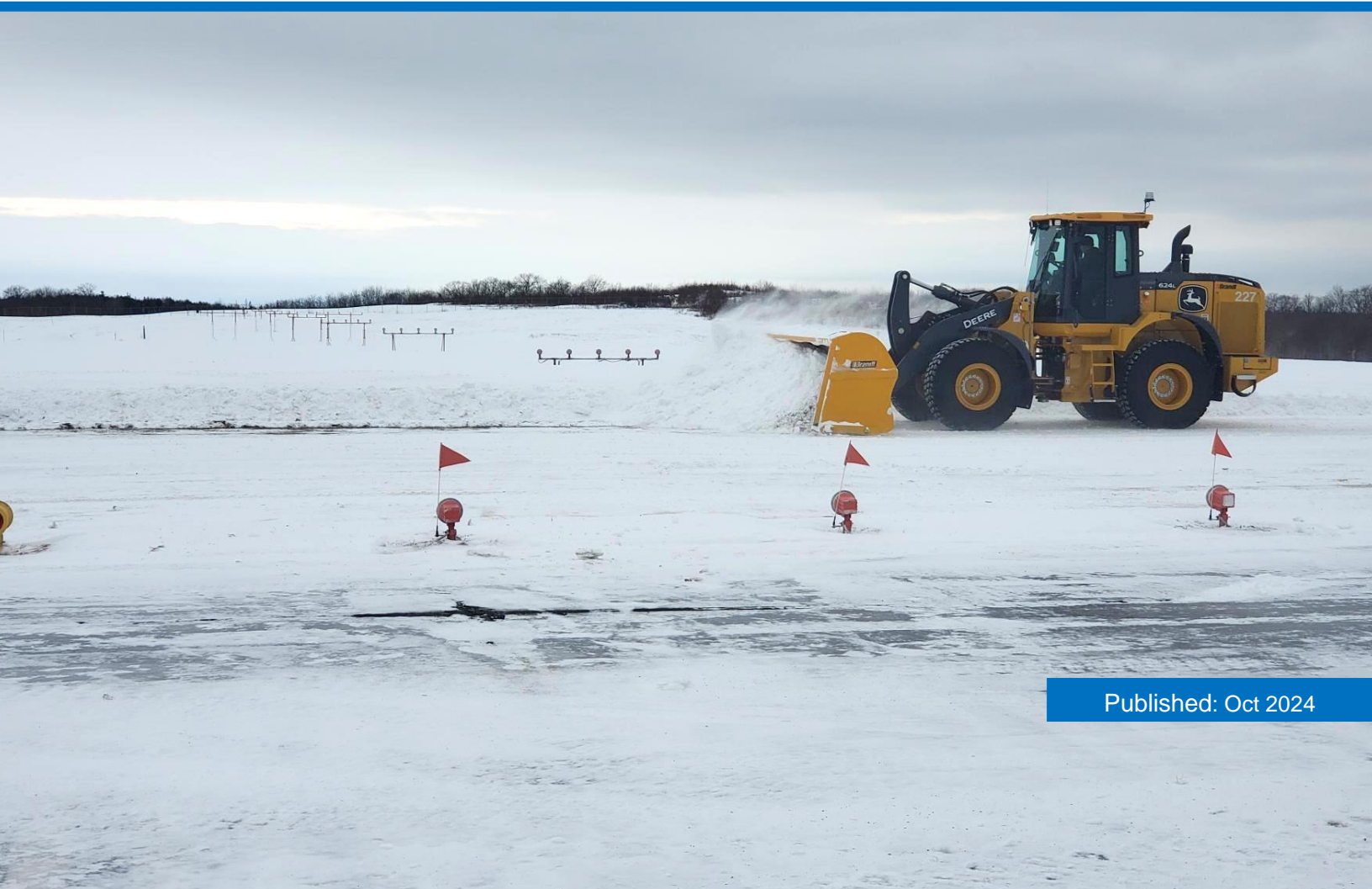




North Bay Jack Garland Airport

Winter Operations Plan

2024 – 2025 Season



Published: Oct 2024

Table of Contents

TABLE OF CONTENTS	2
RECORD OF APPROVAL	4
AMMENDMENT CONTROL SECTION	5
RECORD OF AMMENDMENTS.....	6
DISTRIBUTION LIST	7
TERMINOLOGY	8
GENERAL INFORMATION.....	10
1.0 INTRODUCTION.....	10
2.0 CONTACT PERSONNEL – TELEPHONE NUMBERS.....	10
2.1 Airport Primary Contacts.....	10
2.2 Airport Secondary Contacts.....	10
3.0 HOURS OF OPERATION AND RESOURCE COMMITMENTS	10
4.0 EQUIPMENT LIST	12
5.0 PERSONNEL.....	13
5.1 Schedules.....	13
5.1 Crew Training	13
6.0 COMMUNICATIONS PROCEDURES	13
7.0 AREAS AND PRIORITIES – AIRSIDE GENERAL.....	14
8.0 AREAS AND PRIORITIES – GRONUDSIDE GENERAL	14
9.0 LEVEL OF SERVICE.....	14
10.0 AREAS AND PRIORITIES – AIRSIDE SPECIFICS	15
11.0 AREAS AND PRIORITIES – GROUNDSIDE SPECIFICS.....	18
12.0 PUBLIC ROADS.....	18
13.0 ENVIRONMENTAL PROTECTION – GLYCOL USEAGE AND MITIGATION	19
SNOW REMOVAL AND ICE CONTROL PROCEDURES	20
14.0 GENERAL PROCEDURES	20
15.0 AIRCRAFT PARKING APRON	20
16.0 LEASED PROPERTIES.....	20
17.0 AIRFIELD LIGHTING (EDGE LIGHTING AND VISUAL AIDS).....	20
18.0 WINDROWS	21
19.0 ICE CONROL AGENTS.....	21
20.0 SAND.....	22
21.0 MINIMIZING RISK OF TRANSFER FROM GROUNDSIDE TO AIRSIDE	22
22.0 RESPONSIBILITIES	23
23.0 RUNWAY SURFACE CONDITION AND CANADIAN RUNWAY FRICTION INDEX REPORTING	25
24.0 OPERATIONAL RESTRICTIONS ON MANUEVERING SURFACES.....	27
25.0 CRITIQUE AND REVIEW	27

Winter Operations Plan

ANNEX A – SITE PLAN AND SNOW REMOVAL PRIORITIES - AIRSIDE	28
ANNEX B – APRON II PAVEMENT MARKINGS AND PARKING MANAGEMENT	30
ANNEX C – SITE PLAN AND SNOW REMOVAL / ICE CONTROL PRIORITIES - GROUNDSIDE	31
ANNEX D – SAND LOCKER/BARREL LOCATIONS – AIRSIDE AND GROUNDSIDE	37
ANNEX E – ICE CONTROL CHEMICAL CERTIFICATIONS	38
ANNEX F – SIDELINE SNOW REMOVAL	40
ANNEX G – PRE-THRESHOLD AREA SNOW REMOVAL.....	41
ANNEX H – SNOW REMOVAL – GLIDE PATH AND LOCALIZER SITES.....	42
ANNEX I – MANUAL AIRCRAFT MOVEMENT SURFACE CONDITION REPORT – RWY 08/26.....	47
ANNEX J – MANUAL AIRCRAFT MOVEMENT SURFACE CONDITION REPORT – RWY 18/36.....	49
ANNEX K – TRACR TO NES AIRCRAFT MOVEMENT SURFACE CONDITION REPORT	51

RECORD OF APPROVAL

RECOMMEND BY:

Chad Miler

Oct 24, 2024

Date

Operations Manager

North Bay Jack Garland Airport

APPROVED BY:

Oct 25, 2024

Date

Airport Manager

North Bay Jack Garland Airport

AMMENDMENT CONTROL SECTION

Amendment Procedures

The Operations Manager is responsible for the development, issuance and control of amendments to this manual, subject to approval by the Airport Manager. Once approved, a full copy of the amended document will be forwarded to all Manual holders electronically. All manual holders will be responsible for the safe custody, maintenance of their manual and to print a hard copy if required.

Within thirty days of issue of an amendment, confirmation will be provided to the Operations Manager by email that the required amendment is accepted by the Airport Manager;

- a) When the manual is in need of amendment, one electronic copy of the manual with the proposed amendment/s highlighted and associated comments will be forwarded to the Airport Manager along with the amendment instructions. Each page will show the amendment number and date at the bottom and all amended sections will be highlighted.
- b) After approval by the Airport Manager, the copy of the amended manual will be retained by the Airport Manager for their manual, and a copy of the signed Record of Approval page will be returned to the Operations Manager to be copied and issued to the remaining manual holders.
- c) Only when the Manual is approved by the Airport Manager and a signed Record of Approval page received by the Operations Manager will a copy of the amended manual be distributed as per the distribution list.

RECORD OF AMMENDMENTS

No.	Date of Issue	Entered By
01	14 November 2007	DB
02	21 November 2008	DB
03	27 October 2009	DB
04	25 October 2010	DB
05	11 October 2011	DB
06	27 September 2012	DB
07	18 September 2013	DB
08	27 June 2014	DB
09	21 August 2015	DB
10	29 August 2016	DB
11	05 September 2017	DB
12	07 September 2018	DB
13	18 September 2019	DB
14	09 September 2020	DB
15	17 September 2021	DB
16	11 Oct 2022	CM
17	11 Oct 2023	CM
18	24, Oct 2024	CM
19		
20		

DISTRIBUTION LIST

The following people have copies of this plan:

Airport Manager
Operations Manager
Regulatory Compliance Manager
Operations & Maintenance (Airport)
Administration Office (Airport)
Bearskin Airlines
Air Canada / JAZZ
Sunwing Airlines
MNRF
Airport Security Services
Helicopters Canada
NavCanada Team Leader
Miller Aviation
Voyageur Aviation Corporation
Executive Aviation
North Bay Flying Club
Canadore College
C&W Services
COMSATEC Aviation
Gary Rogers
Al Rivet
Armand Despres
Ron Savage
Bakkes Trucking
Dave Cullin
Joseph L Wesley
Luc Beauchamp
Northern Heights Aviation
Bart Hutson
Di-Corp
Duncan Hynd
NavCanada Technicians Supervisor
George Leger
Lynn Nout
FedEx / Morning Star
Skylink / Cental Mountain Air

Additionally the annual Winter Operation's Plan will be provided for all other uses by making it available on the airport's website; www.yyb.ca

TERMINOLOGY

“**AMSCR**” means the **Aircraft Maneuvering Surface Condition Report** that details the surface conditions for all aircraft movement areas including runways, taxiways and aprons.

“**Cleared width**” means the width of the narrowest portion of a runway that has been cleared to the greatest extent possible of contaminants.

“**Compacted snow**” means snow compressed into a solid mass that resists further compression and holds together or breaks up into lumps if picked up.

“**Contaminant**” means the presence of material on a surface including water, slush, snow, compacted snow, ice or frost.

“**CRFI or Canadian Runway Friction Index**” means the average of the runway friction as measured by a mechanical or electronic decelerometer.

“**Dry**” means a surface condition that is not damp or wet and has no observed contaminate.

“**Dry snow**” means snow that is neither compacted on nor bonded to a surface, including fresh fallen or old standing dry snow. If compacted by hand, dry snow falls apart upon release.

“**Frost**” means ice crystals formed from airborne moisture that has condensed on a surface whose temperature is below zero degrees Celsius.

