **1:10,000**

DATE **SEPT. 2024**

SHEET No. **10 of 13**



Name: yyc-avop-airside-apronwest.dwg Date: Sep 10, 2024 Time: 2:55 PM



PROJECT **CALGARY INTERNATIONAL AIRPORT**
AVOP
WEST SIDE APRONS

CADD FILE No. **yyc-avop-airside-apronwest**

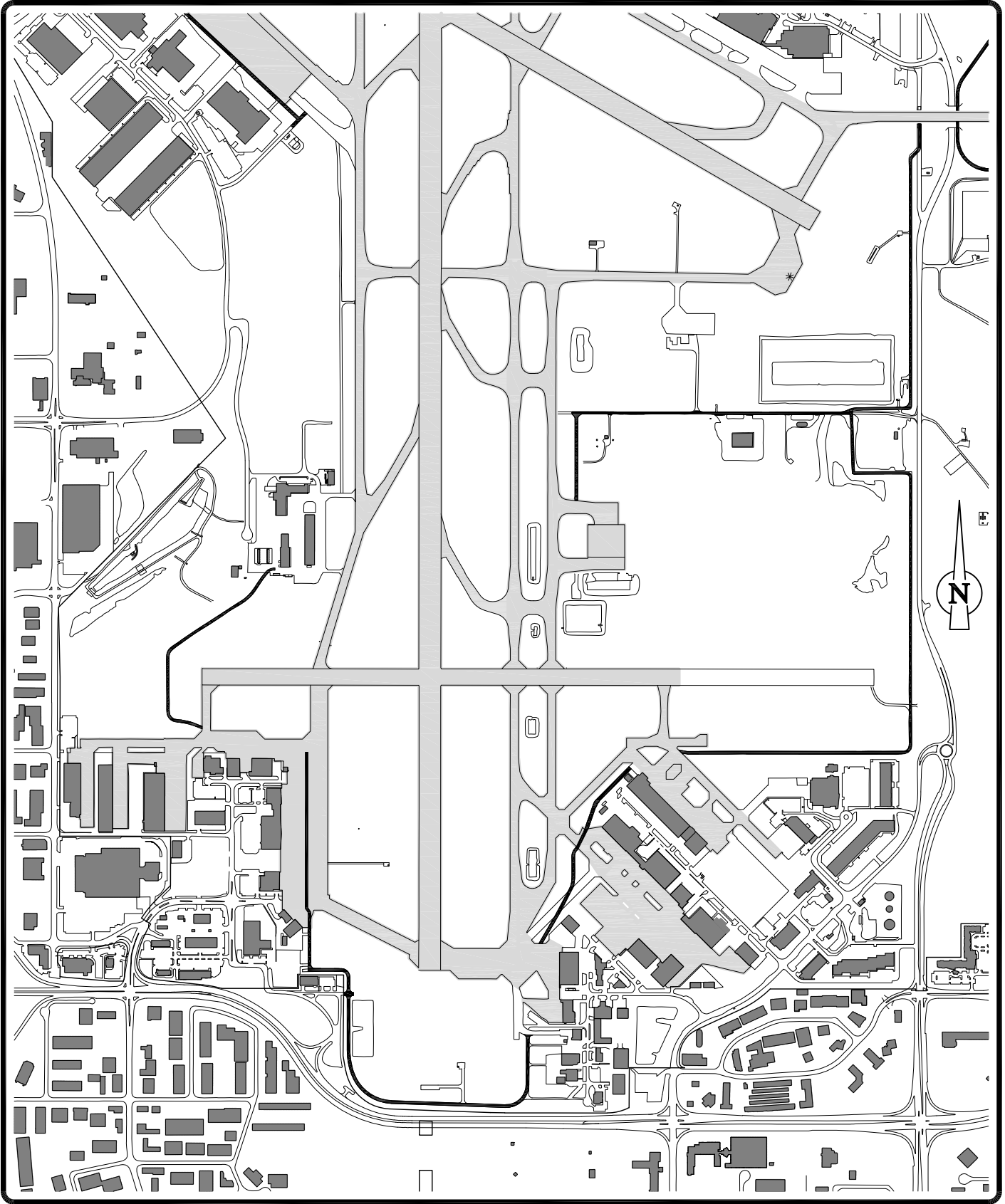
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SCALE **1:10,000**

