



North Bay Jack Garland Airport

# Airport Traffic Directives

## DA AVOP Study Guide and Practice Tests



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## **AIRPORT and AVOP INTRODUCTION**

### **1.0 ABOUT THIS DOCUMENT**

This Airport Traffic Directive for DA permits details airside rules and policies that govern all airside operators which utilize all areas of the airport. DA permits are issued to individuals who require regular access to airside aprons in the course of their day-to-day work. As such DA permit holders must be trained to these standards by their employer and have the skills necessary to comply with all directives outlined within this document.

Content in this document complies with the standards and practices published in Transport Canada's Aerodrome Standards and Recommended Practices, Canadian Aviation Regulations, and the Airport Traffic Regulations. Furthermore this document also includes guidance and best practices from national and international associations, ensuring uniform standards are applied at the airport.

It is important to note however that the North Bay Jack Garland Airport Corporation has the authority to amend, update, or otherwise change these directives at it's sole discretion to meet the safety needs of all users or to comply with changes to regulations from time to time. It is the operator's sole responsibility to ensure that they are current on all procedures before operating a vehicle airside.

This Airport Traffic Directive is intended to be used as a self-study guide for the written and practical exams. As such this document forms an excellent reference resource throughout your career, and the duration of your DA permit.

## 2.0 CURRENT ENVIRONMENT DESCRIPTION

The North Bay Jack Garland Airport (“Airport”) is a critical component to the region’s infrastructure that supports numerous aeronautical businesses and hundreds of their employees in addition to providing essential daily air services to North Bay and many communities within Northern Ontario. The Airport welcomed nearly 85,000 passengers and saw tens of thousands of aircraft visits annually, not to mention the numerous visitors for special events, medical transfers, and other aviation related activities. Due to runway lengths and other infrastructure considerations the Airport can be used by airlines as a diversionary airport, when weather or other considerations prevent them from reaching their originally intended destination.

The Airport is operated 24/7 year round, and includes services provided by business partners such as aircraft maintenance, fuel services, Flight Service Station, CBSA clearances, ground handling, flight training, and more.

To provide all these various functions the Airport maintains a wide variety of ‘Airside Surfaces’, including in no particular order:

<b>Runways (6):</b>	<b>Taxiways (6):</b>	<b>Aprons (5):</b>	<b>Service Roads (16):</b>
Rwy 08/26 Rwy 18/36 Rwy 13/31(turf)	Hotel Lima Juliet Echo Golf Foxtrot	I II III IV V	Garage Rd. Garage Rd. West South Perimeter Rd. West Perimeter Rd. 08 Approach Rd. Glide Path Rd. VOR Rd. Pad One Rd. 13 Approach Rd. 18 Approach Rd. Receiver Site Rd. AWOS Rd. Compound Rd. Localizer Rd. North Perimeter Rd. East Perimeter Rd.
<b>Maneuvering Areas</b>		<b>Movement Areas</b>	

Additionally Nav Canada, as a wholly independent operator, provides and maintains the following air navigation sites, accessible only using the above maneuvering and movement areas.

### Air Navigation Sites:

Glide Path  
Localizer Transmitter  
VOR  
Receiver Site  
Radar Compound (also known as the NAV Ball)  
Weather Site (Automated Weather Observation Site - AWOS)

Together these systems comprise the Instrument Landing System (known as the ILS)

Understanding how to access and operate in these areas alongside aircraft, personnel, visitors, tenant employees, etc. is a critical component to these directives.

### 3.0 DEFINITIONS

The Airport operates on a 24 hour per day, 7 day per week, year round basis. Airport services, through on field business partners, include:

Term	Definition
<b>Aerodrome</b>	Any area of land, water (including the frozen surface thereof), or other supporting surface used or designated, prepared, equipped, or set apart for use either in whole or in part for the arrival and departure, movement, or servicing of aircraft, and including any buildings, installations, and equipment in connection therewith.
<b>Aircraft</b>	Any machine capable of deriving support in the atmosphere from the reactions of the air.
<b>Aircraft Movements</b>	Aircraft landings and take offs.
<b>Airport</b>	An aerodrome in respect of which a Canadian aviation document is in force.
<b>Airport Manager</b>	The duly authorized representative in charge of the airport.
<b>Airport Traffic</b>	All traffic on the maneuvering area of an airport and all aircraft flying in the vicinity of an airport.
<b>Airside</b>	That area of an airport intended to be used for activities related to aircraft operations and to which public access is normally restricted.
<b>Airside Vehicle Operator's Permit (AVOP)</b>	Means a document issued by the airport manager certifying that the person named therein is authorized to operate vehicles in an airside area.
<b>Apron</b>	That part of an aerodrome, other than the maneuvering area, intended to accommodate the loading and unloading of passengers and cargo, the refueling, servicing, maintenance, and parking of aircraft, and any movement of aircraft, vehicles, and pedestrians to allow execution of those functions.
<b>Airport Traffic</b>	All aircraft, vehicles, equipment and pedestrians using the apron of an airport.
<b>AVOP DA</b> (Apron Only)	Airport Vehicle Operators Permit with restrictions to specific movement (Apron) areas.
<b>AVOP D</b> (Taxiway crossing 18/36 and Aprons ONLY)	Airport Vehicle Operators Permit with restrictions to limited maneuvering areas (taxiways, crossing runway 18/36 Only).
<b>AVOP DX</b> (All Areas)	Unrestricted Airport Vehicle operators permit to all airside areas of the airport.
<b>Blind Transmissions</b>	A transmission from one station to another when two-way communication cannot be established and it is believed that the called station can hear transmissions, but is unable to transmit.
<b>Controlled Airport</b>	An airport at which an air traffic control unit is provided.



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<b>Cross-Walk</b>	Any portion of a road, an apron or any other area designated by a sign or surface marking as a pedestrian crossing.
<b>Designated Vehicle Corridor</b>	A road delineated by surface markings on an apron.
<b>Designated Vehicle Crossing Point</b>	A location on an apron, delineated by surface markings, where vehicles are to cross an aircraft taxi-line.
<b>Equipment</b>	Any motor vehicle or mobile device, either self-propelled or towed or of a specialized nature, used for runway and airfield maintenance or in the maintenance, repair and servicing of aircraft including test equipment and cargo and passenger handling equipment.
<b>Flight Service Specialist</b>	A NAV Canada employee who provides advisory information to aircraft and vehicles using, or about to use, the maneuvering areas of an airport where control service is not available.
<b>Flight Service Station</b>	A NAV Canada operated facility from which aeronautical information and related aviation support services are provided to aircraft including airport and vehicle advisory services for designated uncontrolled airports.
<b>Glide Path</b>	That part of an instrument landing system that helps the pilot approach the runway on the correct descent angle to the designated touchdown zone.
<b>Ground Control</b>	The operating position in the control tower that provides:  (a) clearances and instructions for the movement of airport traffic; and,  (b) information to all traffic within the airport perimeter as it is known and pertinent.
<b>Groundside</b>	The area that is on airport property that is not intended to be used for activities related to aircraft operations and to which the non-travelling public has access. (As defined in: Traffic on the Land Side of Airports Regulations, 1992, SOR/2006-102)  (i.e.) Groundside includes the Airport Terminal and Administration Buildings, general public roads, parking facility areas and approach light areas for runway 08/26 and 18/36.
<b>Holding Bay</b>	A defined area where aircraft can be held, or bypassed, to facilitate efficient surface movement of aircraft.
<b>Hold Short</b>	Instructions to hold at least 60 m (200 ft.) from the edge of a runway while awaiting permission to cross or proceed onto a runway.
<b>Intersection</b>	The point at which a road, runway or taxiway meets or crosses another road, runway or taxiway.
<b>Light Signal from Airport Control Tower</b>	A light used by the tower to control airport traffic when there is no radio communication. (Note: North Bay currently does not use this system)
<b>Localizer</b>	That part of the instrument landing system that helps the pilot remain lined up with the runway during his approach.

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<b>Maneuvering Area</b>	That part of an aerodrome intended to be used for the taking off and landing of aircraft and the movement of aircraft associated with taking off and landing, excluding aprons.
<b>Mobile Phone/Digital Handhelds</b>	Mobile phone (Cell & Satellite) and digital handheld devices that combines computing, telephone, internet and networking features. i.e. smart phones, tablets, etc.
<b>NOTAM</b>	Abbreviated form of “notice to airmen”. It informs pilots of conditions hazardous to aircraft operations by means of message or radio.
<b>Movement Area</b>	That part of an aerodrome to be used for the surface movement of aircraft and includes the maneuvering areas and aprons.
<b>Off all Maneuvering Areas</b>	Indicates a vehicle is now no longer using any maneuvering areas, while still continuing to work airside (i.e. they’re remaining on a service road or an apron)
<b>Off the Runway</b>	Indicates a vehicle is at least 60 m (200 ft.) to the side of the nearest edge of the runway in use, wherever practical.
<b>Operational Stand</b>	An area on an airport apron designated for the parking of aircraft for the purpose of loading and unloading passengers, and the provision of ground services.
<b>Operator</b>	The person responsible for the operation and safety of the vehicle and equipment; usually referred to as the driver.
<b>Positive Vehicle Advisor Service (PVAS)</b>	Instructions issued by Flight Service Specialists at designated uncontrolled airports to: <ul style="list-style-type: none"> <li>• Regulate vehicles entering, leaving or moving along runways; and,</li> <li>• Coordinate the movement of vehicle traffic on the airport maneuvering area other than runways.</li> </ul>
<b>Restricted Area</b>	An area of an airport designated by a sign as an area to which access by persons or vehicles requires the production of valid identification.
<b>Taxiway</b>	That part of an aerodrome used for maneuvering aircraft and airport equipment between the apron area and runway.
<b>Threshold</b>	The beginning of that portion of the runway usable for landing.
<b>Uncontrolled Airport</b>	An airport that is "non-controlled" to the extent that the airport does not have an operating air traffic control tower.
<b>Restricted Radiotelephone Operator's Certificate (ROC-A)</b>	A document issued by the Department of Communications certifying that the holder may act as an operator on any aeronautical-land radio station fitted with radiotelephone equipment only, transmitting on fixed frequencies and not open to public correspondence.
<b>Vehicle</b>	An automobile, bicycle, over-snow vehicle, truck, bus, or any self-propelled vehicle or device in, on or by which a person or thing is or may be transported, carried, or conveyed on land, and includes a machine designed to derive support in the atmosphere from reactions against the earth's surface of air expelled from the machine, but does not include an aircraft.

Airport Traffic Directives – DA AVOP

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<b>Vehicle Advisory Service</b>	Information provided by the flight service station for the safe movement of known vehicles and aircraft on maneuvering areas at locations where no control tower is in operation.
<b>Vehicle Corridors</b>	Parallel 150 mm (6 in.) wide, solid white lines spaced 7.5 m apart to provide guidance to vehicle and equipment operators.
<b>Warning Devices</b>	A siren and flashing red light.

## **AIRPORT and AVOP INTRODUCTION**

### **4.0 OPERATIONS OF VEHICLES ON AN AIRPORT**

#### **4.1 Applicable Traffic Directives**

The standards within this document are formed as a cumulative manual of both the:

##### **a) National Airport Traffic Directives**

- based on Acts, Regulations and procedures applied nationally for the safe and orderly operation of vehicles on airport movement areas.

##### **b) Local Airport Traffic Directives**

- based on the considerable differences in the operating conditions at each airport because of the size and complexity of operation, climatic conditions, geographical location and other factors, detailing the specifics of the North Bay Airport.

#### **4.2 Authorization to Operate a Vehicle Airside**

To obtain authorization to operate a vehicle on airport airside, an applicant will: Apply to the Airport Manager or designate for airside vehicle operation training material; and subsequent issuance of an Airside Vehicle Operator's Permit (AVOP), or Airport Manager written authorization to operate a vehicle airside;

- a) Arrange with the Airport Manager or designate for AVOP testing and/or assessment.
- b) Be issued by the Airport Manager or designate an Airside Vehicle Operator's Permit (AVOP), or written authorization to operate a vehicle airside;
- c) In the case of aprons and service roads only; operators, airlines or service provider companies are responsible to train, test and certify their operators and staff.

**Once training is completed a letter certifying the employee is trained and qualified will be provided to the Airport Manager, or designate.**

A vehicle is only to be operated on a maneuvering surface (runway or taxiway) as authorized by the air traffic services unit, Airport Manager or designate.

A vehicle is only to be operated on a movement area (apron) only as authorized by the Airport Manager or designate.

#### 4.3 Minimum Requirements to Operate a Vehicle Airside

No person shall operate a vehicle in the airside area of an airport unless:

- (a) that person is in **possession of an Airside Vehicle Operator's Permit (AVOP)**,  
*(Note: This certificate is not required if vehicle operation is restricted to the aprons and/or service roads only); or that person is escorted or accompanied by a person who is in possession of an Airside Vehicle Operator's Permit;*
- (b) that person is in **possession of a Restricted Radio Operator Certificate – Aeronautical (ROC-A)** issued by Industry Canada, or the appropriate Government of Canada Agency; and,
- (c) that person is in **possession of a valid driver's licence of proper class** for the vehicle that is to be operated; and,
- (d) that person is **authorized by the Airport Manager** or designate to operate a vehicle in that area, having provided:
  - i. Proof of valid insurance in the amount of \$5,000,000 General liability and comprehensive with no aviation exclusion.
  - ii. Proof of valid insurance in the amount of \$2,000,000 General liability and comprehensive with no aviation exclusion for general aviation tenants restricted areas as noted in red on the AVOP diagram in appendix B.