“**Ice**” means water that has frozen on a surface and includes the condition commonly known as “black ice” and the condition where compacted snow has turned into a polished ice surface.

“**Ice control chemicals**” means chemicals used to prevent ice formation, to prevent ice from bonding to a surface or to break up or melt ice on a surface.

“**NOTAMJ**” means a special series NOTAM notifying the presence of hazardous conditions due to contaminants on runways by means of a specific format.

“**Percentage of contaminant**” means the amount of each contaminate present on the estimated surface of the runways and reported separately as a percentage (%) of the whole surface.

“**RSC or Runway Surface Condition**” means the portion of the AMSCR which reports the surface condition of the runway.

“**Sand**” means small particles of crushed angular mineral aggregates or natural sand material used to improve runway surface friction levels.

“**Significant change**” means with respect to runway surface condition includes but is not limited to: changes in type of contaminate, such as from dry snow to wet snow; measurable changes in depth of contaminate; following the application or removal of sand or chemicals; following snow removal or sweeping; changes in conditions caused by rapid increases or decreases in temperature.

Winter Operations Plan

“Slush” means partially melted snow or ice, with a high water content, from which water can readily flow. Slush displaces with a splatter with a heel-and-toe slap down motion against the ground.

“Snow bank” means a heap or mound of snow created mechanically that is higher than the surrounding snow cover.

“Snow drift” means a heap or mound of snow created by action of the wind. Snowdrifts resemble sand dunes and are formed in a similar manner, namely, by wind moving light snow and depositing it when the wind is slowed, usually against a stationary object. Snow normally crests and slopes off towards the surface on the windward side of a large object. On the leeward side, areas near the object are a bit lower than surrounding areas, but are generally flatter.

“SNOWTAM” means a special series of NOTAM notifying the presence or removal of hazardous conditions due to snow, ice, slush or standing water associated with snow, slush and ice on the movement area, by means of a specific format.

“NOTAM ENTRY SYSTEM (NES)” means an internet application for the direct entry of runway surface condition by an accountable source, the output being a Runway Surface Condition (RSC) NOWTAM. This web application is an internet interface that allows dialog between automated reporting systems and the NAV CANADA database.

“Standing water” means water having a depth of more than 3mm (0.13 inch).

“Wet” means a surface condition where there is a thin layer of water and the layer is 3mm (0.13 inch) or less in depth.

“Wet ice” means ice covered with a thin film of water.

“Wet snow” means snow that sticks together to form a snowball but does not readily allow water to flow from it when compressed by hand.

“Windrow” means a ridge of material, such as snow or gravel, created by airside maintenance equipment.

GENERAL INFORMATION

1.0 INTRODUCTION

Snow removal and ice control are the principal elements of the airport’s winter maintenance activity. Winter operations are planned, organized and conducted in accordance with Transport Canada standards and guidelines as well as in accordance with the airport’s commitment to best practices – ensuring safety and efficiency in the airport’s operation.

The term “snow removal and ice control” refers to all actions taken to reduce and/or eliminate the potentially hazardous effects of snow and ice contamination. Snow and ice control activities include plowing, sweeping, blowing, sanding, anti-icing and de-icing of operational surfaces. The ultimate objective of these activities is to remove pavement surface contaminants, which could adversely affect aircraft and vehicular performance by rendering maneuvering surfaces operational based on priority.

This Winter Operations Plan Outlines the hours of operation, personnel and equipment resources, priorities, procedures, responsibilities and lines of communication established to ensure safety, effectiveness and efficiency in the airport’s winter operation.

2.0 CONTACT PERSONNEL – TELEPHONE NUMBERS

2.1 Airport Primary Contacts

Operations Manager	Office	(705) 474-3026 ext. 5306
	Cell	(705) 840-9964
Operations Air-side	Cell	(705) 492-7117
Operations Ground-side	Cell	(705) 491-1850
Airport Security	Cell	(705) 840-9965
FSS, Pilot Info only	Office	(705) 472-0026

2.2 Airport Secondary Contacts

Airport Manager	Office	(705) 474-3026 ext. 5304
	Cell	(705) 840-9960
Regulatory Compliance Manager	Office	(705) 474-3026 ext. 5305
	Cell	(705) 491-2995

3.0 HOURS OF OPERATION AND RESOURCE COMMITMENTS

The hours of operation for snow removal and ice control at North Bay Airport are provided on a limited basis during the winter season. Snow removal and ice control services outside of the published hours can be requested by any tenant or airport user, and will be charged back at applicable overtime rates.

The operational hours of operations of the airport shall be published in the CFS, or where there is a change between publication dates of the CFS a NOTAM shall be issued.

4.0 EQUIPMENT LIST

The following is a list of the equipment which the airport operates for winter operations.

<u>RADIO CALL</u>	<u>VEHICULAR NO.</u>	<u>MAKE</u>	<u>USE</u>
STAFF 40	53-2016	GMC ½ Ton	Field Inspections
STAFF 42	53-2017	Chev ½ Ton	Operations/Electrical
STAFF 45	53-2301	Ford ½ Ton	Airport Manager
STAFF 47	53-1902	Ford ½ Ton	Field Inspections
STAFF 48	53-1901	Ford ½ Ton	Ops Manager
TRUCK 80	54-1301	Ford F-4500	SANDER/SPRAYER
84	55-1802	Navistar	PLOW TRUCK
85	56-7804	White	SANDER
90	55-1101	Kenworth	PLOW TRUCK
92	55-1102	Navistar	PLOW TRUCK
97	55-9702	Navistar	SANDER
BLOWER 124	60-2013	T70 Larue	SNOW BLOWER
	60-1903	RPM 220 (Mounted)	SNOW BLOWER
GRADER 153	66-1801	Cat	GRADER
LOADER 220	62-9901	John Deere	LOADER
223	62-2012	Case	LOADER
227	62-2001	John Deere	LOADER

Sweepers and Trailers:

67-9902	Vohl	SWEEPER
67-9911	Sweepster	SWEEPER
67-1303	MB	SWEEPER
69-1101	Batts	SPRAYER

5.0 PERSONNEL

5.1 Schedules

Monday November 4, 2024 to Friday April 11, 2025 airside operational coverage from **05:30 to 21:00 hours** for the purposes of winter operations will be in place daily. At the discretion of the Airport Manager, shift schedule hours are subject to change to accommodate airline flight schedule revisions.

Operations Manager, or in their absence Airport Management, will respond as weather conditions warrant and additional personnel may be called in to augment snow removal requirements outside of the posted schedule.

5.1 Crew Training

All winter staff, both returning seasonal and permanent full time, is trained annually on the following: the safe use of vehicles through the DX AVOP, radio communication and phraseology, airport layout, the inspection of pavement surfaces, as well as the storage and application of airside ice control chemicals and sand. Compressed/specific training may be provided to groundside operators only when their responsibilities are restricted, and until complete training is provided.

The senior staff and leads are further trained in AMSCR procedures for runway and taxiway condition reporting, including the following matters: Observing, recording, procedures for forwarding reports to the aeronautical information services provider, and friction testing; and snow and ice control for airside lighting, markers and signage.

This training is competency-based with an emphasis on performance and includes component based practical and written examinations in addition to sign-off procedures.

6.0 COMMUNICATIONS PROCEDURES

Communication as part of this winter plan between Airport Field Maintenance Staff and Nav Canada Flight Service Specialists is conducted on ground frequency 121.9 between the hours of **06:30 and 22:30 hours, seven (7) days per week**. During the hours of 22:30 to 06:30 hours when the Flight Service Station is closed necessary communication between ground staff and aircraft is on aerodrome traffic frequency 118.3.

Communication is conducted using standard terminology as detailed in North Bay Jack Garland Airport's Traffic Directives DX AVOP study guide.

Other communications should be done by phone; the following is the list of contacts and are in priority based on the required service to be provided.

Groundside Operators Cell phone 705 491-1850

Airside Operations Cell phone 705 492-7117

Operations Manager 705 840-9964

Regulatory Compliance Manager 705 491-2995

Airport Manager 705 840-9960

7.0 AREAS AND PRIORITIES – AIRSIDE GENERAL

Priority 1 areas consist of only the absolute minimum aircraft maneuvering surface required to maintain a basic level of YYB scheduled air carrier operations. This includes sufficient parts of the maneuvering area to permit take-offs and landings, a direct taxi route between the main apron and the active runway, and aircraft maneuvering and parking area on the main apron. Additionally, the Glide Path “Area A” becomes Priority 1 **or 2** when snow depth reaches **20 cm** **and approved by Management.**

The idea of the Priority 1 area is to permit the airport to continue to offer a basic level of scheduled YYB air carrier operations even under the most adverse weather conditions. It is the airport’s goal to constantly maintain the Priority 1 areas during all winter storms.

Priority 2 consists of secondary airside areas that shall be cleared as soon as conditions permit during a storm, in order to provide the availability of an additional runway should wind conditions change. Additionally, the Glide Path “Area A & B” becomes Priority 2 **or 3** when snow depth reaches **20 cm** and the Localizer “Area C & D” become priority 2 **or 3** when the snow depth reaches **25 cm** **and approved by management.**

Priority 3 areas are those non-critical areas cleared after a storm, such as GA Aprons, pre-threshold areas (60m beyond each runway threshold at a maximum 1.25% slope), airside service roads, runways sidelines, etc. Priority 3 areas are only cleared after a storm has passed.

8.0 AREAS AND PRIORITIES – GROUNDSIDE GENERAL

Priority 1 areas are those primary access roads, including terminal frontage, parking lots, and service roads required for essential use by passengers and employees. City of North Bay (CNB) public works maintains Groundside public access roads to the Terminal Building, Canadore College and the West end aviation park at Apron IV. During severe weather events, Airport staff will supplement CNB with maintaining access to the Terminal Building from Airport Road. Janitorial services are responsible for clearing sidewalks and doorways in the vicinity of the terminal building, administration building and parking lots.

Priority 2 areas are all remaining groundside areas cleared on a convenience basis.

9.0 LEVEL OF SERVICE

The maximum depth of snow accumulation, before clearing required, is set out as follows:

Airside Priority 1	- .64 cm (1/4 inch)
Airside Priority 2	- 5.00 cm (2 inches)
Airside Priority 3	- Storm accumulation
Groundside Priority 1	- 7 cm (3 inches) – Cleared each morning when snow exceeds 2.50cm (1 inch)
Groundside Priority 2	- Following storm accumulation (Typically day 2 or 3)

The above notwithstanding, the intent at all times during snow storms is to clear all runways and taxiways to the maximum width possible, with the objective being full width.

During a snow event Priority 1 areas will addressed, with other priority clearing occurring after the snow storm has ended.