DATE **SEPT. 2024**

SHEET No. **11 of 13**

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PROJECT CALGARY INTERNATIONAL AIRPORT
AVOP D-TOW SOUTH
AIRFIELD

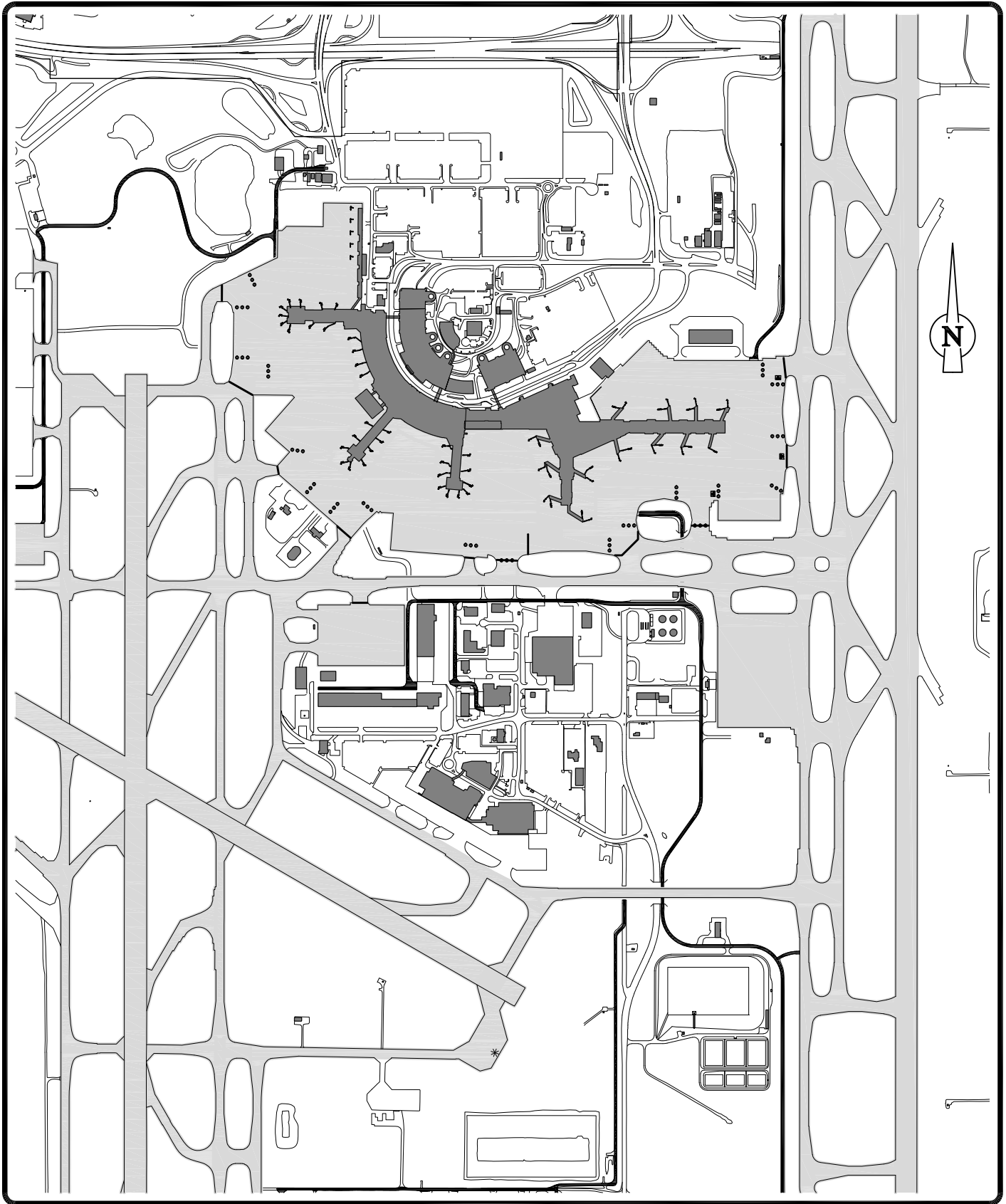
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DRAWN BY AJ

SCALE 1:25,000

DATE SEPT. 2024

SHEET No. 12 of 13



Name: yyc-avop-dtow-airfield.dwg Date: Sep 10, 2024 Time: 3:01 PM



PROJECT
CALGARY INTERNATIONAL AIRPORT
AVOP D-TOW NORTH
AIRFIELD

CADD FILE No.
yyc-avop-dtow-airfield

DRAWN BY
SAK

SCALE
1:25,000

DATE
SEPT. 2024

SHEET No.
13 of 13