An Airside Vehicle Operator's Permit is issued by the Airport Manager on the basis of applicant's knowledge of both the national and local airport traffic directives for the airport named on the AVOP.

Application for an AVOP must be made to the local Airport Manager by the applicant in writing and must include the address of the applicant and reasons for the application.

To avoid delays in an application, you should check with the Airport Manager's office to ensure that all clearances and other certificates or licenses that you may be required to hold are available at the time of application for an Airside Vehicle Operator's Permit.

#### **Note:**

Subject to being revoked or suspended, an Airside Vehicle Operator's Permit issued under the Airport Traffic Regulations is valid for the period stated on the permit, and coincides with the expiry of the individuals Restricted Area Pass (RAP).

On the expiry of an Airside Vehicle Operator's Permit, the permit holder shall forthwith return the permit to the Airport Manager, and apply for a recertification test as per the standards that are in force by the Airport at that time.

#### **4.4 Process for AVOP Permits**

##### **4.4.1 DX Pass Requirements**

###### **(Unrestricted access to all areas)**

- a. All applicants must complete and submit an application for Restricted Area Access Pass to the Security Supervisor.
- b. Submit and supply consent to disclosure of personal information from the North Bay Police or the Ontario Provincial Police.
- c. Photos will be taken at North Bay Airport Security Office.
- d. Applicants must study and pass an aeronautics radio operators test to acquire a radio operator's license.
- e. Bring the completed AVOP application, driver's license and radio operator certificate to evaluation, in order to create a copy for your record.
- f. Must hold a valid driver's license for the class of vehicle being operated.
- g. Study manuals on air field procedures are supplied to the applicant.
- h. All applicants must pass a theory and two stage practical (afterhours procedures and ride along) airside vehicle operator's permit test evaluation.

##### **4.4.2 D Pass Requirements**

###### **(18-36 Taxiway Crossing and Aprons Only)**

- a. Restricted to TAXIWAYS CROSSING 18/36 and APRONS ONLY
- b. All applicants must complete and submit an application for Restricted Area Access Pass to the Security Supervisor.
- c. Submit and supply consent to disclosure of personal information from the North Bay Police or the Ontario Provincial Police.
- d. Photos will be taken at North Bay Airport Security Office.
- e. Applicants must study and pass an aeronautics radio operator's test to acquire a radio operator's license.
- f. Bring the completed AVOP application, driver's license and radio operator certificate to evaluation, in order to create a copy for your record.
- g. Must hold a valid driver's license for the class of vehicle being operated.
- h. Study manuals on air field procedures are supplied to the applicant.
- i. All applicants must pass a theory and two stage practical (afterhours procedures and ride along) airside vehicle operator's permit test evaluation.

##### **4.4.3 DA Pass Requirements**

###### **(Aprons Only)**

- a. All applicants must complete and submit an application for Restricted Area Access Pass to the Security Supervisor.
- b. Submit and supply consent to disclosure of personal information from the North Bay Police or the Ontario Provincial Police.
- c. Photos will be taken at North Bay Airport Security Office.
- d. Bring the completed AVOP application and driver's license to evaluation in order to create a copy for your record.
- e. Must hold a valid driver's license for the class of vehicle being operated.
- f. Study manuals on air field procedures are supplied to the applicant.

- g. All applicants must pass a theory and practical (ride along) airside vehicle operator's permit test evaluation.

#### **4.4.4 Training for Airside Vehicle Operators**

The operator of a vehicle on the movement area will be appropriately trained for the tasks to be performed and will comply with the instructions issued by:

- (a) The Air Traffic Services Unit, airport operator or designate when on the maneuvering area; and
- (b) The appropriate designated authority, when on the apron.

All training of vehicle operators will be conducted by the airport manager or designate, prior to allowing an individual to operate any vehicle and/or mobile equipment on the airport maneuvering areas. A copy of individual training and vehicle operation authorization records, i.e., for both airside vehicle operator's permit (AVOP) and/or airport manager written authorization, will be retained on the employee's and/or contractors' file at the airport.

Aprons and service roads drivers only training will be designated to the respective airline, service provider or tenant operator.

Airside vehicle operator training is based on the reference North Bay Airport Traffic Directives for the Operation of Vehicles on Airport Movement Areas.

#### **4.4.5 Arrange for an New AVOP Test**

Obtain AVOP and Restricted Area Pass applications from Airport Security in the main airport terminal building. When the applicant is prepared to attempt the AVOP test arrangements can be made by contacting:

Regulatory Compliance Manager  
Ph. 705-474-3026 ext. 5305

**NOTE:** Any AVOP tests scheduled between November 1 and April 1 may be cancelled and rescheduled with minimal notice, as weather and operational requirements permit during the winter.

#### 4.4.6 Evaluation of Airside Vehicle Operators

Once the operator has successfully completed the necessary training, the operator will be required to schedule an evaluation with the airport manager or designate.

The certification evaluation will comprise of the following.

##### **DX AVOP**

Written Test  
After Hours Verbal Test  
DA AVOP Practical Test  
DX AVOP Practical Test

##### **D AVOP**

Written Test  
After Hours Verbal Test  
DA AVOP Practical Test  
DX AVOP Practical Test

##### **DA AVOP**

Written Test  
DA AVOP Practical Test

Alternatively, tenants authorized to issue AVOPs, as per Section 1.2 Vehicle Operator Authorization, may evaluate and issue AVOPs as required for their specific operations and within their designated areas as outlined within their approved lease.

**Once training is completed a letter certifying the employee is trained and qualified will be provided to the airport manager.**

#### 4.4.7 AVOP Knowledge Confirmation

In order to maintain a high degree of airside safety when operating vehicles, and to ensure that all AVOP holders remain current with both the theoretical and the practical components of the entire Airside Traffic Directives, every AVOP holder is required to confirm their knowledge using the methods below.

1. Provide semi-annually, in writing, a statement confirming they have used their AVOP a minimum of 6 times within the 6 month period from Jan 1, or July 2 whichever is closer, until expiry.  
(*1<sup>st</sup> reporting period is 1 Jan – 1 July. | 2<sup>nd</sup> reporting period is 2 July – 31 Dec*)

All completed knowledge confirmation forms can be submitted to:

Mail: 50 Terminal St., Suite #1, North Bay, ON, P1B 8G2  
Email: [operations@northbayairport.com](mailto:operations@northbayairport.com)  
Fax: 705-474-3020

2. Should the AVOP holder not be able to provide written proof that they have used their AVOP a minimum of 6 times during the specific reporting periods listed above, a check ride must be scheduled within 90 days with an airport evaluator, as listed below, to validate their knowledge of all current traffic directives.

Regulatory Compliance Manager  
Phone: 705-474-3026 ext. 5305

3. Should an AVOP holder be unable to confirm their knowledge by one of the above methods their AVOP will be revoked immediately. Once an AVOP is revoked the individual will need to reapply for an AVOP, and if approved by the Airport Manager or designate will be required to fully certify again.





# AVOP Knowledge Confirmation Form

For All Airport Staff, Tenants, Clients, and Other Users.

## 1. AVOP Holder Details

Please indicate the individuals who have used their AVOP within the past 6 months.

First Name:	Last Name:	AVOP Issue Date:	AVOP Expiry Date:	Date of Last AVOP Use:	AVOP #
					NBA -
					NBA -
					NBA -
					NBA -
					NBA -
					NBA -
					NBA -
					NBA -
					NBA -
					NBA -

## 2. Authorizing Information

**Confirmation Statement:** I confirm that the above individuals have used their AVOP at the North Bay Jack Garland Airport at least six (6) times within the past 6 month reporting period, most recently on the date listed above. An update will be provided again within the subsequent six (6) month reporting period.  
(1st reporting period is 1 Jan – 1 July. | 2nd reporting period is 2 July – 31 Dec)

Supervisor / Manager / Designate Full Name and Signature:

Date:

Please forward the completed form via e-mail or fax to: [operations@yyb.ca](mailto:operations@yyb.ca) or (705) 474-3020.

Excerpt from Airport Traffic Directives:

### 4.4.7 AVOP Knowledge Confirmation

In order to maintain a high degree of airside safety when operating vehicles, and to ensure that all AVOP holders remain current with both the theoretical and the practical components of the entire Airside Traffic Directives, every AVOP holder is required to confirm their knowledge using the methods below.

1. Provide semi-annually, in writing, a statement confirming they have used their AVOP a minimum of 6 times within the 6 month period from Jan 1, or July 2 whichever is closer, until expiry. (1st reporting period is 1 Jan – 1 July. | 2nd reporting period is 2 July – 31 Dec)

All completed knowledge confirmation forms can be submitted to:

**Mail:** 50 Terminal St., Suite #1  
North Bay, ON, P1B8G2

**Email:** [operations@yyb.ca](mailto:operations@yyb.ca)

**Fax:** 705-474-3020

2. Should the AVOP holder not be able to provide written proof that they have used their AVOP a minimum of 6 times during the specific reporting periods listed above, a check ride must be scheduled within 90 days with an airport evaluator, as listed below, to validate their knowledge of all current traffic directives.

Regulatory Compliance Manager  
Ph. 705-474-3026 ext. 5305

3. Should an AVOP holder be unable to confirm their knowledge by one of the above methods their AVOP will be revoked immediately. Once an AVOP is revoked the individual will need to reapply for an AVOP, and if approved by the Airport Manager or designate will be required to fully certify again.

#### **4.4.8 Arrange for a 5 Year Recertification AVOP Test**

All AVOP holders must recertify their AVOP every 5 years, in addition to the intermediary requirements listed in 10.05 above. When the applicant is prepared to attempt the AVOP recertification arrangements can be made by contacting:

Regulatory Compliance Manager  
Phone: 705-474-3026 ext. 5305.

AVOP recertification is to be scheduled between April 1<sup>st</sup> and November 1<sup>st</sup> of the calendar year the AVOP is set to expire. This is done to ensure that the AVOP recertification is not cancelled and rescheduled due to weather and operational requirements, as is experienced during the winter.

The re-certification evaluation of a valid AVOP will comprise of a practical test, as appropriate by the operators AVOP classification. If an AVOP is not recertified within the five years it is issued for the AVOP will be revoked immediately and the individual will need to reapply.

#### **4.4.9 Issuing of Airside Vehicle Operator Permits**

After successfully completing an evaluation, the operator will be issued an AVOP from the Airport Manager or designate.

## **5.0 DUTIES AND RESPONSIBILITIES**

Each employer must ensure that their employees have received adequate training and are qualified to operate vehicles and equipment which they are required to use in the course of performing their duties on the airside. This includes ensuring that employees are in compliance with all Provincial/Territorial Driver's License requirements and restrictions.

Before operating a motor vehicle on the airside of an airport the vehicle operator must become familiar with the regulations and procedures in this manual and obtain authorization from the Airport Manager.

The vehicle operator must determine that their vehicle is operating satisfactorily (Do a walk around and check wipers, mirrors, lights, beacon, tires, leaking fluids, rocks in tires, mud, loose parts, etc.) and has the required safety equipment and markings by doing a walk around the vehicle (See Section 6.90, Recommended Safety Equipment for Vehicles). All operators shall notify their immediate supervisor of any equipment malfunction.

If you encounter any obstruction or potentially hazardous condition on any aircraft movement surface, report its nature and location to your supervisor in order that corrective action may be taken.

All personnel with Transport Canada or North Bay Airport restricted area passes shall wear these on outer clothing, ensuring they are always visible when in the restricted areas.

A person who is not in possession of a valid identification shall not enter or remain in any area of an airport that is designated by a sign as a restricted area unless authorized to do so by the Airport Manager.

Persons not displaying the passes should be considered unauthorized and should be reported immediately to the Airport Manager or representative. All designated gates must be kept closed and locked to prevent unauthorized personnel or vehicles access to the airside.

## 6.0 VEHICLE OPERATION PROCEDURES

This section outlines the 'How' an individual will safely operate a vehicle airside.

### 6.1 Right of Way Hierarchy

**Aircraft always have the right-of-way.** A vehicle operator, therefore, shall yield to any aircraft. Before entering an airport movement area, the vehicle operator shall always visually check and ensure that aircraft are not approaching or departing.

Following aircraft, vehicle operators shall yield right of way in the following order.

1. Emergency Vehicles responding to an emergency with lights/sirens;
2. Pedestrians, including passengers, crew, tenants, airport staff, etc.;
3. Vehicles and equipment engaged in snow removal, pavement ice control activities or other airfield activities;
4. Vehicles towing aircraft; and,
5. Other vehicles, such as tenant vehicles, air carrier vehicles (such as cargo vans and aircraft service equipment) and all vehicles being used during training or evaluation.

When operators within the same classification arrive at the same location the operator entering from the right will always be given the right away (i.e. if a baggage tractor and a fuel truck are evaluating who should be given the right of way it will be provided to the vehicle on the right, and other will hold their position until it is safe to proceed).

Vehicles already in a designated vehicle corridor have right-of-way over all other vehicles attempting to enter. Vehicle corridors are not "guaranteed safe routes". Taxiing or parked aircraft may at times encroach on vehicle corridors, and you must avoid such aircraft.