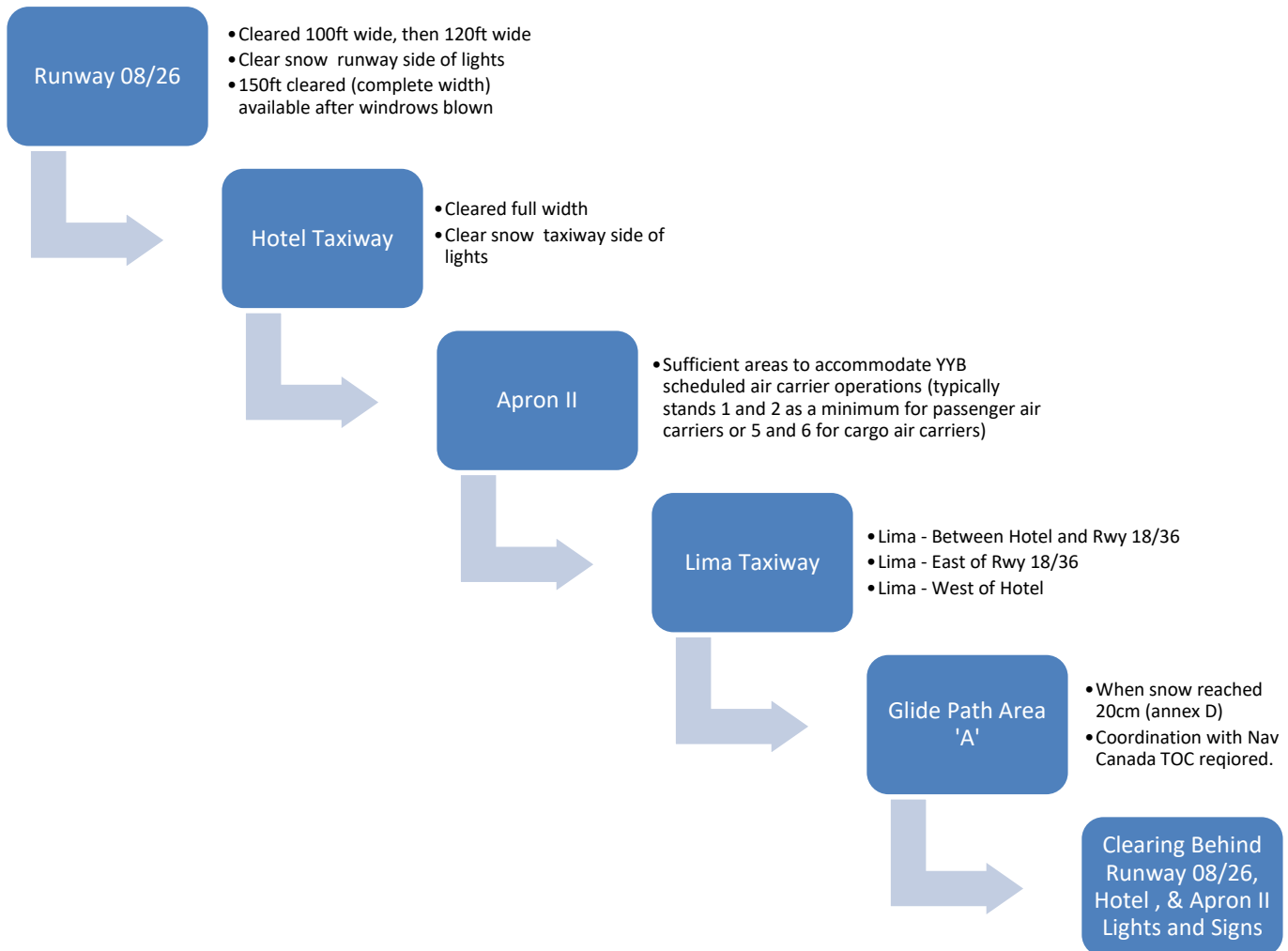
Note:

The on-duty lead operator (as assigned), Operations Manager, Regulatory Compliance Manager, and Airport Manager have the authority to change priorities according to weather conditions, field operational conditions, maintenance capabilities and user requirements at that particular time.

When priorities or conditions change AMSCRs will continue to be published in order to provide accurate information to aircraft operators and flight dispatchers.

10.0 AREAS AND PRIORITIES – AIRSIDE SPECIFICS

PRIORITY 1A – Is normally used when runway 08/26 is the active runway, due to either favourable winds or use of the Instrument Landing System (ILS) due to low visibility, aircraft size, etc. This information is presented graphically in Annex A. Priority 1A areas are:



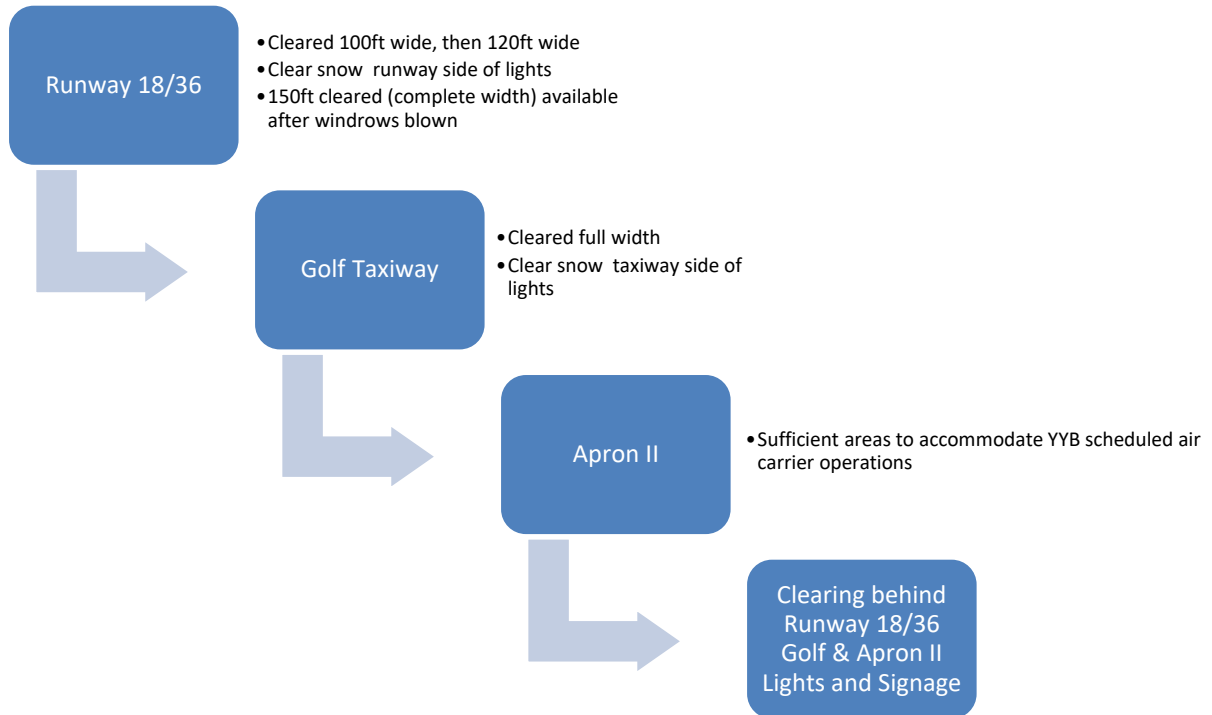
Winter Operations Plan

During an active snow event Runway 08/26, Hotel Taxiway and an operational area of Apron II to serve commercial airlines will be maintained.

Once the above is clear of contaminants other areas will be cleared of snow based on their priorities (i.e. runways, then taxiways, then aprons). If an additional snow event occurs airport staff will restart priority clearing, moving to the next area only after the highest priority is clear.

Winter Operations Plan

PRIORITY 1B – Is normally used when runway 18/36 is the active runway, usually due to strong northerly winds; however with good visibility and without the need for using the instrument landing system. This information is presented graphically in Annex A. Priority 1B areas are:



Once the above is clear of contaminants other areas will be cleared of snow based on their priorities (i.e. runways, then taxiways, then aprons). If an additional snow event occurs airport staff will restart priority clearing, moving to the next area only after the highest priority is clear.

PRIORITY 2

- Crosswind runway
- Lima Taxiway (if not cleared with Priority 1A)
- Taxiways (in order of preference) – Hotel and Golf (**Note: Echo, Foxtrot & Juliet Taxiways are closed from Oct 31 to April 30**)
- “Glide Path Area B” when snow reaches **20 cm** (see Annex H)
- “Localizer Area C & D” when snow reaches **25 cm** (see Annex H)

PRIORITY 3

- General Aviation Aprons III, IV, V (order depending on equipment on the field or as contracted)
- All airfield lighting and signs
- Airside service roads (select Navaid access roads in accordance with Nav Canada agreement)
- Runway and Taxiway sidelines (see Annex F) as required
- Pre-threshold areas (see Annex G) as required
- Contracted Areas and Leased Properties
- Approach rescue / approach lighting routes

11.0 AREAS AND PRIORITIES – GROUNDSIDE SPECIFICS

PRIORITY 1

- Public access roads to Air Terminal Building and tenant facilities, including:
 - Jack Garland Drive (Terminal Loop & Air Cargo Lane)
 - Terminal Street
 - Maintenance Avenue (route to garage)
- Access to parking lots, including:
 - ATB lot (Lot A)
 - Administration Building lot (Lot B)
- Sidewalks and doorways in ATB area
- Contracted snow removal areas

Once the above is clear of sufficient contaminants other areas will be cleared of snow based on their priorities (i.e. runways, then taxiways, then aprons). If an additional snow event occurs airport staff will restart priority clearing, moving to the next area only after the highest priority is clear.

If snow continues to fall Airport Operations will review actions to take; restarting snow removal in these areas at a minimum of the following morning.

Note:

Only in a significant snow event or priority emergency will Airport staff conduct snow removal on Bob Wood Drive (the entrance to the airport), as this is a priority and responsibility of the City of North Bay. When this is the rare case clearing of Bob Wood Drive will be done in order to provide access to the terminal / Lot A and Gate 1 only; providing emergency access.

PRIORITY 2

- Remainder of public and employee car parking lots
- Remaining service roads.
- Maintenance Garage area (parking and storage lots, fuel farm, etc.)

12.0 PUBLIC ROADS

Public roads on groundside are maintained by the City of North Bay and not through airport operations. This is conducted as part of the city's overall snow plan and provides access for the public transit.

Airport staff shall maintain the airport's parking Lot A, Lot B, Gate 1 access, and Terminal St., in addition to the Terminal's curbside as may be required (i.e. the removal of snowbanks that may be deposited from City of North Bay plowing operations in order to ensure access is unrestricted).

13.0 ENVIRONMENTAL PROTECTION – GLYCOL USEAGE AND MITIGATION

North Bay Airport is committed to the protection of the environment. Unfortunately, discharge of glycol de-icing fluids can have potentially negative environmental effects on surface water. **Therefore, the only approved area for de-icing at the North Bay Jack Garland Airport is on the Air Terminal Building Apron (Apron II, Terminal Ramp).** Any deviation requires the specific authorization from the Airport Manager prior to any operations, and the provision of highly detailed mitigation plans and measures.

The run-off from this area flows to the catch basins on the apron, through the sub-surface drainage system, and is discharged through the storm water runoff ditch at the west end of the airport property. The North Bay Jack Garland Airport Corporation monitors this location on a weekly basis during the de-icing season (and other times as required). The resulting water samples are sent to an independent laboratory for analysis. If the samples exceed Federal or Provincial guidelines on a regular basis, the airlines will be advised of the situation. Laboratory Analysis records will be kept on file for a period of one year.

For further information please request a copy of the North Bay Jack Garland Airport's Glycol Operations Management Plan; contact operations@yyb.ca

SNOW REMOVAL AND ICE CONTROL PROCEDURES

14.0 GENERAL PROCEDURES

Snow removal techniques combine the use of plow trucks, runway sweepers, snow blowers, graders, and loaders with various attachments. This has proven to be the most efficient and cost-effective method of snow removal.

When snow clearing operations are being undertaken on a specific maneuvering surface the information will be included in the AMSCR in order to advise air crew and flight dispatch operators.

15.0 AIRCRAFT PARKING APRON

Snow is removed from the apron using a truck, or a loader equipped with a ramp-hog plow, or a grader. Windrows will be established and are removed later using a blower. Blowing is the most cost-effective method to relocate snow beyond edge lighting and prevent further build-up along the outside of the apron. It is therefore used frequently.

16.0 LEASED PROPERTIES

Tenants are responsible for snow clearing and ice control within their leased areas. **Tenant's snow removal dump areas are restricted to their leased property and/or approved "Tenant Snow Dump Areas" as identified in Annex 'C'. Use of any other area to dump snow must be pre-approved by the Airport Operations Manager.** (Arrangements can be made for assistance with snow removal from North Bay Jack Garland Airport Corporation on a cost recovery basis).

Due to severe contamination concerns all leased properties are required to contact the airport operations (operations@yyb.ca) to **coordinate sanding of any airside area**. External third party contractors may use sanders that are also used for salting non-airport properties and therefore they could introduce unapproved and corrosive chemicals airside.

17.0 AIRFIELD LIGHTING (EDGE LIGHTING AND VISUAL AIDS)

Snow removal from around airfield lighting is done by hand shoveling or with a high pressure air blast. Mobile equipment is used for snow removal behind the lighting fixtures when snow depths exceed **5 cm (2 inches)**. The maximum cleared width behind the lights or along a maneuvering surface is 10 meters (33 feet). Snow blowing near airside lighted signage, light fixtures and PAPI units required extreme caution to prevent damage.

Airfield lighting is first cleared of contaminants on the side of the maneuvering area (i.e. closest to centerline) during routine surface snow removal work, and then only when priority clearing permits the contaminants behind the lights (referred to as back cutting) is cleared.

When lighting, signage, or nav aids become covered or obstructed the appropriate information identifying this is published with the AMSCR in order to update air crew.

18.0 WINDROWS

Windrows are permitted on operational/active maneuvering areas, such as runways, during a snow event and subsequent snow clearing / removal operations. All efforts will be made to limit the time frame windrows will be on maneuvering areas. Airport operations staff will advise the control tower and aircraft operators when windrows are created on maneuvering areas, and subsequently will issue the appropriate AMSCR updates in order to advise air crew and flight dispatch operators.

For reference, airport operations staff work to maintain 100ft cleared width on a runway at all times. At this location, or 25ft from the edge lights/edge of the surface, there may be a windrow until conditions permit to relocate it further to the side or remove it entirely.

Where a windrow is present the information will be available as part of the AMSCR.

Windrows on runways will always be published as 'X' ft from the edge of the maneuvering area/surface (i.e. 25 ft from runway edge). On a runway the height of the windrow is also published for each occurrence, as well as its relative location North, South, East or West, of centerline.

19.0 ICE CONTROL AGENTS

The chemical used for runway ice control is Potassium Acetate and Sodium Formate. Once ice has already formed; potassium acetate or sodium formate may be used to soften the ice, so it can be easily removed by either plows or sweepers. These chemicals may also be utilized in order to mitigate or prevent the formation of ice if possible. The effectiveness of these chemicals depends on temperature, wind conditions, precipitation, and other meteorological and timing factors. Their application is at the discretion of Airport Management.

It is preferable to control the formation of ice rather than try to remove ice that has already formed. To that end careful monitoring of weather and runway conditions is paramount. Decisions will be made in order to manage each specific instance in order to mitigate the impacts of icing on the airport and air carrier's operations.

In some situations sand may also be used to control ice formation; as an alternative but also in conjunction with other chemicals as required.

When ice control chemicals are present on a maneuvering surface the information will be included in the AMSCR published in order to advise air crew and flight dispatch operators.

20.0 SAND

To minimize damage to aircraft, all sand used by the North Bay Airport on airside is intended to meet the Transport Canada specifications; specifically Division IV Standards, CARs 322.415 (2):

- (a) be an abrasive material for airside ice control consisting of either crushed angular mineral aggregate or natural sand;
- (b) be free from chlorides and corrosive materials, clays, debris, cementation, organic matter and other non-friction material;
- (c) not be softer than and including 3.5 up to and including 7 on the Mohs hardness scale; and
- (d) be of a granular size that falls within the following parameters:

Sieve Size (U.S. Standard)	Percent Passing by Weight (%)
No. 4 (4.75 mm)	100
No. 80 (0.180 mm)	0 to 2

When sand application is present on a maneuvering surface the information will be included in the AMSCR published in order to advise air crew and flight dispatch operators.

Information note:

To promote visual awareness and absorption of solar heat, the use of this abrasive material shall be dark in colour. Runway sand will meet these specifications or an acceptable alternate finer product will be utilized.

Sand is available for:

- Maneuvering surfaces – dispensed by airport ops airside
- Parking lots – dispensed by airport ops groundside
- Facility entrances, walkways, and direct aircraft access – available for everyone

The location of the sand lockers/barrels for general use can be found as Annex 'D'.

21.0 MINIMIZING RISK OF TRANSFER FROM GROUND SIDE TO AIRSIDE

All vehicles are limited to accessing the airfield onto the maneuvering areas through specific designated main points / access points or gates.

Those entering airside shall be instructed to inspect their vehicles and remove all accumulation of material in order to prevent unauthorized salt (a corrosive substance) or FOD from entering airside, as much as is practicable.

No contractor sanding vehicles are permitted airside as specific airport equipment is intended for use with airside materials; clear of cross contamination with non-approved substances.

22.0 RESPONSIBILITIES

The Airport Manager, by way of this document, has delegated full authority to the Operations Manager, the Regulatory Compliance Manager and on duty airport operations staff to make operational decisions, report AMSCR/CRFI information and issue NOTAMs regarding operational restrictions & safety related information on the airport's maneuvering surfaces as may be required by winter weather conditions.

The **Operations Manager** will:

- (1) Maintain a constant check of runway conditions during snow and ice storms to determine presence of snow, slush, or ice, their depth and determine the coefficient of friction (CRFI) readings;
- (2) Determine when snow removal and anti-icing operations will commence, (based on existing field conditions, current and forecast weather) and notify Equipment Operators, and direct their activities;
- (3) Determine when runways and taxiways must be closed and re-opened in accordance with conditions and general safety considerations;
- (4) Commence snow removal at "ILS" as required or when advised by Nav Canada;
- (5) **Report or assign** airport RSC/CRFI surface information via NES or fax to the appropriate Nav Canada Flight Information Centre (FIC) and the Air Traffic Services unit at North Bay Airport (ATS) in accordance with established procedures.

The normal times to issue RSC/CRFI reports at North Bay Airport are:

• **Daily (Mon to Sun) 04:30, 07:30, 10:30, 13:00, 16:30 and 19:30**

These reporting times are minimums, and during complex weather conditions will be issued more frequently. Please note that the times may be altered based on prevailing conditions as determined by the Operations Manager, but during our published hours of operation the reports will be issued at least every 8 hours.

The **Regulatory Compliance Manager** will:

- (1) Carry out snow removal operations as per the winter snow plan, as directed by the Airport Manager; supporting the responsibilities of the Operation's Manager.
- (2) In the absence of the Operations Manager Report **or assign** Airport RSC/CRFI surface information via NES or fax to the appropriate Nav Canada Flight Information Centre (FIC) and the Air Traffic Services unit at North Bay Airport (ATS) in accordance with established procedures.

The normal times to issue RSC/CRFI reports at North Bay Airport are:

Daily (Mon to Sun) 04:30, 07:30, 10:30, 13:00, 16:30 and 19:30

These reporting times are minimums, and during complex weather conditions will be issued more frequently. Please note that the times may be altered based on prevailing conditions as determined by the Operations Manager, but during our published hours of operation the reports will be issued at least every 8 hours.

Airport Ops Staff Shall:

- (1) Carry out snow removal operations as per the winter snow plan, and as directed by the Operations Manager and/or Regulatory Compliance Manager as priority changes may dictate.
- (2) Bring to the attention of the Operations Manager any operational concerns; especially those related areas outlined in the winter snow plan.
- (3) Contact airport management, as designated, to discuss operations related to icing conditions and the application of ice control chemicals (specifically potassium acetate and sodium formate)
- (4) Report, as scheduled Shift Leads or alternative assigned by Airport Management to, complete airport RSC/CRFI surface information via NES or fax to the appropriate Nav Canada Flight Information Centre (FIC) and the Air Traffic Services unit at North Bay Airport (ATS) in accordance with established procedures.

The normal times to issue RSC/CRFI reports at North Bay Airport are:

Daily (Mon to Sun) 04:30, 07:30, 10:30, 13:00, 16:30 and 19:30

These reporting times are minimums, and during complex weather conditions will be issued more frequently. Please note that the times may be altered based on prevailing conditions as determined by the Operations Manager, but during our published hours of operation the reports will be issued at least every 8 hours.

23.0 RUNWAY SURFACE CONDITION AND CANADIAN RUNWAY FRICTION INDEX REPORTING

Runway Surface Condition (RSC) NOTAMs are issued to alert pilots to natural surface contaminants, such as snow, ice, or slush that could affect aircraft braking performance. The RSC section of the report provides runway surface information describing the runway condition in plain language, while the CRFI section describes braking action quantitatively using a numerical format.

RSC NOTAMs are issued upon any of the following **conditions are greater than 10% runway surface coverage** for open runway(s):

- (a) **Slush or wet snow** on the runway;
- (b) **Dry snow** on the runway **exceeding ¼ inch** (0.57 CM) in depth;
- (c) Runway **not cleared to full width**. When the runway is partially cleared the report must also include a description of the uncleared portion of the runway (depth of snow, windrows, snow banks, etc.);
- (d) **Compacted snow, ice, or frost** on the runway; or,
- (e) **CRFI reading of 0.40 or less.**

Please refer to the “Canadian NOTAM Operation Procedures Manual” for further information.

<https://www.navcanada.ca/en/aeronautical-information/operational-guides.aspx#0e579ae213a64987adcdc63fd0983d52>

In order to convey the most accurate and timely information to pilots, the Airport and Nav Canada have agreed to the following local procedure. Upon completion of a field inspection, the operator will verbally provide the Nav Canada Air Traffic Services (ATS) Unit with the new RSC/CRFI information, who will then forward such up-to-date information to pilots both firsthand and via the ATIS broadcast. As soon as possible when time permits, the operator will submit the surface information via NES or fax to the Nav Canada Flight Information Centre (FIC) for official NOTAM distribution.

DESCRIPTION OF CANADIAN RUNWAY FRICTIONS INDEX

The decelerometer is an instrument that is mounted in a test vehicle to measure the decelerating forces acting on a vehicle when its brakes are applied. The instrument is graduated in increments from 0 to 1, the top number being equivalent to the theoretical maximum decelerating capability of the vehicle on a dry surface. These numbers are referred to as the Canadian Runway Friction Index (CRFI). Small numbers represent low braking coefficients of friction, while numbers in the order of 0.8 and above indicate the braking coefficients to be expected on bare and dry runways.

Using the standard or alternating method, the test vehicle is braked at 1,000 foot intervals along the runways at a distance of 10 feet on either side of the centre line. The CRFI numbers recorded are then averaged to the nearest two decimal places. The average reading for the runway is reported in thirds for 08-26 and full length for 18-36. When the CRFI reading on a portion of a runway is 0.10 or more different from the runway average, this will be identified in the RSC NOTAM.