Every person operating a vehicle on an apron shall yield the right-of-way to pedestrians being escorted between an aircraft and the terminal building.

Every operator of a vehicle shall yield the right-of-way to a pedestrian who is within a pedestrian cross-walk.

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## **6.2 Operating Speed Limitations**

Vehicle operators shall use service and perimeter roads to reach field locations when these roads are available and time permits.

<u>Location:</u>	<u>Maximum Speed Limit</u>
Movement Areas (Aprons)	25km/h
Service Roads	50km/h
Maneuvering Area	50 km/h (with limited operational or emergency response exceptions)
	Ensure a safe and efficient operation of the vehicle, in the thorough completion of the tasks of the operator, taking into consideration factors such as vehicle and attachments operational limits, weather, other operations on the maneuvering area, etc.

It is the sole responsibility of the vehicle operator to ensure that the vehicle is operated in a safe manner at all times. Failure to operate the vehicle safely at any time will result in the individuals AVOP to be revoked immediately by the Airport Manager, or designate.

## **6.3 Vehicle Registration**

No person shall operate a vehicle in an airside area unless the vehicle displays a provincial registration plate or a registration plate or other means of identification issued or authorized by the Airport Manager.

## **6.4 Personal Prohibitions**

No person shall operate a vehicle in an airside area while under a prohibition from operating the vehicle imposed by a court or judge.

## **6.5 Apron II Access at Gate 1, Gate 2, and Gate 2A**

Gates are also Emergency Access points therefore they are not to be blocked for any length of time. Vehicles waiting for aircraft to arrive will be parked so they are not blocking the gate. Proceed to gate for airside access only after the aircraft has parked and engines are shut down.

When the vehicle is ready for airside access, proceed to gate and either press the Call Button or phone Airport Security at 705-840-9965, if the vehicle is not equipped with an authorized gate opener.

At no time are unescorted vehicles permitted to follow any other vehicle through the gates. After your vehicle has proceeded through the gate, wait until the gate fully closes behind you before continuing to worksite.

### 6.5.1 Gate 1

Gate 1 will remain locked and secured at all times. Airport Security will be responsible for granting airside access through Gate 1 at all times. Select organizations, ie North Bay Ambulances, have procedures to access Apron II through this gate even if Airport Security is not present overnight. Without preauthorized arrangements all vehicles must be granted access by Airport Security.

### 6.5.2 Gate 2

During normal business days from 07:00 – 18:00 Gate 2 will remain open to allow courier access to Maintenance Garage. On weekends, stat holidays, and off hours the same procedure for Gate 1 will apply for Gate 2. These times are approximate and can change for a number of reasons from time to time and without notice.

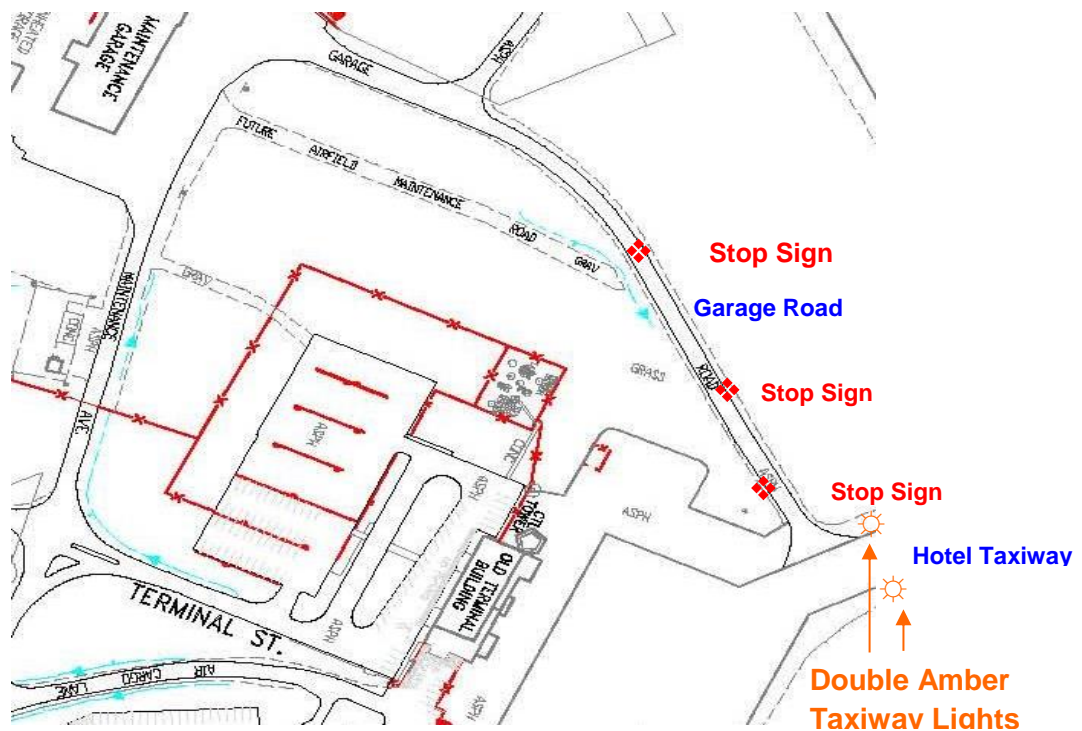
### 6.5.3 Gate 2A

Other than authorized personnel and vehicles, airside access through Gate 2A must first be authorized by the Airport Manager.

### 6.5.4 Garage Road Access to Apron II

If Apron II access is only available through Gate 2 and or 2A, vehicles will proceed past the Maintenance Garage then along Garage Road to the Apron . Because Garage Road crosses a Helicopter Flight Path, vehicles will stop at the Stop signs, in both directions, and look for any helicopter traffic. Only when no helicopter traffic is present along this Flight Path will it be safe to proceed.

When entering the Apron from Garage Road, stop and check for traffic and be extremely cautious not to encroach traffic on Hotel Taxiway and Apron II, see the diagram below. Always give aircraft the right of way.



## 6.6 Functional Vehicle Requirements

All vehicles operating on airside shall have safety equipment and display markings as described below:

### 6.6.1 Rotating / Flashing Beacon

All vehicles that will be operated or driven on designated movement and maneuvering areas **must** be equipped with a rotating (bulb equipped) or flashing (LED cycling to simulate rotating) warning/beacon light that must be turned on while a vehicle is on these areas. **If equipped with headlights, these must also be turned on while in the maneuvering area.**

The rotating warning lights shall be mounted on the vehicle in a location that will permit the beam to be seen by aircraft or surface traffic from any position within 360°.



The enclosing globe of the warning light shall be amber for all vehicles except airport emergency service vehicles, which are to be equipped with a red warning light.

Failure to have a 360° beacon will require the vehicle to be escorted by a fully equipped vehicle (i.e. Airport Security will escort a single courier or rented vehicle if it arrives without a beacon, however a single courier can be escorted by another courier from the same company [assuming escort responsibility and liability] if the vehicle is equipped with an appropriate beacon).

**Note:** Also see TP312 5<sup>th</sup> Edition Section 6, Subsection 6.3.2 Mobile Objects for specific information relating to the marking of mobile equipment.

### Exceptions:

Aircraft fueling vehicles which have an overall height in excess of 3.5 m are permitted to mount 360° beacon lamps on the vehicle cab provided that tail signal lamps are operated in conjunction with the 360° beacon lamp to provide adequate indication to the rear of the vehicle.

Additionally emergency response vehicles which have operational flashing lights on all sides of the vehicle are permitted to be used in the course of their duties (emergency response, staging, training, etc.) as rooftop equipment may impede the visibility of a roof mounted beacon.

### **6.6.2 Safety Marking and Equipment Requirements for Aprons**

All self-propelled vehicles must be equipped with head lamps, tail lamps, parking lamps and, if licensed for off airport use, a license plate lamp. Vehicles with a cab must also be equipped with a rotating or flashing beacon lamp mounted on top of the vehicle. Vehicles without a cab must be capable of operating the parking and tail lamps so that they flash on and off in unison.

Whenever a self-propelled vehicle is moving from one place to another on the airport apron, those equipped with a flasher (beacon lamp only for vehicles with a cab) must be in operation. The purpose of this procedure is to indicate to taxiing aircraft that the vehicle is being operated in the active apron area. These lamps should not, therefore, be left flashing when the vehicle is parked and left unattended. Improper use of flashing lamps is potentially distracting to taxiing aircraft and down-grades their value as a warning indicator that the vehicle is in motion.

Headlamps and non-flashing tail and parking lamps must be operated during hours of darkness and reduced visibility and may be left on as required while engaged in service to parked aircraft. All vehicle lamps should be turned off when the vehicle is parked in approved parking locations.

All non-self-propelled equipment is required to carry a strip of yellow reflective material along the full length of the equipment and diagonal yellow and black panels on the front and rear lower corners.

The presence of unlit equipment on airport aprons can be a significant hazard to taxiing aircraft. For this reason, it is important that the reflective material on all equipment should be kept clean and in good condition at all times.

All vehicles and equipment operating on aprons shall be equipped with standard safety markings prescribed for apron service vehicles.

#### **Exceptions:**

Occasional use on the apron area of vehicles or equipment not equipped with standard safety markings may be permitted while under escort of a vehicle so equipped (i.e. Airport Security will escort a single rented vehicle if it arrives without markings, or a contractor can be escorted by a tenant vehicle that is equipped).

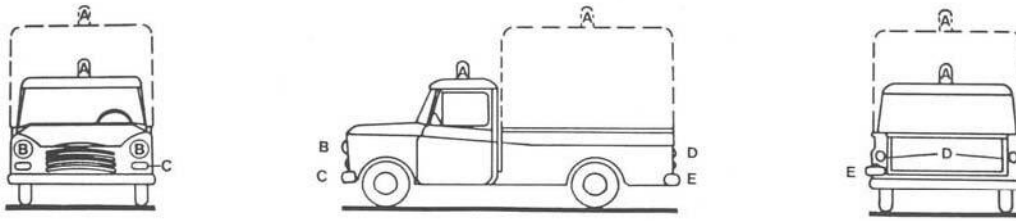
Police, emergency services and other vehicles equipped with safety marking prescribed for operation on airport maneuvering areas are considered to equal or exceed these standards.



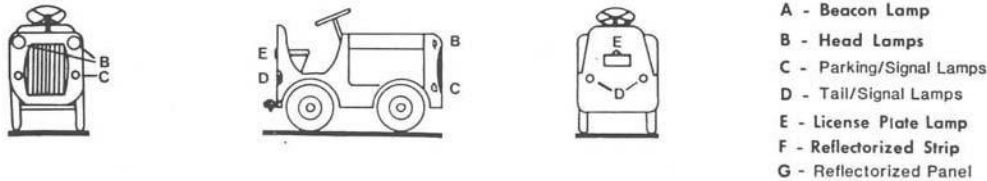
Airport Traffic Directives – DA AVOP

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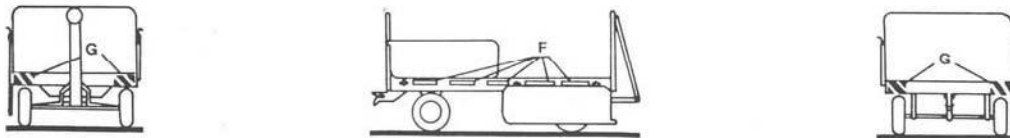
I. Self-propelled Vehicles with Cab



II. Self-propelled Vehicles without Cab



III. Non-self-propelled Vehicles and Equipment



### 6.7 Parking a Vehicle Airside

Wherever possible and practical, vehicles and equipment should be backed into parking areas. This is particularly important around air terminal buildings, loading bridge areas, and other heavy traffic areas. Should backing into a parking area be impossible, the vehicle will be parked in a manner to allow the vehicle to drive forward when departing. Both are intended to provide maximum visibility for the vehicle operator when departing from a parking area.

No person shall park a vehicle in any area designated by a sign as an area in which parking is prohibited.

No person shall, without the permission of the Airport Manager, park a vehicle in any area of an airport not intended for the use of vehicles.

No person shall park a vehicle in any area of an airport designated by a sign as a loading area.

Equipment and vehicles shall not be parked or left unattended on vehicular routes or aircraft movement areas without the permission of the Airport Manager. Vehicles must be parked only in approved areas when not in immediate use.

### 6.8 General Safety of Others

No person shall operate a vehicle in an airside area in a manner that, having regard to all the circumstances, including the amount of traffic, is dangerous to aircraft, equipment, persons or vehicles.

**6.9 Additional Recommended Safety Equipment**

Vehicles operated alone (not in company of another vehicle or vehicles) in the maneuvering area or other remote locations of the airfield for an extended period of time are to carry a supply of red, road safety flares sufficient to provide a continuous signal for a minimum of one hour. Although not required to be in the vehicle at all times, the carriage of these flares is strongly recommended in winter when both motor and battery/radio failure are most likely to occur. The vehicle owner is responsible to ensure provision of an adequate supply of flares based on operating requirements.

The vehicle operator and his/her supervisor are responsible to ensure that flares are in the vehicle when required based on prevailing operating conditions and work assignment.

**6.10 Reporting of Hazards and Accidents**

The operator shall report all accidents, incidents, and occurrences of hazardous debris, to Airport Security. Incidents also include near misses.