When available, a **CRFI reading will be included as part of the Runway Surface Condition (RSC) Report** to quantify braking action. The Canadian Runway Friction Index must be included in the CRFI portion of the RCR whenever (and only when) any of the following runway surface conditions exist on open runways with **greater than 10% surface coverage**:

- (a) **Ice or frost** on the runway surface;
- (b) **Wet ice** on runway surface (i.e., ice covered by water);
- (c) **Compacted snow** on the runway surface;
- (d) **De-icing chemical solution on ice**;
- (e) Thin layer of **slush over ice**; or,
- (f) **Dry and wet snow**, up to and including but **not exceeding 2.5 cm (1")** in depth.

NOTE: CRFI reading of .40 and below must be passed verbally and immediately to the Nav Canada ATS at North Bay Airport for relay to inbound flights.

Because of the mechanical & operational limitations that exist under certain conditions, runway friction readings produced by decelerometer devices may provide inaccurate results. For this reason, **CRFI readings should not** be taken when the following runway conditions exist on open runways with greater than 10% surface coverage;

- (a) **Wet** runway surface (water directly on runway surface);
- (b) **Slush** directly on runway surface;
- (c) **Snow** on runway surface **exceeding 2.5 cm (1 inch)**; or,
- (d) **Damp** runway surface

The CRFI portion of the RSC is included in the AMSCR form, see ANNEX "I and J"

An annual calibration of the Electronic Recording Decelerometer (ERD) must be conducted by a Transport Canada approved repair shop prior to the winter operating season.

24.0 OPERATIONAL RESTRICTIONS ON MANUEVERING SURFACES

The Airport Manager, and/or authorized personnel (as identified in this document) retain the authority to close runways, taxiways or any portion of the aircraft maneuvering surfaces for the purposes of snow removal, ice control, lighting repair or other airfield maintenance activity. Such closures will be affected via NOTAM and will be of minimal duration so as to cause the least disruption to flight operations. Decisions to restrict activity on the maneuvering surfaces will be made consistent with the airport's commitment to operational safety and to the effective and efficient use of available resources.

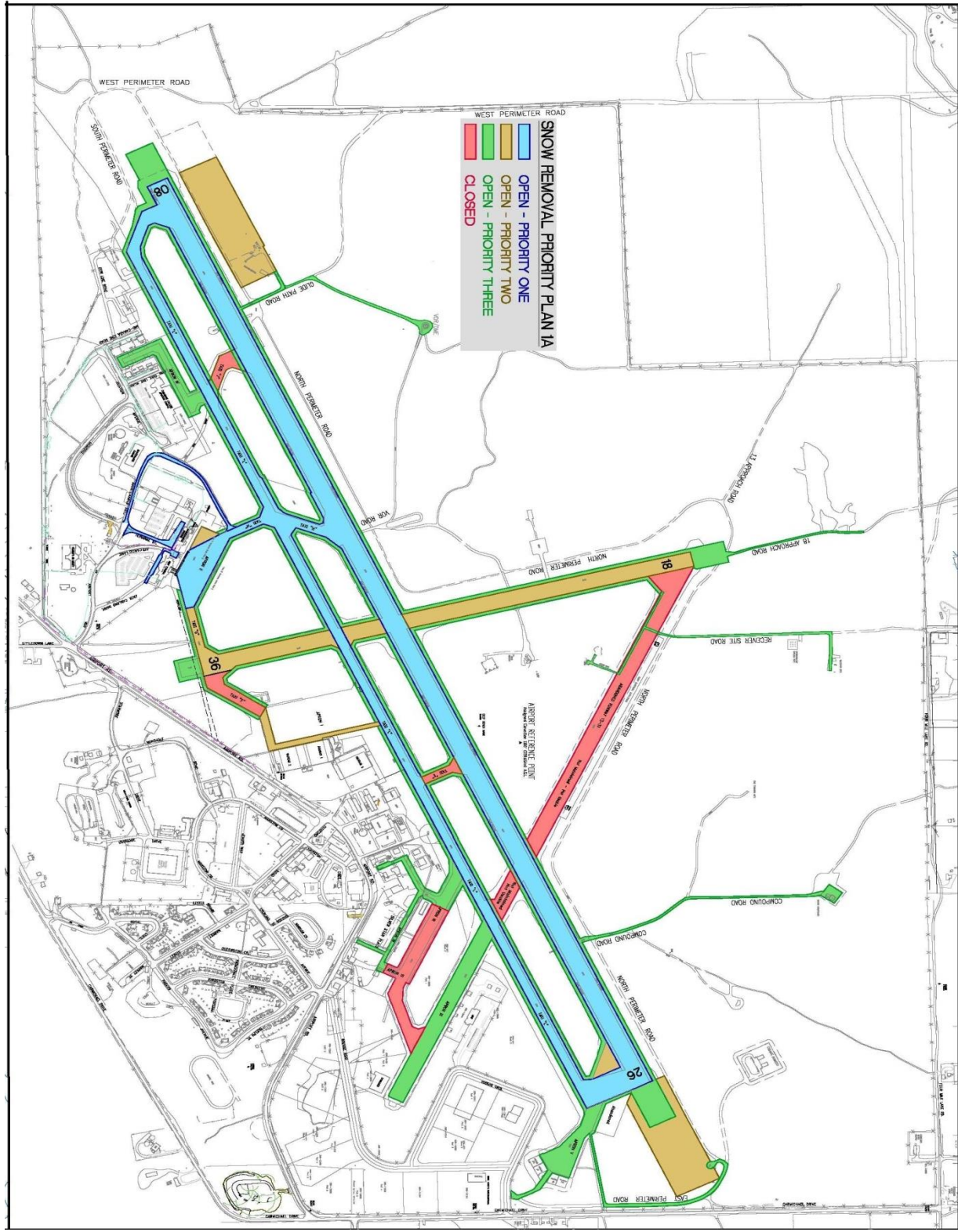
25.0 CRITIQUE AND REVIEW

Planning and organizing for winter operations is an on-going function and responsibility of airport management. Review of operational practices and procedures and monitoring of activities to ensure compliance with regulatory requirements will continue. It is our objective to offer the most cost effective and efficient service possible.

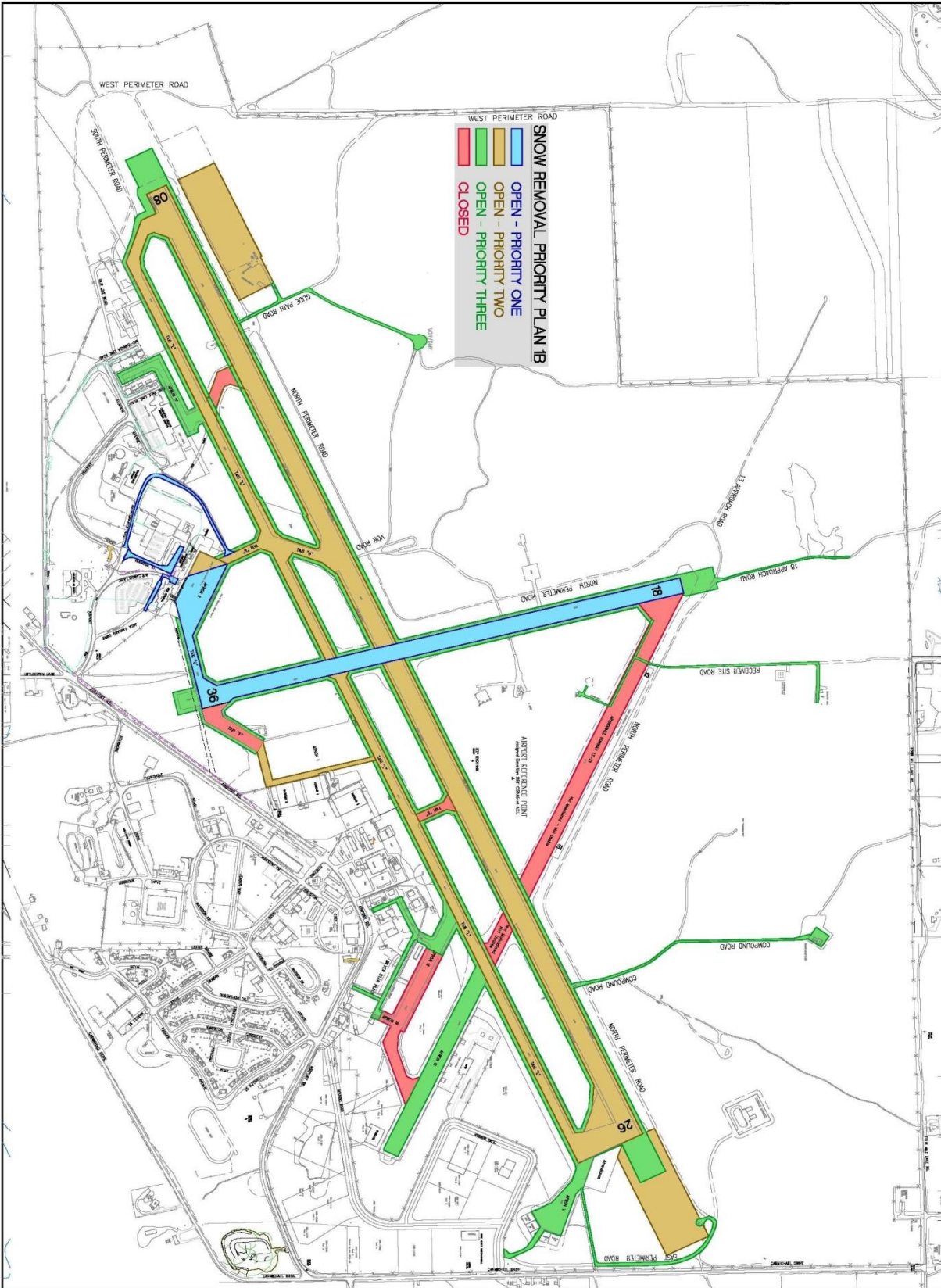
All operators and tenants are invited to provide comment on the Plan and to submit suggestions for improved effectiveness and efficiency of the winter operation. Questions and comments can be referred directly to the Airport Manager.

The support and participation of all airport operators in maintaining the currency and utility of this Plan is requested and appreciated.

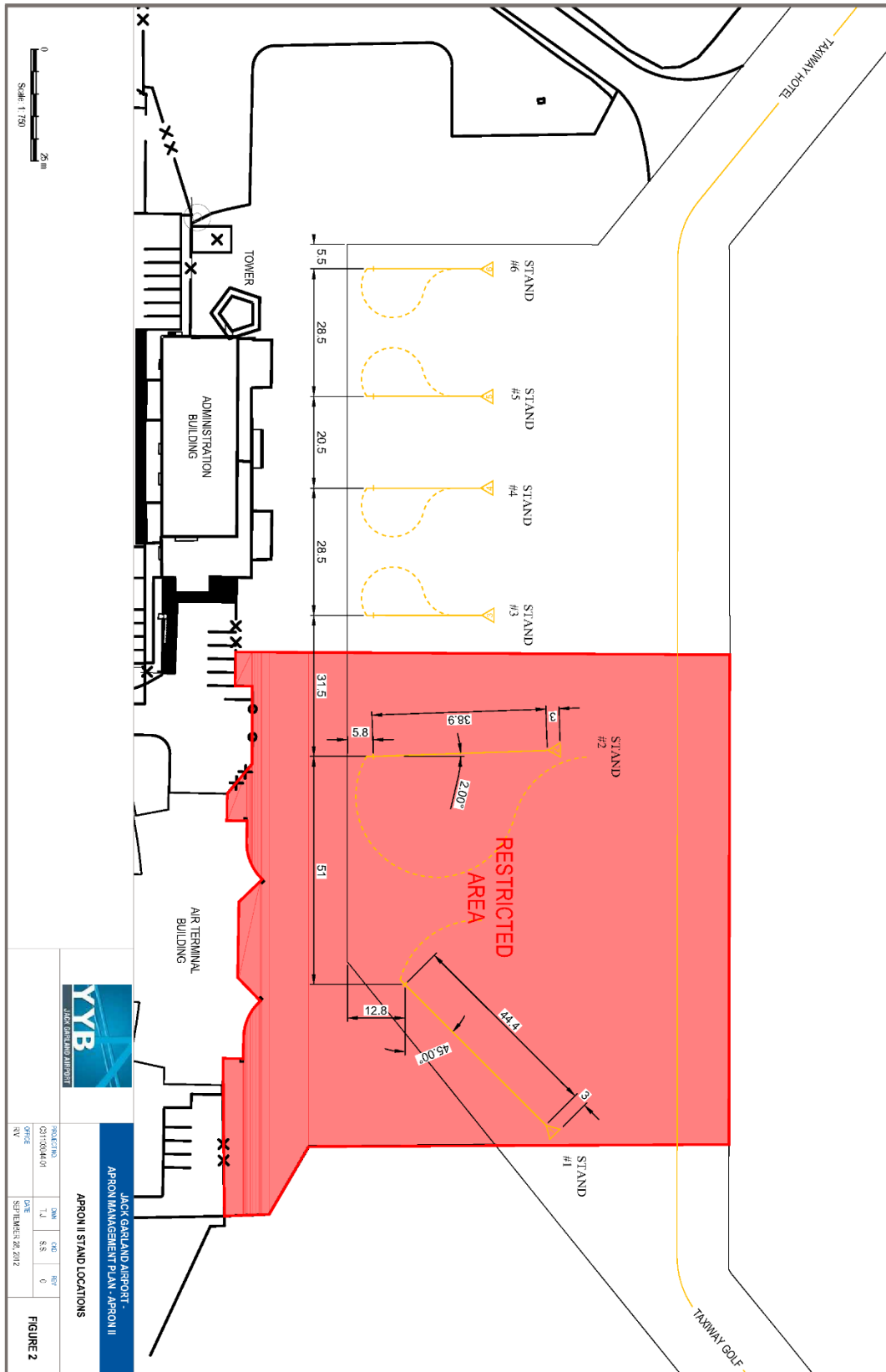
Annex A – Site Plan and Snow Removal Priorities - Airside