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**6.11 Vehicle Identification**

For radiotelephone communication, airport vehicles are given the following identifiers:

<b>Function</b>	<b>Generic Identifiers</b>	<b>Numbers Allocated</b>
Crash Firefighting and Rescue Vehicles	Red, Pump, Car	1 - 19
Staff vehicles (cars, station wagons, pick-ups, panels) airport operations, NavCanada telecommunications, and air traffic services)	Staff Tech	20 - 79
Trucks (dump, snowplow, stake, etc.)	Truck Sander	80 - 119
Snow blowers	Blower	120 - 149
Tractors, Graders	Small Tractor (Kubota's)/Grader	150 - 179
Passenger Transfer Vehicles (PTV)	PTV	180 - 204
Police and Security	Police	205 - 219
Other vehicles and equipment not covered above	Type of Vehicle (Loaders)	220 - 239
Commercial, maintenance, and construction vehicles and mobile equipment rented or contracted to the airport operator	Type of Vehicle	240 - 299
Air carrier and service agency vehicles and equipment	Type of Vehicle (Deicing, fueling, etc.)	300 - 499
National Defense Vehicles except Airport Emergency Services Vehicles	Type of Vehicle consistent with the above	500 - 599

**Note:**

The identification assigned to a vehicle must be used in-full in every radio-telephone transmission from that vehicle.

**All identifiers/call signs are assigned by the Airport and cleared with NAV Canada.**

#### **6.12 Prohibited Actions**

- 1) Smoking, of any material using any method, is not permitted on runways, maneuvering areas, apron areas or other airside areas. This prohibition applies to persons both inside and outside vehicles and equipment.
- 2) Operators shall not convene on the scene of an accident
- 3) Operators shall not travel to or near aircraft carrying distinguished visitors unless authorized by the Airport Manager, or where a tenant has a commitment to fulfil a business function (baggage handling, fueling, etc.)
- 4) Operators shall not operate a vehicle within 15 m (50 ft.) of an aircraft being fueled or defueled except for the purpose of servicing that aircraft or as required when operating within a designated vehicle corridor.
- 5) No operator of a vehicle entering or on an apron shall approach or cross an aircraft movement guideline except:
  - at a right angle to the aircraft movement guideline; or
  - where a designated vehicle crossing point exists, at that crossing point.
- 6) Operators shall not use mobile phones, tablets, or other mobile communication or computing devices while operating vehicles or equipment.

The use of hands-free mobile phones should be kept to a minimum when driving. To make or receive calls:

- Pull over and stop; (clear of the maneuvering areas when airside)
- Allow a passenger to operate the phone;
- Make use of voice mail and respond to the call at a safer time; or
- Let someone else drive, freeing you up to make or receive calls.

AVOP holders who choose to violate this directive shall will have their permit suspended and face legal responsibility if they are involved in an accident and there is evidence that they were using a cell phone while driving.

- 7) Operators shall not use studded tires airside, due to the potential damage they can cause to infrastructure or aircraft as FOD.

#### **6.13 Foreign Object Debris (FOD)**

No person shall:

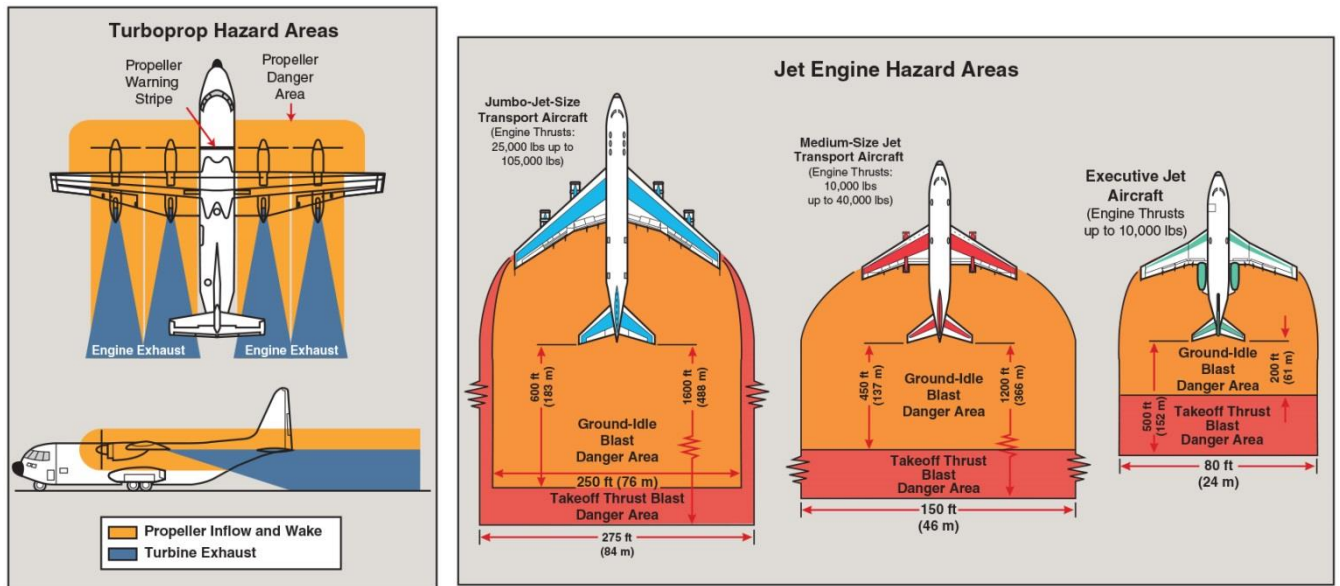
- (a) Throw, deposit or knowingly leave on a road, apron or maneuvering area at an airport any glass, nails, tacks, scraps of metal, chemical substance or other material that may damage any aircraft or vehicle; or
- (b) Throw, deposit or knowingly leave any form of trash or garbage at an airport except in a container provided for that purpose.

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- (c) Foreign material such as mud and gravel can seriously damage aircraft engines. Vehicle operators, therefore, should ensure that the surfaces of movement areas are kept clean by **checking that wheels and tires are clean before they enter these areas** (such as stones, mud, ice, salt, etc.). If foreign material is deposited on these surfaces, operators shall notify the airport security and arrange for its immediate removal. Any FOD removal by airport staff shall be at a cost recovery basis as per established fee rates at the time. Any foreign material that poses a threat to an aircraft and its safe operations is referred to as Foreign Object Debris (FOD).

### 6.14 Jet Blast / Prop Wash

Vehicle operators shall remain a safe distance from areas affected by jet blast or prop wash of maneuvering aircraft, and not pass in front of or closely behind aircraft with engines running unless the wheels of the aircraft are chocked or the marshal waves permission.



### 6.15 Handheld or Mounted Devices

The same rules exercised on Ontario roads apply on airside. Communication via cell phone may be done so if a vehicle has been stopped and parked in a safe location. The use of company and aeronautical radios is permitted during the performance of work related duties. Texting during the operation of vehicles or while walking on airside is NOT permitted, you must always pay full attention to your surroundings.

## 7.0 PAVEMENT MARKINGS

Vehicle operators must understand the pavement marking system.

(a) White lines pertain to vehicle movement and control.

**VEHICLE = WHITE**

- i. Vehicle corridors used on busy aprons are marked by two solid white lines 7.5m (25 ft.) apart centered by a single broken line.
- ii. Security lines are solid white lines 150 mm (6 in.) wide, used to denote the parking area for ground service vehicles and equipment.

(b) Yellow lines pertain to aircraft movement and control.

**AIRCRAFT = YELLOW**

- i. Aircraft movement guidelines, a solid yellow line 150 mm (6 in.) wide, are continuations of taxiway centerlines that serve as a center-of-aircraft guideline to aid aircraft traversing the apron. (These lines may not be required on some small aprons.)
- ii. Aircraft lead-in lines are marked by 150 mm (6 in.) solid yellow lines. The spacing and angle vary, depending on the "design aircraft" and local operating procedures.

### 7.1 Vehicle Corridors

At airports with designated vehicle corridors all vehicles (with the exception of vehicles noted below) must operate within these corridors when moving about the apron, e.g., to or from operational stands, between operational stands, across aircraft taxi lanes, etc.

Only these vehicles may operate outside the corridors:

- (a) vehicles such as maintenance, construction and snow removal vehicles, that require access to other areas of the apron when performing their duties; and
- (b) emergency vehicles, with warning devices operating, when responding to an emergency.

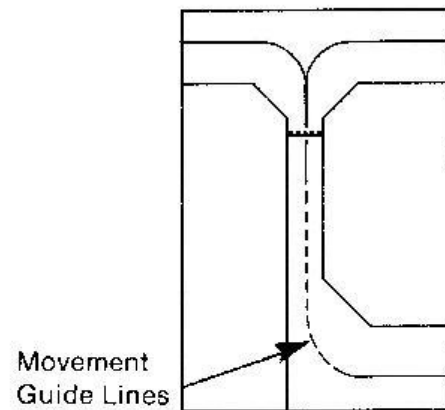
On aprons where vehicle corridors have not been designated, you should use extra care. Avoid, as much as possible, operating in aircraft taxi lanes and cross aircraft taxi lanes only at right angles.

Areas within operational stands provide free movement for vehicles performing their duties.

## 7.2 Aircraft Guide Lines, T-Lines, Lead-in Lines, and Stands

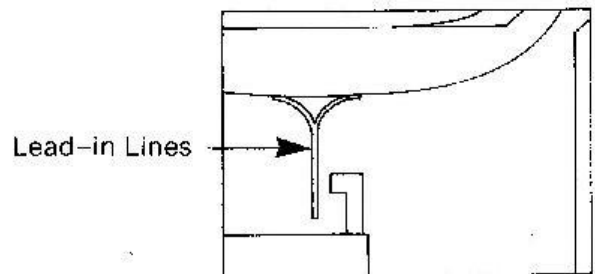
### Aircraft Movement Guide Lines

A single yellow line extending from the runway along a taxiway to, and in some cases, along the apron. The nose wheel of the aircraft is centered on this line to ensure that the main wheels are on pavement and that the wings will not contact known obstructions (buildings, light standards etc.). On aprons, vehicles may only cross aircraft movement guidelines at right angles.



### Aircraft Lead-in Lines

A yellow line between an aircraft guide line and a gate or parking position. The aircraft nose wheel is centered on this line to guide the aircraft into the parking position without hitting other parked aircraft or obstructions. Also referred to as “**T-Lines or Stands**”.



Example:



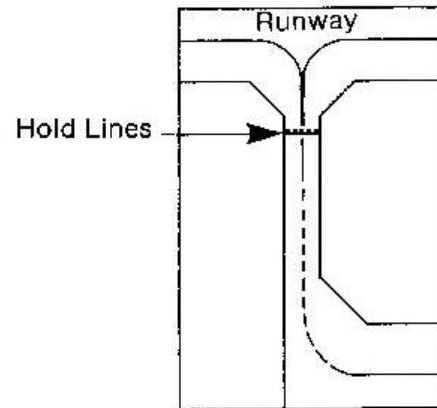
**T-lines are located on Apron II only at this time. There are two located in the Restricted Area of the Apron, and four in the Controlled Area of the Apron. Remember that the Restricted Area is used to park aircraft for embarking and disembarking passengers; which includes additional security considerations.**

**Refer to the Airport Security Program for additional information.**

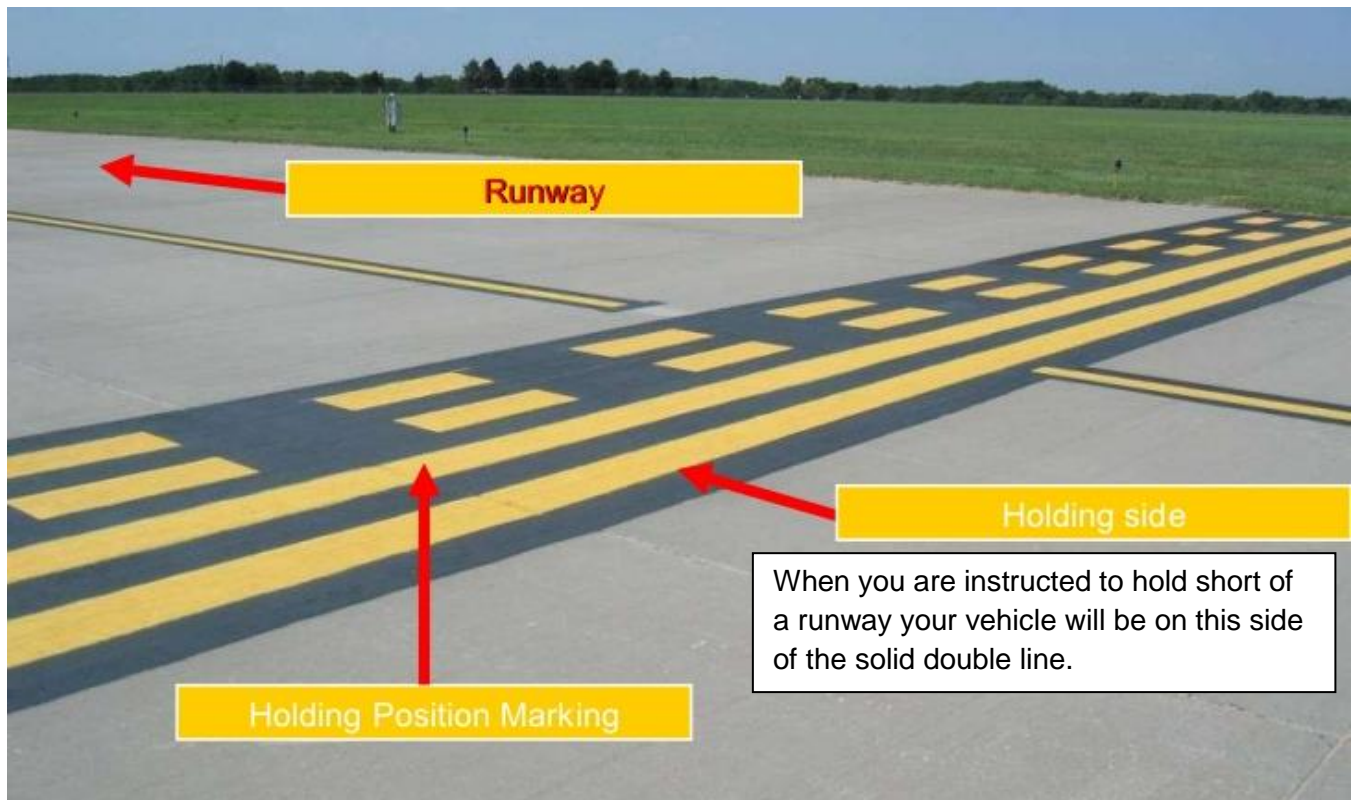
### 7.3 Hold Lines

#### Hold Lines

A solid and a broken yellow line or two solid and two broken yellow lines across the width of a taxiway with the broken line(s) closest to the runway. Vehicles and aircraft must stop behind the solid line(s) and not proceed unless and until permitted to do so by the Air Traffic Controller or Flight Service Specialist.



Example:



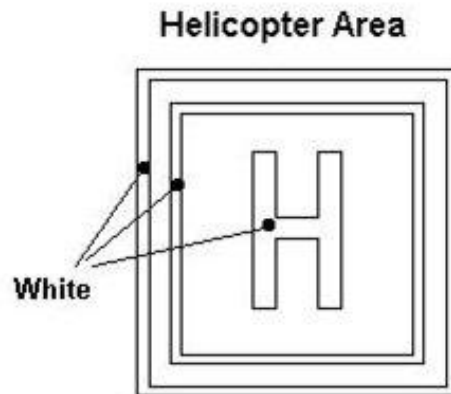
**Although you shall stop before the hold line (double solid lines) you should also give some consideration for what may be required next. Stopping before but near the line and center of the taxiway will not give you the space needed to turn if you were routed in a different direction, or request a new route.**



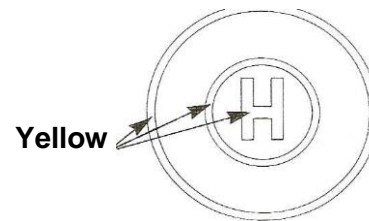
#### 7.4 Helicopter / Helipad Markings

Note: There are currently no helicopter markings at the North Bay Jack Garland Airport.

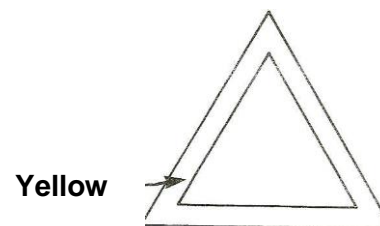
The paved surface of areas designated for the arrival and departure of helicopters is designated by a large white 'H' within a white square or circle.



Helicopter parking (or touch down) locations on an apron are marked by two yellow circles with yellow capital "H" inside the smaller circle.



The area where a helicopter may arrive or depart (but not land) is marked with a yellow triangle.



All vehicle operators must remain outside the perimeter marking of helicopter arrival/departure areas and parking locations except when engage in service to these aircraft. While taxiing, all aircraft have the right of way.


## 8.0 AIRFIELD LIGHTING


A variety of lights are used airside to provide information and direction to pilots and vehicle operators. Every vehicle operator must know the meaning of these lights to avoid entering areas where they are not permitted to be and as a guide to vehicle movement when within the maneuvering areas (runways and taxiways) of the airport.


### 8.1 Aerodrome Beacon


The aerodrome beacon is a large rotating white light mounted at a location such as on top of the Flight Service Station control tower. It is provided for visual identification of the airport by aircraft but is also a good reference point for vehicles on the airfield.


### 8.1 Edge Lighting on Movement and Maneuvering Areas

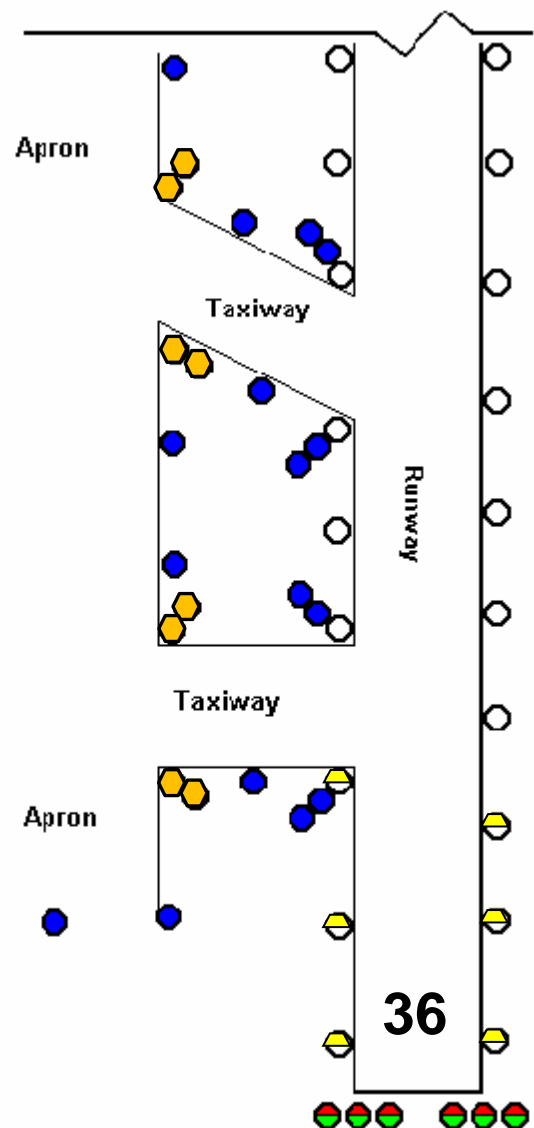
 **White** lights are used along the edge of runways.

 **Blue** lights are used along the edge of aprons and taxiways. Alternatively a blue 'pylon/marker' can also be

 **Amber** lights are used at the intersection of aprons and taxiways. Also known as 'double ambers', these lights identify the maximum allowable distance a vehicle operator can proceed up to before they must have authorization from FSS to proceed from an apron to a taxiway.

 **Two Sided Red and Green** lights are located at the runway threshold and are used to identify the end of a runway, for aircraft landing, with the green half pointing toward the approach of the runway.

 **Two Sided White and Yellow** lights are used at the runway end to indicate the approaching end of the runway, for aircraft taking off, with the white half pointing toward the approach of a runway.



### 8.1 Runway Guard Lights (aka Wig-Wags)

The Runway Guard Lights are a pair of amber light fixtures, one on either side of hold lines for the main runway (south entrances only) with two flashing amber lights in each fixture, which provide a distinctive warning to pilots and vehicle operators that they are approaching a runway holding position and are about to enter an active runway, essentially enhancing the hold short line/position.

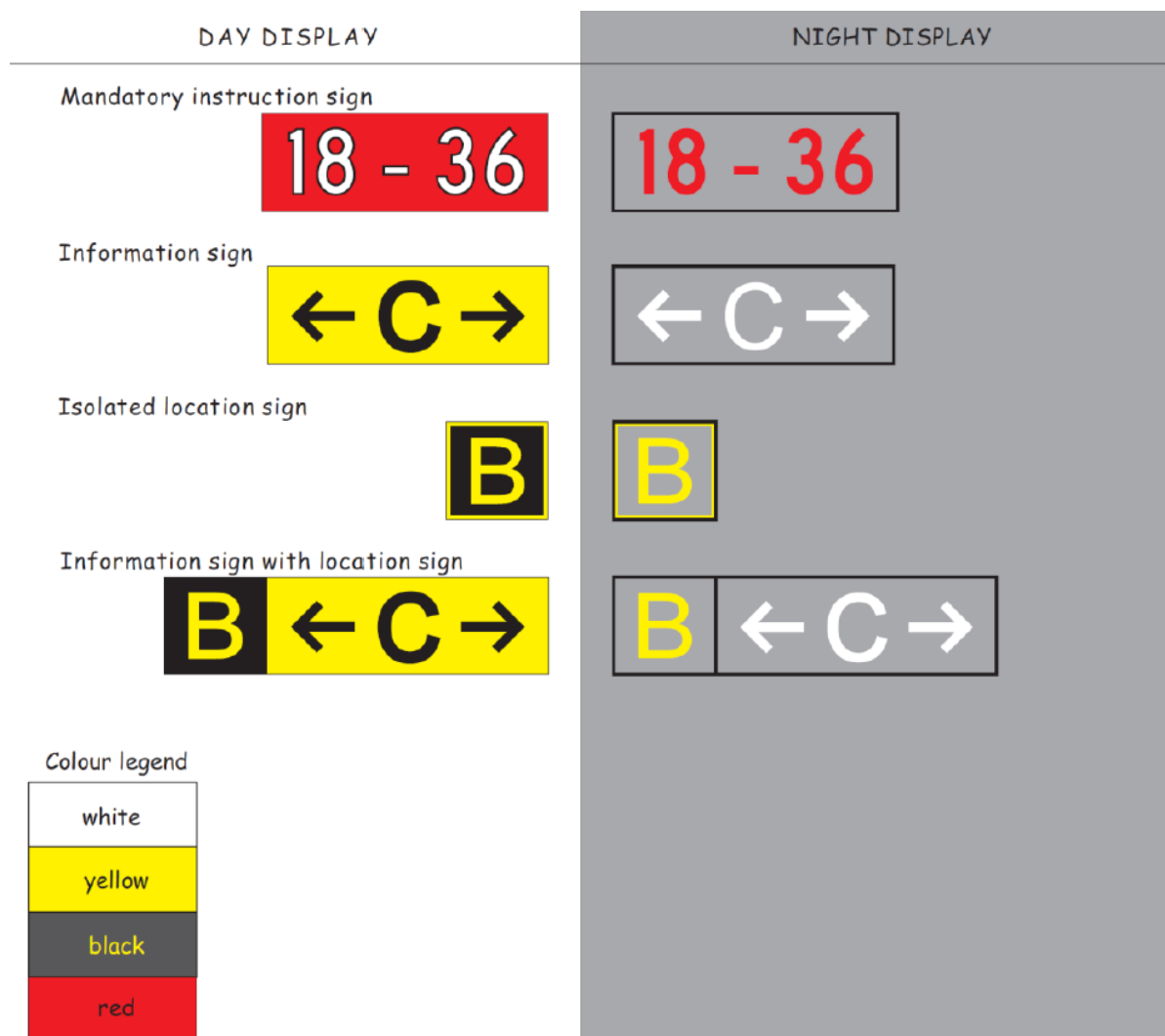
These lights are visible in all weather conditions however in inclement weather (rain, snow, etc.), in low visibility, or at night these lights provide an especially bright/vibrant notification to the operator.



**In order to provide greater visibility for hold lines and therefore entrances at Runway 08/26 these guard lights are only found on intersecting taxiways (Lima, Juliet, Echo, and Hotel) and on Runway 36 (south of Runway 08/26).**

## 9.0 AIRFIELD SIGNS

Throughout airside there are three different types of signs which are used to provide information and direction to pilots and vehicle operators. Each of these signs are unique in appearance, and provide different information.



Above Sign Display Diagram from TP312 5<sup>th</sup> Edition.

### Important Note:

At the North Bay Jack Garland Airport a Mandatory Sign and a Location Sign are often collocated together on the same sign face. In this case this sign face is providing an operator with two 'parts' of information – Where the operator is currently located, and the mandatory hold short position for the upcoming runway.



Above: An example of a 'Location' Sign in conjunction with a 'Mandatory' Sign.

### 9.1 Mandatory Signs

These signs are red with white lettering, and provide mandatory instructions, such as 'Hold Short'.

**“Runway Designator”** These signs are red, indicating the mandatory instruction to "Hold Short". The sign also indicates the runway designation of the upcoming runway.



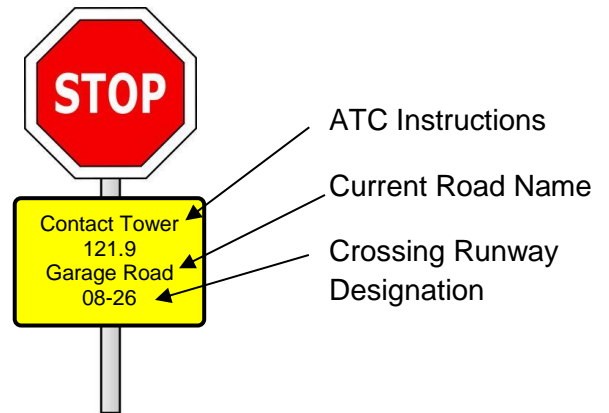
Above: An example of a standalone 'Mandatory' Sign.