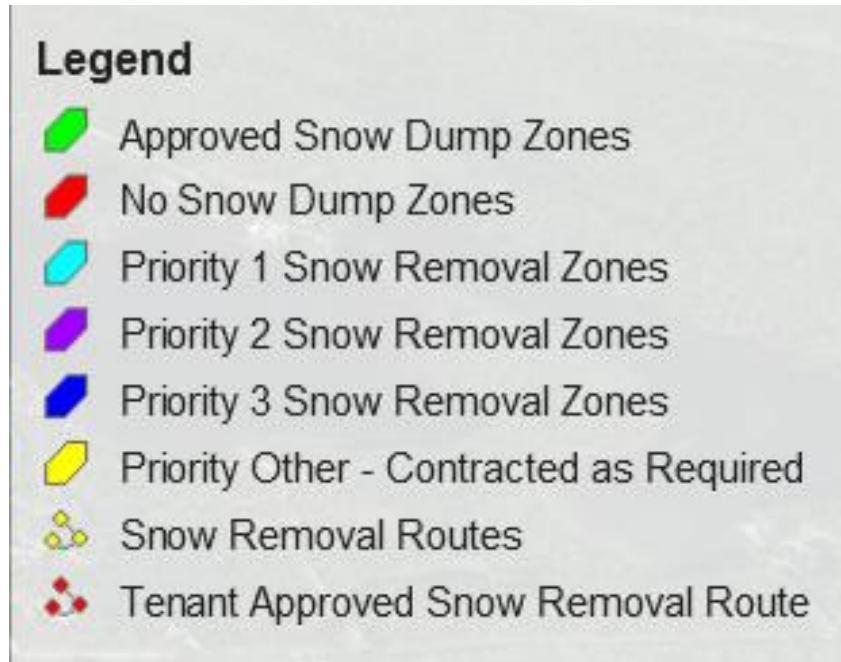
Winter Operations Plan



Annex B – Apron II Pavement Markings and Parking Management



Annex C – Site Plan and Snow Removal / Ice Control Priorities - Groundside



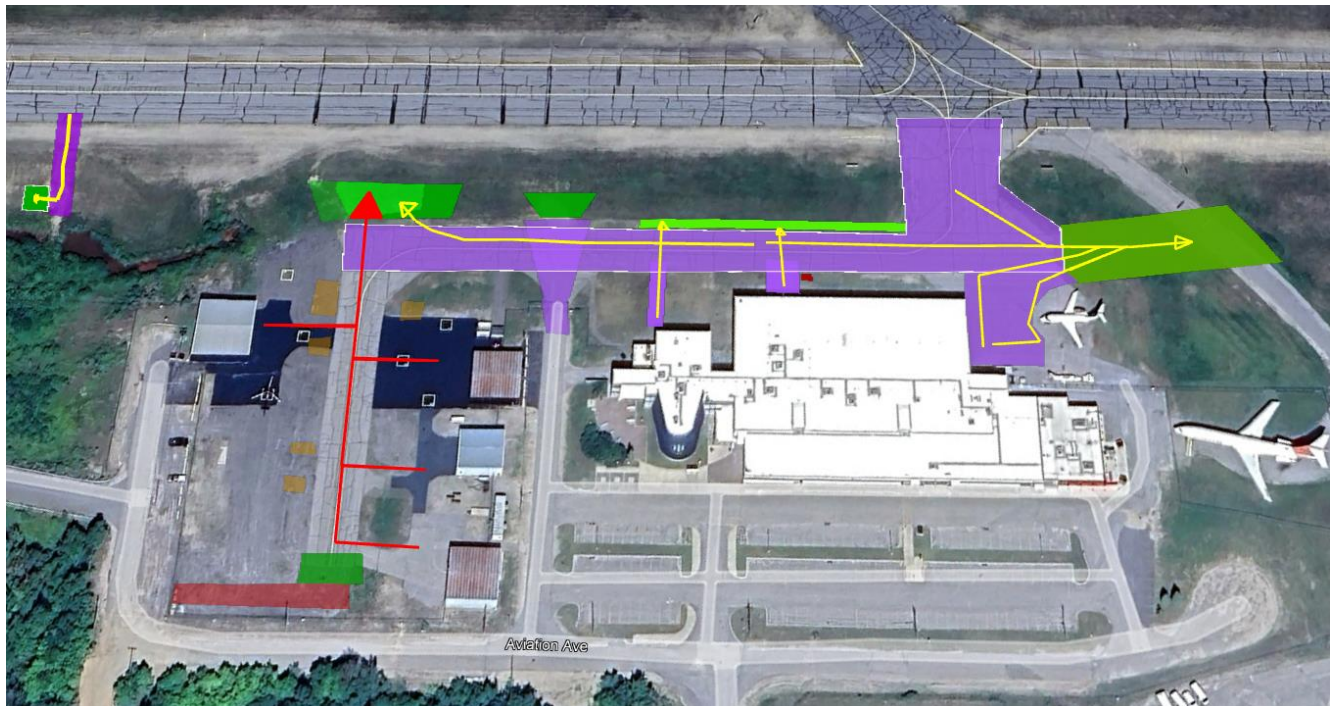
Winter Operations Plan



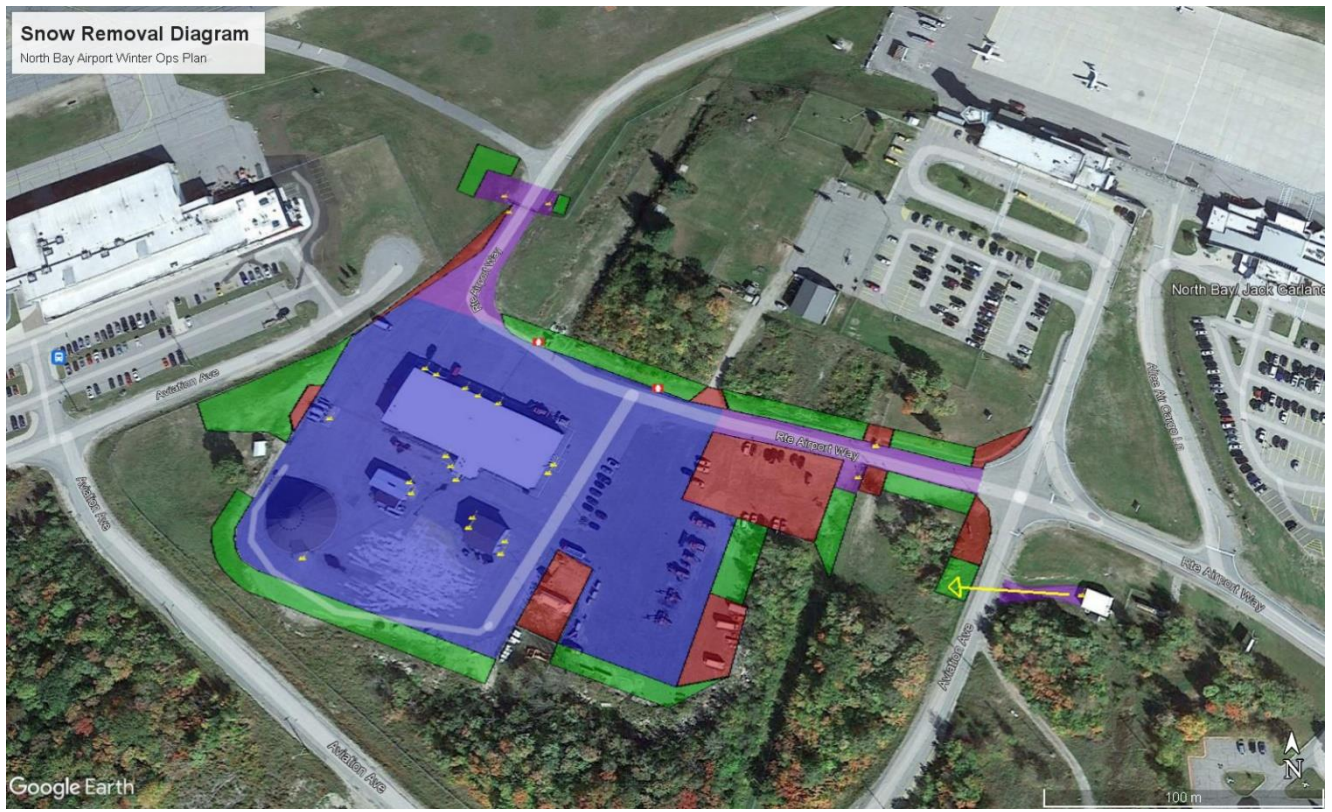
Winter Operations Plan



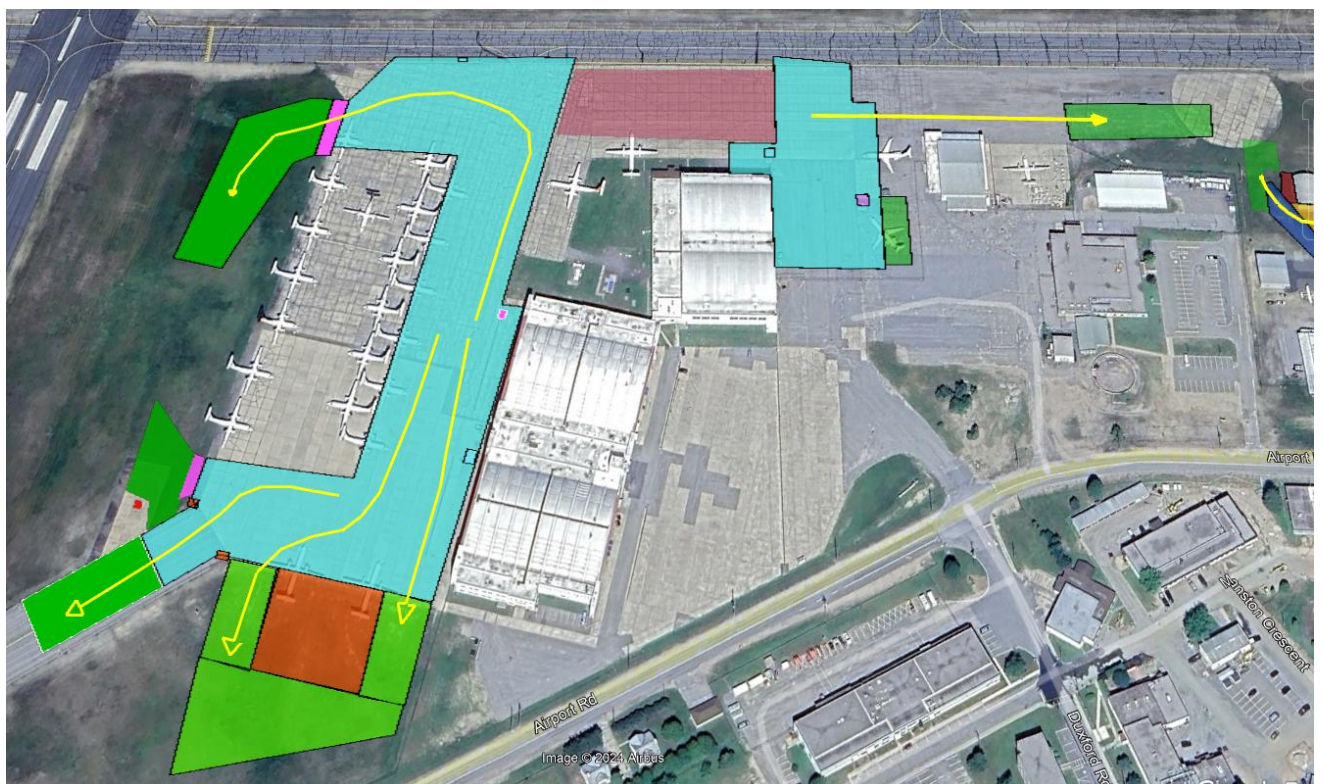
Apron 4 & Canadore Apron – Completed by North Bay Jack Garland Airport