**“Road Holding Position”** These signs are red, indicating the mandatory instruction to "hold short". The sign also indicates the contact information to obtain clearance to proceed onto the runway designation of the upcoming runway.

#### **IMPORTANT NOTE:**

While 'Road Holding Position Signs' are used at the intersection of service road and a runway, these signs are also placed at specific traffic flow locations.

In this case the ATC instructions will be replaced with local traffic information, such as, but not limited to, "Watch for Helicopter Traffic". These should be treated as any other "STOP Sign" on a road.



***“White on  
red – stop  
ahead”***

## 9.2 Location Signs

These signs are black with yellow lettering, and identify the name of the maneuvering surface you are currently on.

**Location Signs**, like street signs, identify the names of the maneuvering area/surface you are currently on. These signs can either be mounted independently, as a standalone sign, however they are commonly found with Mandatory Signs at the intersection of a Taxiway and a Runway.



Above: An example of a standalone 'Location' Sign.



Above: An example of a 'Location' Sign in conjunction with a 'Mandatory' Sign. This type of sign is often found at the North Bay Jack Garland Airport.

***“Yellow on black –  
tells where you’re at”***

### 9.3 Information Signs

These signs are yellow with black lettering, and typically have an arrow to provide you with information about what areas are nearby.

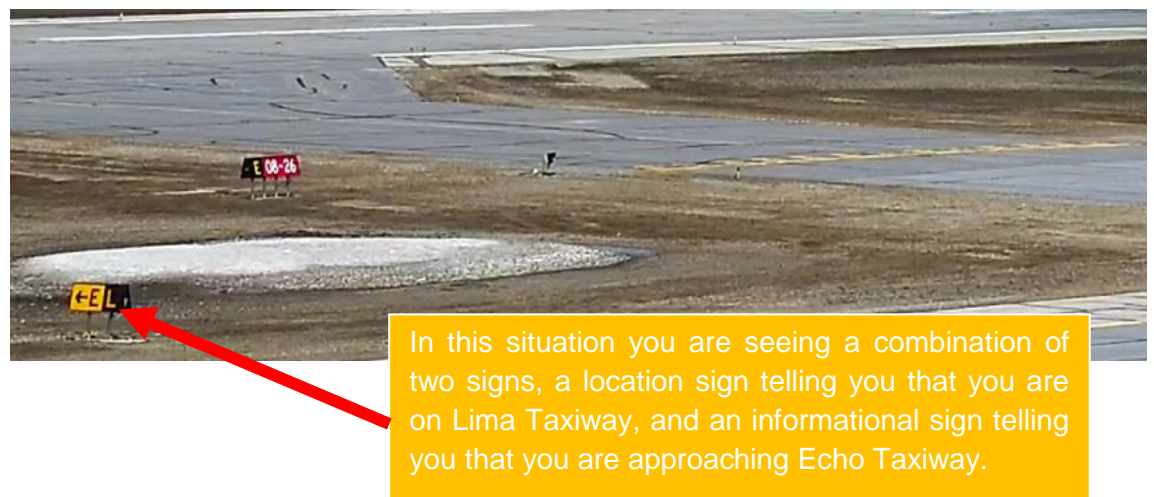
**Information Signs** normally have an arrow indicating the direction of travel to exits, aprons, terminal buildings, or other facilities named on the sign. These signs can either be standalone, or grouped with other signs, including Location Signs and Mandatory Signs.



***“Black on yellow – tell a fellow”***



#### 9.4 Overview of Signs and Markings Used Together



Remember that taxiways are referred to by using the phonetic alphabet so that taxiway "A" is spoken of as "taxiway Alpha"; taxiway "B" is "taxiway Bravo", etc. Also remember that a vehicle may not enter a taxiway without prior approval of ground control or Flight Services or, in their absence, the approval of the Airport Manager.



## 10.0 Wildlife

It is common for ground vehicle operators to spot wildlife on the airfield. It is important to report these sightings as soon as possible to ATS or to airside operations. Birds or animals can be a hazard to aircraft, causing major damage or potential accidents.

## 11.0 Foreign Object Debris (FOD)

FOD is a substance, debris, or article alien to a vehicle or system which could potentially cause damage. Ingesting FOD into a jet engine or a propeller hit can cause significant damage and pose a major safety risk.



**Foreign object debris (FOD) at airports can cause damage that costs airlines, airports, and airport tenants millions of dollars every year.**



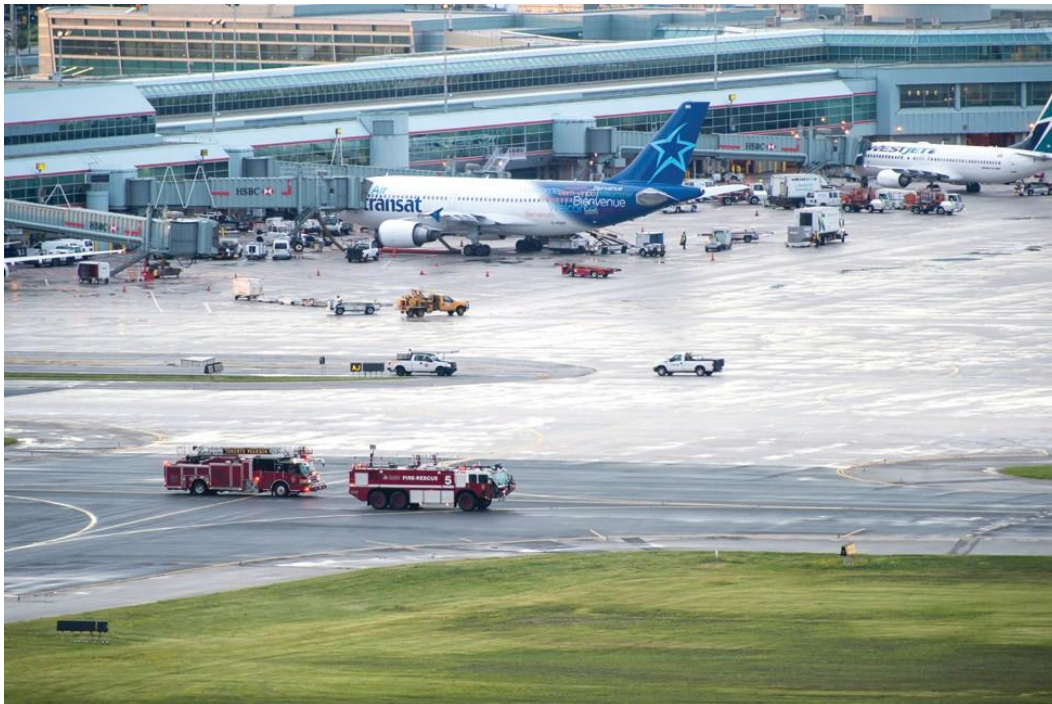
**If you see it, pick it up.**

## 12.0 Aircraft Rescue and Fire Fighting

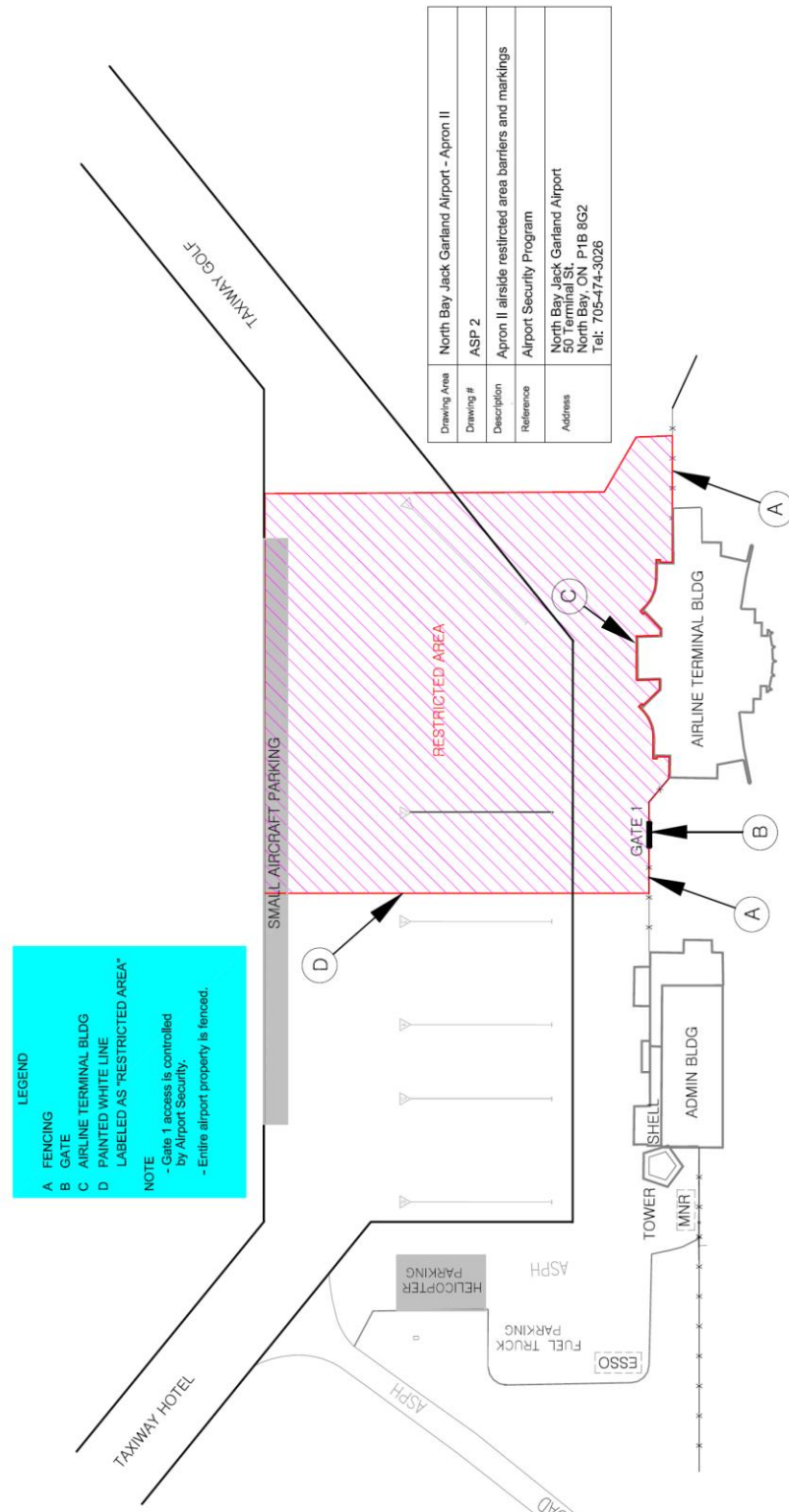
When an emergency situation takes place on the airfield, ATS will give emergency crews specific instructions and routing in order to address it in the safest manner possible.

During emergency situations, ground vehicles responding must always ensure communication with ATS. ATS will provide emergency crews with specific instructions and follow emergency procedures established by both parties.

As a rule, Aircraft Rescue and Fire Fighting (ARFF) responding to an emergency situation have priority over other vehicles.

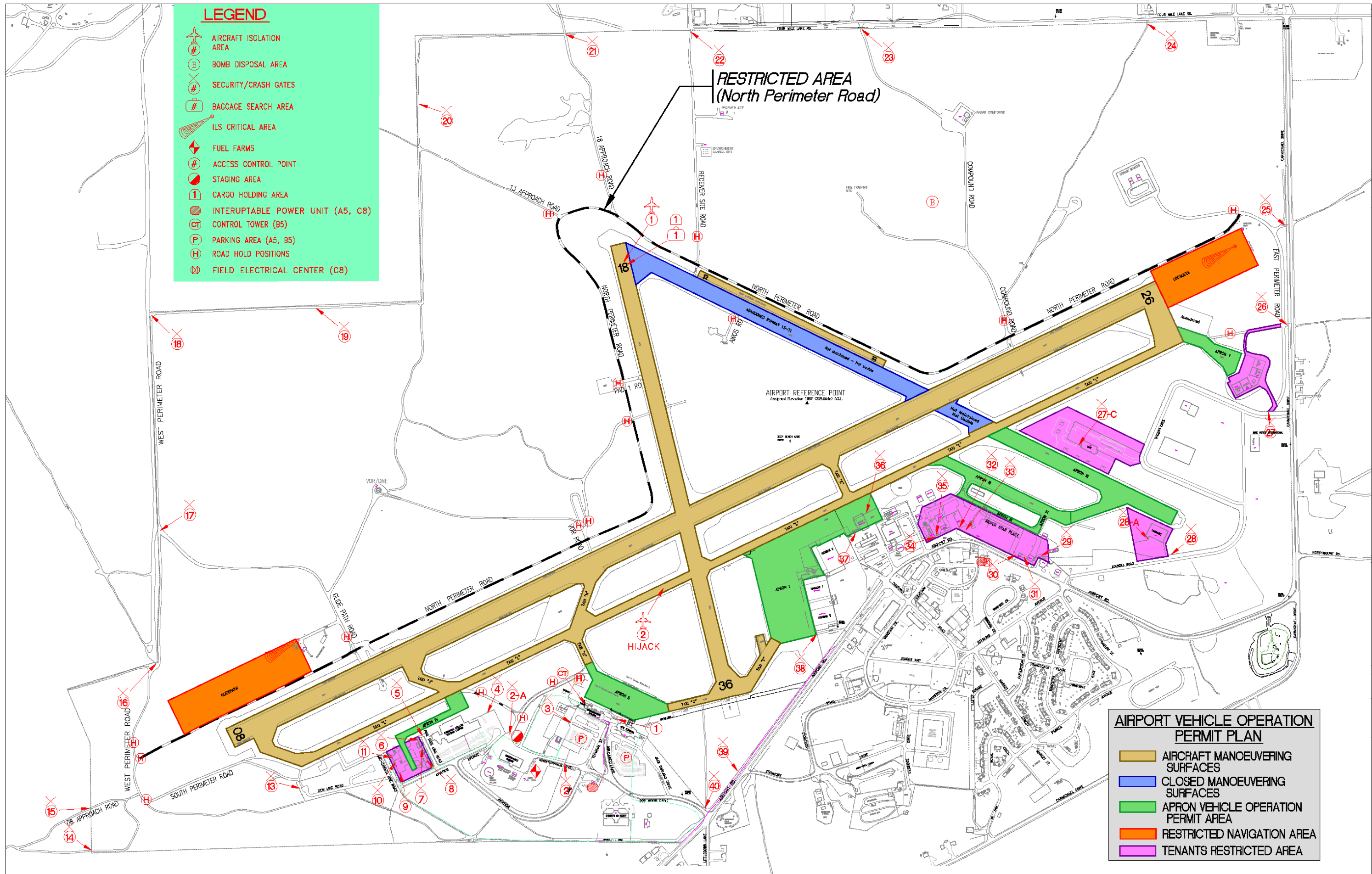


## 13.0 Annex A – North Bay Airport Apron II Site Plan



**14.0 ANNEX B – NORTH BAY AIRPORT VEHICLE OPERATOR PERMIT PLAN**

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### LEGEND

- AIRCRAFT ISOLATION AREA
- BOMB DISPOSAL AREA
- SECURITY/CRASH GATES
- BAGGAGE SEARCH AREA
- ILS CRITICAL AREA
- FUEL FARMS
- ACCESS CONTROL POINT
- STAGING AREA
- CARGO HOLDING AREA
- INTERRUPTABLE POWER UNIT (A5, C8)
- CONTROL TOWER (B5)
- PARKING AREA (A5, B5)
- ROAD HOLD POSITIONS
- FIELD ELECTRICAL CENTER (C8)

RESTRICTED AREA  
(North Perimeter Road)

### AIRPORT VEHICLE OPERATION PERMIT PLAN

- AIRCRAFT MANOEUVERING SURFACES
- CLOSED MANOEUVERING SURFACES
- APRON VEHICLE OPERATION PERMIT AREA
- RESTRICTED NAVIGATION AREA
- TENANTS RESTRICTED AREA

## 15.0 ANNEX C – EXAMPLE WRITTEN TEST QUESTIONS

- 1) Which of the following most accurately describes that part of an aerodrome intended to be used for the taking off and landing of aircraft and the movement of aircraft associated with taking off and landings, excluding aprons:
  1. Restricted area
  2. Movement area
  3. Airport area
  4. Maneuvering area
- 2) Which of the following most accurately describes the beginning of that portion of the runway usable for landing?
  1. Taxiway
  2. Apron
  3. Threshold
  4. Button
- 3) An airport at which an air traffic control unit is provided is called a:
  1. Aerodrome
  2. Controlled airport.
  3. Flight Service Station
  4. Uncontrolled airport
- 4) A road delineated by surface markings on an apron is called a:
  1. Designated Vehicle Corridor
  2. Aircraft Taxi Line
  3. Airport Service Road
  4. Aircraft Lead-in Line
- 5) Local Airport Traffic Directives:
  1. Apply at all Transport Canada airports.
  2. Apply only to commercial vehicles.
  3. Apply only at the airport where issued.
  4. Apply only to government vehicles.
- 6) Who has authority for the issuing, suspension or cancellation of permission to operate a vehicle on the airside of North Bay Airport?
  1. The Minister of Transport.
  2. The Airport Manager.
  3. The Officer in Charge of Security.
  4. A Police Constable
- 7) Who is to ensure that employees are qualified to operate vehicles and equipment on the airside?
  1. Airport Security.
  2. The employer.
  3. The Airport Manager.
  4. Transport Canada.



Airport Traffic Directives – DA AVOP

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- 8) If you encounter a condition on an aircraft movement surface that is likely to cause damage to an aircraft, you should report it to:
1. The airport mechanic or foreman.
  2. Your immediate supervisor.
  3. All aircraft operators.
  4. The local security office.
- 9) Who is responsible for reporting any vehicle malfunction or dangerous condition to the supervisor?
1. Any other driver.
  2. The base supervisor.
  3. The mechanic.
  4. The vehicle operator.
- 10) Who is required to wear a Transport Canada or North Bay Airport Restricted Area Pass while on the airside of the airport?
1. All persons on the airside of an airport.
  2. Every person who is not aircrew or a ticketed passenger.
  3. Aircrew and passengers.
  4. Security staff only.
- 11) How is a restricted area pass carried?
1. On the outside of the clothing.
  2. In your wallet.
  3. In the vehicle glove compartment.
  4. Not required to be carried.
- 12) Who is responsible for reporting a person found on the airside of an airport who is not wearing a restricted area pass?
1. The Security Officer.
  2. The company chief representative.
  3. Everyone who has a restricted area pass.
  4. Any passenger.
- 13) Who is responsible for ensuring that all designated gates to the airside of the airport are closed and locked?
1. Every person who has authority to use a gate giving airside access.
  2. Airport Security staff.
  3. Airport Management staff.
  4. Airline employees only.
- 14) There are many types of vehicles and equipment used on the airside of an airport. Who is responsible for ensuring that a vehicle operator knows how to operate the equipment he or she uses?
1. The licensing authority.
  2. The vehicle operator.
  3. The vehicle operator's employer.
  4. The security office.

Airport Traffic Directives – DA AVOP

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- 15) All vehicles operated on the airport maneuvering areas, except those under escort, must be equipped with:
1. Headlamps and tail lamps and reflective tape on both sides.
  2. A flashing beacon and radio on company frequency.
  3. An approved rotating beacon lamp and radiotelephone on the appropriate radio frequency.
  4. A reflective yellow material on the sides and striped black and yellow patches on the lower left and right corners of the vehicle.
- 16) All vehicles with a cab while operating without escort on the airport aprons must be equipped with which of the following lights or markings?
1. An amber flashing or rotating beacon, headlamps, parking and tail lamps.
  2. Headlamps, tail lamps and reflective tape on both sides.
  3. A two-way radio on the citizens band or company frequency.
  4. None of the above.
- 17) All non-self-propelled equipment used on the airport aprons must be equipped with safety marking. Which of the following most accurately describes that marking?
1. Yellow reflective stripe along the sides, and black and yellow patches at the front and rear lower corners.
  2. Headlamps, tail lamps and a horn.
  3. Both 1 and 2 above.
  4. Any reflective material that can be seen from 300 m at night.
- 18) Which of the following traffic has first priority, (right of way) over all other traffic?
1. Maintenance vehicles in the performance of their duties.
  2. Emergency vehicles.
  3. Aircraft.
  4. The vehicle approaching from the right.
- 19) Smoking on apron areas is:
1. Permitted.
  2. Permitted in vehicles only.
  3. Prohibited both inside and outside vehicles.
  4. Permitted if no aircraft are within 100 m of the smoker.
- 20) It is permissible to operate a vehicle in front of or directly behind an aircraft with engines running when:
1. Not at any time.
  2. The red, anti-collision beacon of the aircraft is turned off.
  3. The marshal waves permission and the aircraft wheels are blocked (chocked).
  4. You have waited three minutes and the pilot has not indicated any intention to move the aircraft.



- 21) When vehicles are parked in an approved parking space in the vicinity of Terminal Buildings or adjacent to heavy traffic areas, they should be:
1. Left with beacon or flashing signal lamps in operation.
  2. Backed into the parking area.
  3. Driven in front first.
  4. Left with engine running.
- 22) Whenever an aircraft carrying distinguished visitors is at an airport, unauthorized personnel and vehicles are required to:
1. Remain clear of the aircraft unless otherwise authorized by the Airport Manager.
  2. Drive slowly past the area but do not take pictures.
  3. Conduct normal vehicle movements but do not stare.
  4. There is no restriction on vehicle movement.
- 23) Vehicle operators must ensure that mud and gravel are not deposited on aircraft movement surfaces because:
1. This material can cause damage to taxiing aircraft and engines.
  2. Erosion could occur if too much dirt is removed from the runway edge.
  3. The material can cause damage to aircraft in the air.
  4. Dirty vehicles are not permitted on airport property.
- 24) If a vehicle operator notices foreign materials (mud - gravel - solid objects) on an aircraft movement surface, the vehicle operator is required to:
1. Report the nature and location of the material to the police.
  2. Stop and remove the material.
  3. Report the nature and location of the material to your supervisor.
  4. No special requirements exist for vehicle operators.
- 25) If an aircraft were to crash on the airport, unauthorized vehicle operators are required to:
1. Wait until Crash Firefighting and Rescue is over before entering the area.
  2. Proceed immediately to the scene and render assistance.
  3. Stay away from the area unless authorized by your supervisor.
  4. Remain clear of the area unless otherwise authorized by the Airport Manager.
- 26) The colour of pavement markings which outline vehicle corridors and security lines is:
1. Green except in grassed areas.
  2. Yellow.
  3. White.
  4. Red at intersections, white in other areas.
- 27) The colour of pavement markings related to aircraft movement guidelines and aircraft lead-in lines is:
1. Green except in grassed areas.
  2. Yellow.
  3. White.
  4. Different for each class and type of aircraft.

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- 28) Select the description below which most accurately describes how vehicle corridors are indicated on paved aprons:
1. Two solid white lines 7.5 m apart, centered by a single broken line.
  2. Two broken yellow lines divided by a solid white line.
  3. Two solid yellow lines 7.5 m apart, centered by a single broken line.
  4. Two solid white lines 7.5 m apart, centered by a broken green line.
- 29) The purpose of an aircraft movement guideline is:
1. To indicate where aircraft movement is permitted.
  2. To show where aircraft movement is not permitted.
  3. To delineate lanes on a taxiway for vehicle movement.
  4. To serve as a center-of-aircraft guideline to aid aircraft travelling on taxiways and aprons.
- 30) Aircraft lead-in lines are provided to:
1. Lead the aircraft onto the runway when landing.
  2. Assist in the docking of an aircraft at a gate.
  3. Indicate where aircraft are restricted on an apron.
  4. Indicate the limits of vehicle corridors.
- 31) What vehicles must stay within vehicle corridors when moving about the apron to or from operational stands, between operational stands, across aircraft taxi lines, etc.?
1. Emergency vehicles and vehicles towing aircraft.
  2. All vehicles except emergency and airport maintenance vehicles in the performance of their duties.
  3. Delivery vehicles except those under escort.
  4. Airline service vehicles only.
- 32) What vehicles are permitted to operate outside the vehicle corridors on aprons?
1. Emergency vehicles and airport maintenance vehicles while operated in the performance of their duties.
  2. Anyone who wishes to pass at speed.
  3. No one except the Airport Manager.
  4. Both two and three above.
- 33) A vehicle operating in the right hand lane of a vehicle corridor has right of way over:
1. Snow removal equipment engaged in snow removal.
  2. Other vehicles entering the corridor.
  3. Small aircraft only.
  4. All other vehicle traffic.
- 34) When operating a vehicle in a vehicle corridor on an apron, the operator may:
1. Use the left lane to pass slower vehicles.
  2. Leave the vehicle corridor to pass slower vehicles.
  3. Drive in the left lane rather than tailgate another vehicle.
  4. None of the above.

Airport Traffic Directives – DA AVOP

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- 35) Where vehicle corridors intersect, the vehicle which has the right of way is:
1. The vehicle on the left.
  2. The vehicle entering the corridor from the right.
  3. The vehicle travelling at the greater speed.
  4. The vehicle on the right.
- 36) You are operating a vehicle in a vehicle corridor which passes behind an aircraft with engines running, you are required to:
1. Stop well clear of the aircraft and wait until the aircraft has been backed out or the marshal clears you to pass.
  2. Pass behind the aircraft as quickly as possible.
  3. Leave the vehicle corridor and go around the aircraft at a minimum distance of 15 m.
  4. Turn your vehicle around and return to your starting point on the apron.
- 37) Vehicle Corridors are:
1. Required to be used at all times regardless of circumstances.
  2. Not guaranteed safe routes and caution must always be exercised to avoid parked and moving aircraft.
  3. Guaranteed safe routes for vehicles under all circumstances.
  4. Provided to ensure the safe and orderly movement of aircraft.
- 38) Areas within Operational Stands:
1. Are provided for the servicing and maintenance of vehicles.
  2. Provided for free movement of vehicles performing their duties related to aircraft.
  3. Are defined as areas where vehicle flashing lamps or beacon lamps must always be turned on.
  4. Are provided for the refueling of aircraft only.
- 39) Vehicle operators must always exercise caution:
1. When vehicle corridor markings are obscured due to faded paint, snow cover or any other reason.
  2. When entering and leaving the active apron area and entering and leaving vehicle corridors.
  3. When operating in front of or behind aircraft with engines running.
  4. When any of the conditions indicated above are encountered.
- 40) Where vehicle roads or corridors intersect, the vehicle which has the right of way is:
1. The largest vehicle.
  2. The vehicle on the left.
  3. The vehicle on the right.
  4. The vehicle with a cab and flashing or rotating beacon.
- 41) When not in use, Apron Service Vehicles may be parked:
1. On the apron where space is available.
  2. In any apron area not used for the movement of aircraft.
  3. In parking areas designated by the Airport Manager only.
  4. As in one and two above if overflow parking is only provided on the groundside of the airport and assigned space on the apron is full.

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- 42) All non-self-propelled equipment used on an apron is required to be marked with reflective material. Which of the following most accurately describes how this equipment must be marked?
1. A yellow stripe on the front and back - the full width of the vehicle.
  2. Black and yellow patches on the sides and a yellow stripe across the end.
  3. One and two (above), but not four (below).
  4. A solid yellow stripe on the sides and black and yellow patches at the front and rear lower corners.
- 43) Maneuvering surfaces at an airport that are designated by a letter are:
1. Aprons.
  2. Runways.
  3. Service Roads.
  4. Taxiways.
- 44) Runway edge lights are what colour:
1. Red.
  2. White.
  3. Blue.
  4. Amber (Yellow)
- 45) Apron and taxiway edge lights are what colour:
1. Red.
  2. White.
  3. Amber (Yellow).
  4. Blue.
- 46) Lights used to indicate the intersection of a taxiway and an apron are what colour:
1. Amber (Yellow).
  2. White.
  3. Red.
  4. Green.
- 47) The arrival and departure point on an airport for use by helicopters is identified by which of the following pavement markings:
1. A large, white, 'H' within a white circle or square or a yellow triangle.
  2. A silhouette of a helicopter within a white circle.
  3. A Yellow 'H' within two concentric, yellow circles.
  4. A large, white 'H' within a white cross.
- 48) The pavement marking which indicates an apron location reserved for the parking of helicopters is:
1. A yellow triangle.
  2. A white 'H' within a yellow triangle.
  3. A yellow 'H' within two, concentric, yellow circles.
  4. None of the above.

### 15.1 Example Written Test Answers

Listed below are the correct answers to questions in section 15.0.

Q#	A#	Q#	A#
1	4	33	2
2	3	34	4
3	2	35	4
4	1	36	1
5	3	37	2
6	2	38	2
7	2	39	4
8	2	40	3
9	4	41	3
10	2	42	4
11	1	43	4
12	3	44	2
13	1	45	4
14	3	46	1
15	3	47	1
16	1	48	3
17	1		
18	3		
19	3		
20	3		
21	2		
22	1		
23	1		
24	3		
25	4		
26	3		
27	2		
28	1		
29	4		
30	2		
31	2		
32	1		

## 16.0 ANNEX D – EXAMPLE PRACTICAL TEST EVALUATION FORM

North Bay Airport Airside Vehicle Operators Permit  
Practical Test Evaluation Form

Applicants Name

Restrictions D/A D D/X

**"D/A" Permit**

A. <i>Airside Entry/Exit</i>	Yes	No
Stops for Security		
Closes Gate After Entry and Secures Gate		
Wears Security Pass Visibly Displayed		

B. <i>Equipment</i>	Yes	No
Turns Lights On/Off (Beacon/Flashing Lights-Other)		
On-Before Entering Active Apron Area		
Off-After Parking/Within Aircraft Perimeter		
Completes Circle Check of Vehicle Prior to Operating		

C. <i>Parking</i>	Yes	No
Backs Into Defined Parking Spot		
Turns Head/Uses Mirrors for Backing Up		
Parks Only in Spaces Authorized for Vehicle in Use		

D. <i>Driving Along</i>	Yes	No
Follows Prescribed Routes (Vehicle Corridors/Other)		
Maintains Speed but does not Exceed		
Proper Clearance-Parked Aircraft		
Right of Way Observance; A/C, Pedestrians, Vehicles		
Obeys Signs, Signals, Pavement Markings		
Crosses Aircraft Guide Lines at Right Angles		
Exercises Caution Around Corners, Buildings, Intersections, Exits, Other Vehicles, Aircraft		

E. <i>Orientation</i>	Yes	No
Is Able To Locate (From the Vehicle):		
Aircraft Gates & Operational Stands By Number		
Security Gates		
Taxiway Entrances (Explains operational limits on the apron)		
Service Roads		
Hangars, Aprons, Assigned Parking (Cargo Facilities, Maintenance Facilities, Other)		
Restricted Areas (Applicable To This Exam)		

**"D" Permit (must be taken after D/A Permit practical test)**

F. <i>Equipment</i>	Yes	No
Rotating Beacon Turned On		
Radio On At Correct Frequency		

G. <i>Route Planning</i>	Yes	No
Able to Describe Available Routes Between Various Points on the Airport (without map)		
Plans Intended Route Before Proceeding		
Demonstrates Correct - FSS After Hours Procedures.		

**Examiner's Notes:**


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Evaluation Form Reviewed Feb 2016.

H. <i>Communication Procedures</i>	Yes	No
Listens Out/Transmits Only on Clear Frequency		
Good Microphone Position, Switching		
Clear Speech		
Proper, Standard Phraseology Used		
Phonetic Alphabet Used Properly		
Call-Up-Uses Full Vehicle Identifier		
Request-Vehicle I.D. Location, Destination Activity, Intended Route and Time In Traversing Area		
Acknowledges Instructions Correctly		
Ends Transmission Correctly		

I. <i>Driving Along</i>	Yes	No
Obtains Authorization Before Entering Manoeuvring Area		
Holds Short: Taxiway/Runway		
Service Road At Twy/Rwy		
Follows Approved Route		
Maintains Visual Check for Aircraft		
Uses Service Roads Wherever Possible		
Checks Vehicle For Mud, Gravel Before Entering Paved Surface From Unpaved Service Roads		
Speed Limits not Exceeded		

J. <i>Recognition</i>	Yes	No
Pavement Marking - Manoeuvring Areas:		
Runway Headings - Hold Lines - Helicopter Pads		
Aircraft Movement Guidelines-Threshold Markings		
Lights: Apron/Taxiway/Runway/Intersections/Threshold		
Runway-Taxiway-Aerodrome Beacon		
Signs:		
Mandatory: Runway Hold and Road Hold		
Location: Runway/Taxiway		
Information: Taxiway/Apron		

K. <i>Orientation</i>	Yes	No
Able to Locate Directly from Vehicle:		
Aerodrome Beacon		
Tower/F.S.S.		
Aprons, Runways, Taxiways		
Company and Other Facilities/ATB(s)		
Restricted Navigational and Other Facilities		
Service Roads		

Passed or Retest Request	P	F
Date		

Signature:

## **ANNEX E – LIST OF APPROVED VEHICLES TO OPERATE ON AIRSIDE MANUVERING SURFACES**

**(Runways, Taxiways Service Roads requiring FSS Clearance)**

**As Reviewed June 20, 2022**

### **North Bay Jack Garland Airport Approved Vehicles**

<b>Airport Vehicle Call Sign</b>	<b>Make</b>	<b>Model</b>	<b>Colour</b>	<b>Reason for Access to Taxiways or Runways</b>
Staff # 42	Chev	Pick-up	Red	Field Inspections, maintenance and emergency
Staff # 45	Ford	Pick-up	Dark Brown	Field Inspections, maintenance and emergency
Staff # 47	Ford	Pick-up	Red	Field Inspections, maintenance and emergency
Staff # 48	GMC	Pick-up	Black	Field Inspections, maintenance and emergency
Staff # 40	Ford	Pick-up	Dark Brown	Field Inspections, maintenance and emergency
Truck # 80	Ford	Multi use truck	Red	Field Maintenance
Truck # 84	International	Plow Truck	Orange	Field Maintenance
Truck # 90	Kenworth	Plow Truck	Orange	Field Maintenance
Truck # 92	International	Plow Truck	Orange	Field Maintenance
Sander #85	White	Sander	Orange	Field Maintenance
Sander # 97	International	Sander	Orange	Field Maintenance
Blower # 124	JA Larue	Snow Blower	Orange	Field Maintenance
Tractor # 150	John Deere	Tractor	Orange	Field Maintenance
Tractor # 151	AGCO	Tractor	Orange	Field Maintenance
Tractor # 152	Holder	Tractor	Orange	Field Maintenance
Grader # 153	Caterpillar	Grader	Yellow	Field Maintenance
Loader # 220	John Deere	Loader	Yellow	Field Maintenance
Loader # 223	CASE	Loader	Yellow	Field Maintenance
Loader # 227	John Deere	Loader	Yellow	Field Maintenance

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Backhoe # 222	John Deere	Backhoe	Orange	Field Maintenance

**Northern Heights Aviation Approved Vehicles**

<b>Airport Vehicle Call Sign</b>	<b>Make</b>	<b>Model</b>	<b>Colour</b>	<b>Reason for Access to Taxiways or Runways</b>
Northern Heights 315	Chev	1/4 Truck	beige	Movement and Recovery of Aircraft
Northern Heights 316	Northwestern Motors Aircraft	Tug	White	Movement and Recovery of Aircraft

**Nav Canada Approved Vehicles**

<b>Airport Vehicle Call Sign</b>	<b>Make</b>	<b>Model</b>	<b>Colour</b>	<b>Reason for Access to Taxiways or Runways</b>
Tech 65	GMC	Sierra Pickup	Yellow	Nav Canada Technical Operations
Tech 66	GMC	Sierra Pickup	Yellow	Nav Canada Technical Operations
Tech 68	GMC	Sierra Pickup	Yellow	Nav Canada Technical Operations
Tech 69	GMC	Sierra Pickup	Yellow	Nav Canada Technical Operations



**North Bay Fire & Emergency Services Approved Vehicles**

<b>Airport Vehicle Call Sign</b>	<b>Make</b>	<b>Unit # I</b>	<b>Colour</b>	<b>Reason for Access to Taxiways or Runways</b>
Pump 1	Spartan	# 61	Red	Fire Department - Emergency
Pump 2	Spartan	# 62	Red	Fire Department - Emergency
Pump 3	Spartan	# 30	Red	Fire Department - Emergency
Car 3	Mercedes-Benz Van	# 50	Red	Fire Department - Emergency
Red 10	Rosenbauer	# 99	Red	Fire Department - Emergency
Red 11	Oshkosh	# 98	Red	Fire Department - Emergency
Tanker 1	GM Tanker	#37	Red	Fire Department - Emergency

## **Vehicles Restricted to Taxiways Only and Crossing 18-36**

**As Reviewed June 20, 2022**

### **Shell Approved Vehicles**

<b>Vehicle Call Sign</b>	<b>Make</b>	<b>Model</b>	<b>Colour</b>	<b>Reason for Access to Taxiways or Runways</b>
Fueller 305	Ford	700	Yellow & White	To Refuel Aircraft on Aprons Other Than Apron 2
Fueller 306	International	S1900 F1954 6x4	Yellow & White	To Refuel Aircraft on Aprons other than Apron 2
Shell 307	Dodge Half Ton	Ram 2500	Dark Red	Tow Aircraft to and from Hangar on Apron 3

### **Helicopters Canada Approved Vehicles**

<b>Airport Vehicle Call Sign</b>	<b>Make</b>	<b>Model</b>	<b>Colour</b>	<b>Reason for Access to Taxiways or Runways</b>
Helicopters Canada 'Helican' 310	Dodge	1/2 Truck	Green and Black	Movement of Aircraft Between Aprons
Helicopters Canada 'Helican' 311	GMC	Truck 2500	Black	Movement of Aircraft Between Aprons
Helicopters Canada 'Helican' 312	Dodge	Truck	Black	Movement of Aircraft Between Aprons

**Voyageur Approved Vehicles**

<b>Vehicle Call Sign</b>	<b>Make</b>	<b>Model</b>	<b>Colour</b>	<b>Reason for Access to Taxiways or Runways</b>
Tug 241	S & S	Tug	Red	Aircraft Maintenance
Tug 242	Eagle	Tug	Red	Aircraft Maintenance
Loader 245	Case	Loader	Yellow	Apron I Maintenance
Tractor 250	Kubota	Tractor	Orange	Aircraft Maintenance
Tractor 251	Kubota	Tractor	Orange	Aircraft Maintenance
Tractor 252	Kubota	Tractor	Orange	Aircraft Maintenance
Tractor 253	Bobcat	Utility Vehicle	White	Apron I Maintenance
Tractor 254	Kubota	Tractor	Orange	Aircraft Maintenance
Service 255	International	Truck	White	Aircraft Maintenance
Service 256	Dodge RAM	Pick-up Truck	Grey	Aircraft Maintenance
Voyageur 257	International Dura Star	Truck	White	Aircraft Maintenance
Tractor 258	Kubota	Tractor	Orange	Aircraft Maintenance
Forklift 260	Komatsu	Forklift	Yellow	Aircraft Maintenance
Fueller 300	Freightliner	FL 80	Red & White	Fuel Delivery
Fueller 301	Freightliner	FL 80	Red & White	Fuel Delivery
Deicer 334	GSS	Deicer	White	Aircraft Deicing Operations on Apron II Only*

\* Please note that the Voyageur Deicer #334 is stored on Apron I however must conduct all deicing operations for all aircraft operators on Apron II only, as per the North Bay Jack Garland Airport Glycol Management Plan. Deicing anywhere else is strictly prohibited.