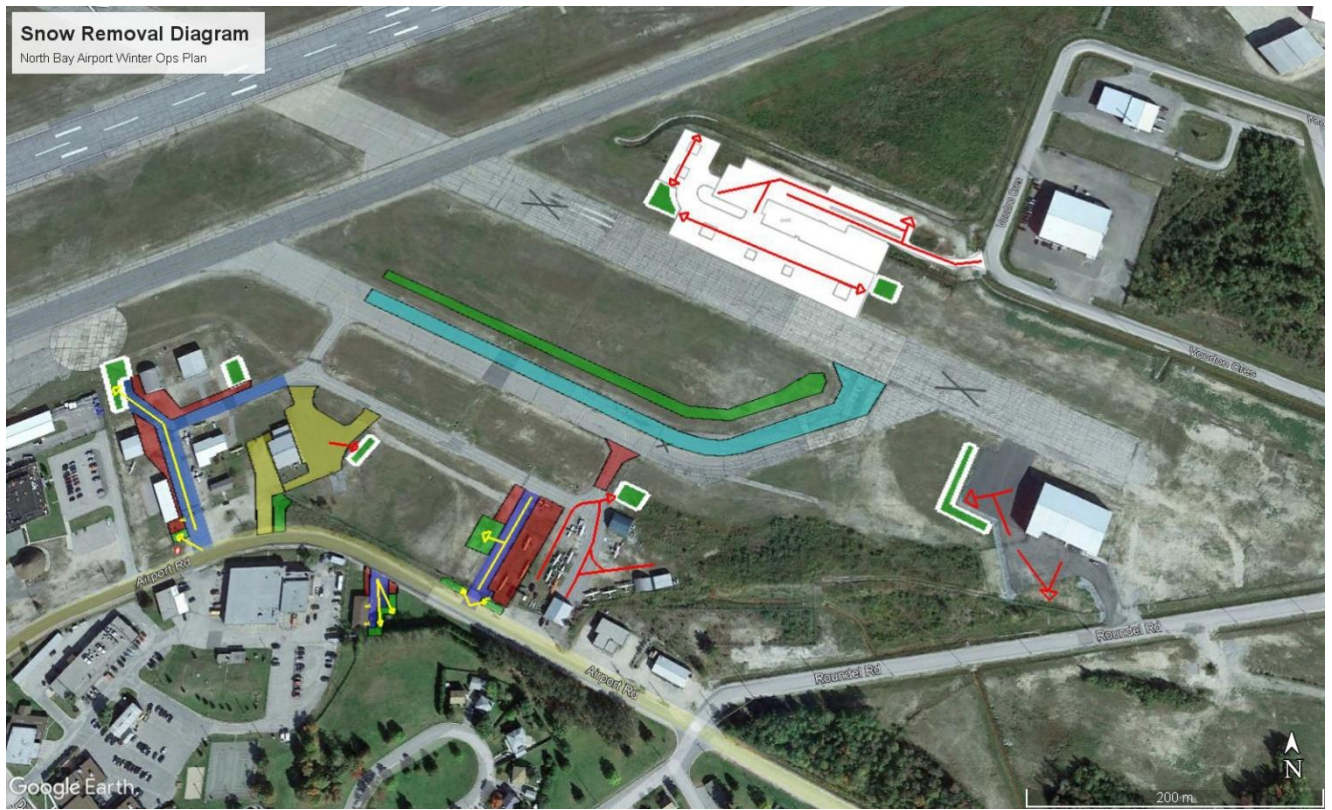
Winter Operations Plan



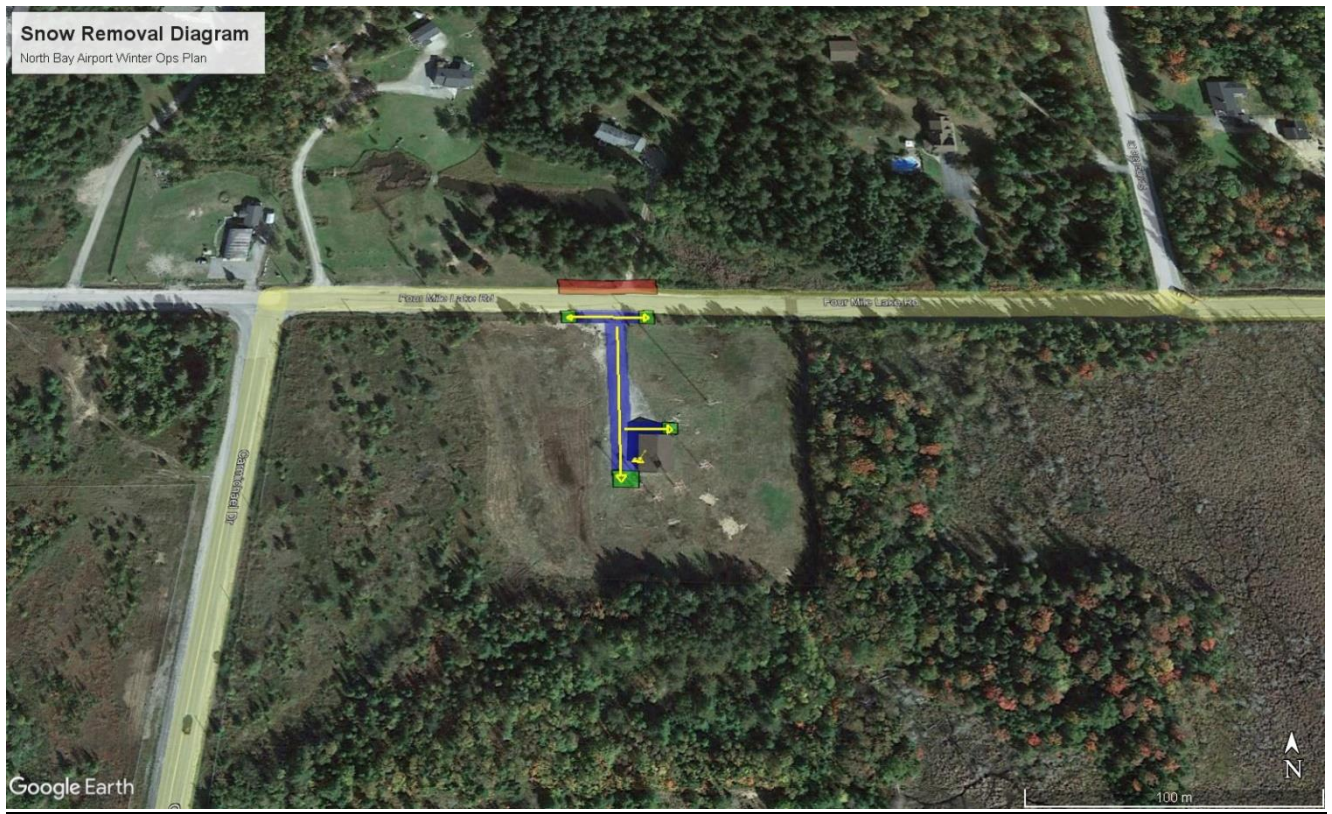
Apron 1 – Completed by Voyager Aviation



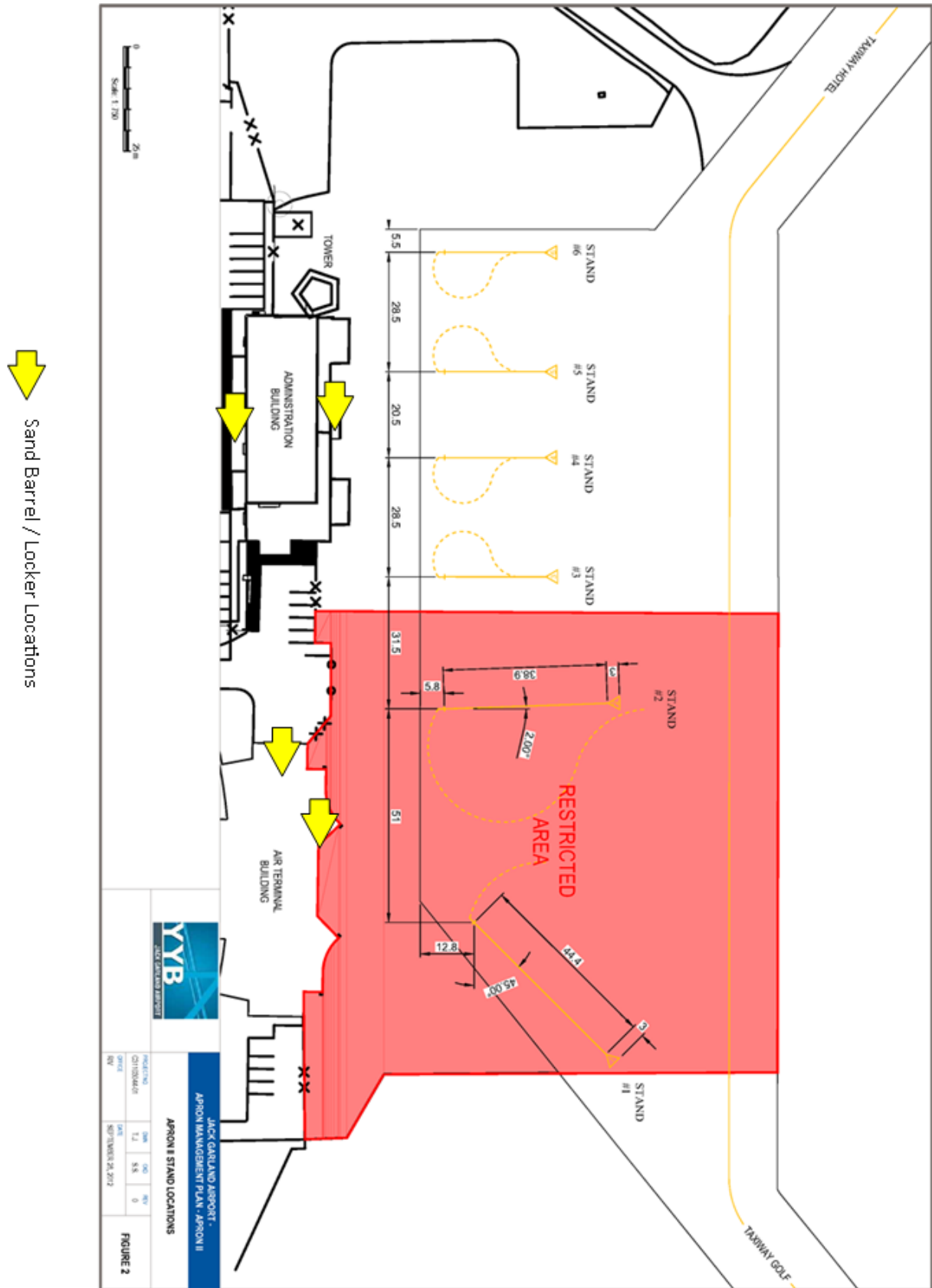
Winter Operations Plan



Winter Operations Plan



Annex D – Sand Locker/Barrel Locations – Airside and Groundside



Annex E – Ice Control Chemical Certifications

SMI, Inc.

12219 SW 131 Avenue
Miami, Florida 33186-6401 USA

Phone: (305) 971-7047
Fax: (305) 971-7048

Attn: Ahmet Kimyacioglu
MKS Marmara Entegre Kimya Sanayi AS
Barbaros Bulvari
Faruk Canitez Sok no. 8
34353 Besiktas
Istanbul Turkey

Date: 22-Mar-2019
SMI/REF: 1901-3723

Product: Sodium Formate Deicer D-02 /ICECARE GRANULE (received 07-Jan-2019)

Dilution: Per specification

Page 1 of 6

AMS 1431E
SOLID RUNWAY DEICING/ANTI-ICING PRODUCT
Periodic Tests

4.2.2 Periodic Tests

3.2.5	Effect on Transparent Plastics	Conforms
3.2.6	Effect on Painted Surfaces	Conforms
3.2.7	Effect on Unpainted Surfaces	Conforms
3.2.8	Effect on Runway Pavements	
3.2.8.1	Runway Concrete Surface Scaling Resistance	Conforms
3.2.8.2	Asphalt Concrete Degradation Resistance	¹ Not performed by SMI
3.2.9	Effect on Aircraft Metals:	
3.2.9.1	Sandwich Corrosion	Conforms
3.2.9.2	Total Immersion Corrosion	Conforms
3.2.9.3	Low Embrittling Cadmium Plate	Conforms
3.2.9.3.1	Cyclic Immersion Corrosion of Cadmium Plate	Informational
3.2.9.4	Hydrogen Embrittlement	Conforms
3.2.9.5	Stress Corrosion Resistance	
	AMS 4911	Conforms
	AMS 4916	Informational

¹Testing required for deicer /anti-icer products used in Europe. This test is not performed by SMI.

Respectfully submitted,



Patricia D. Viani, SMI Inc.

SCIENTIFIC MATERIAL INTERNATIONAL
www.smiinc.com

SMI, Inc.

12219 SW 131 Avenue
Miami, Florida 33186-6401 USA

Phone: (305) 971-7047
Fax: (305) 971-7048

Attn: Jessica Cremer
Nachurs Alpine Solutions
421 Leader Street
Marion, OH 43302

Date: 05-Apr-2019
SMI/REF: 1812-365

Product: **GEN3 64 (Lot GEN3092118)** (received 07-Jan-2019)

Dilution: As received

Page 1 of 5

Periodic testing in accordance with
AMS 1435D (Revised 2018-11)
LIQUID RUNWAY DEICING/ANTI-ICING PRODUCT

4.2.2 Periodic Tests

3.2.4	Freezing Point	Conforms
3.2.5	Effect on Aircraft Metals	Conforms
3.2.5.1	Sandwich Corrosion	Conforms
3.2.5.2	Total Immersion Corrosion	Conforms
3.2.5.3	Low Embrittling Cadmium Plate	Conforms
3.2.5.3.1	Cyclic Immersion Corrosion of Cadmium Plate	Informational
3.2.5.4	Hydrogen Embrittlement	Conforms
3.2.5.5	Stress-Corrosion Resistance	Conforms
	AMS 4911	Conforms
	AMS 4916	Informational
3.2.6	Effect on Transparent Plastics	Conforms
	MIL-P-25690 (Type C)	Conforms
	MIL-P-83310 (Polycarbonate)	Conforms
3.2.7	Effect on Painted Surfaces	Conforms
3.2.8	Effect on Unpainted Surfaces	Conforms
3.2.9	Rinsibility	Conforms
3.2.10	Effect on Runway Pavements	Conforms
3.2.10.1	Runway Concrete Scaling Resistance	Conforms
3.2.10.2	Asphalt Concrete Degradation Resistance	*Not performed by SMI

***Testing required for deicer /anti-icer products used in Europe. This test is not performed by SMI.**

Respectfully submitted,

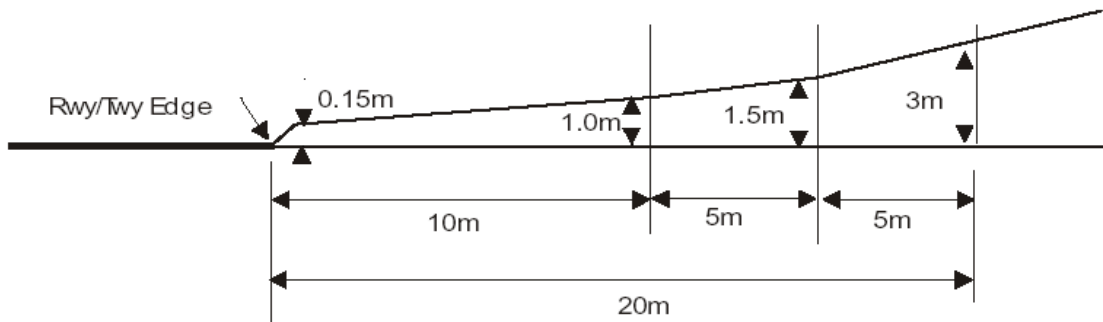

Patricia D. Viani, SMI Inc.

SCIENTIFIC MATERIAL INTERNATIONAL
www.smiinc.com

Annex F – Sideline Snow Removal

Runway 08/26 – Code 4D | AGN V

Runway 18/36 – Code 3C | AGN IV

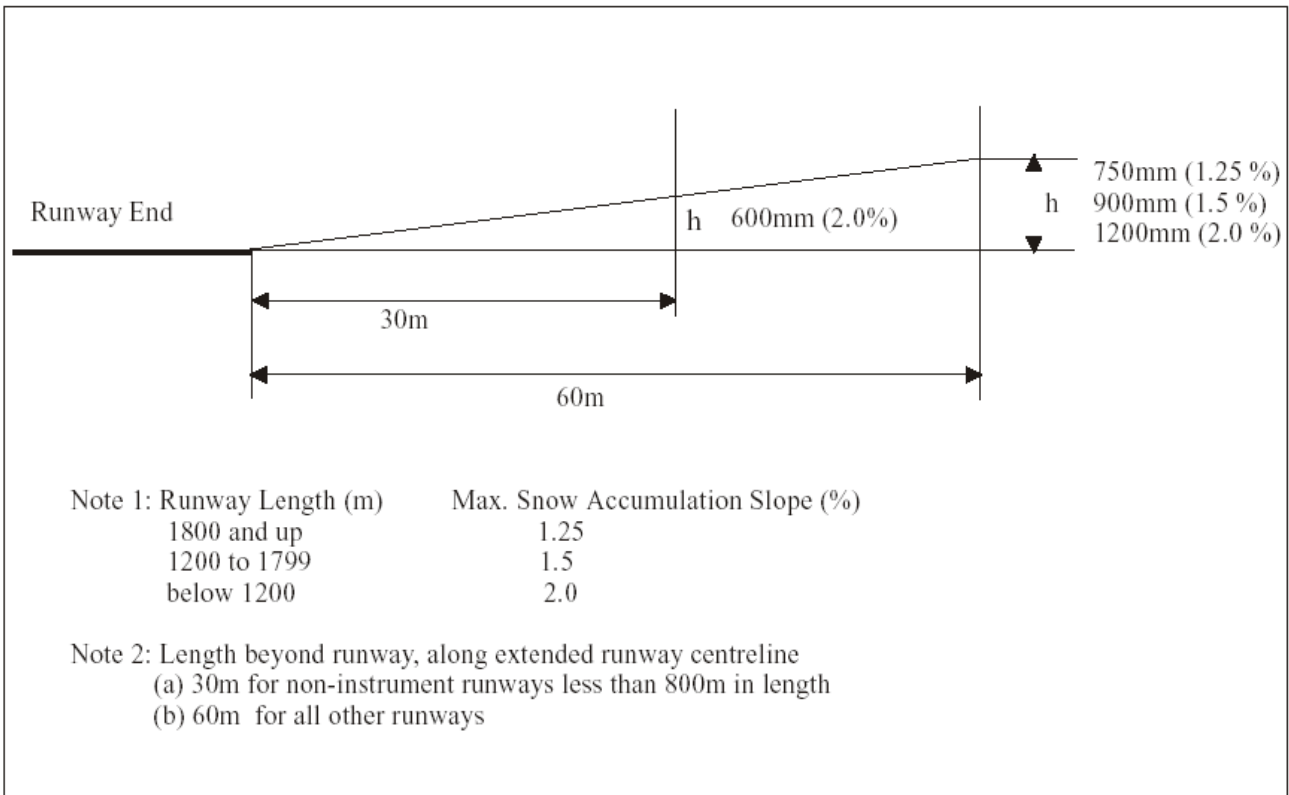


Codes C and D

Annex G – Pre-Threshold Area Snow Removal

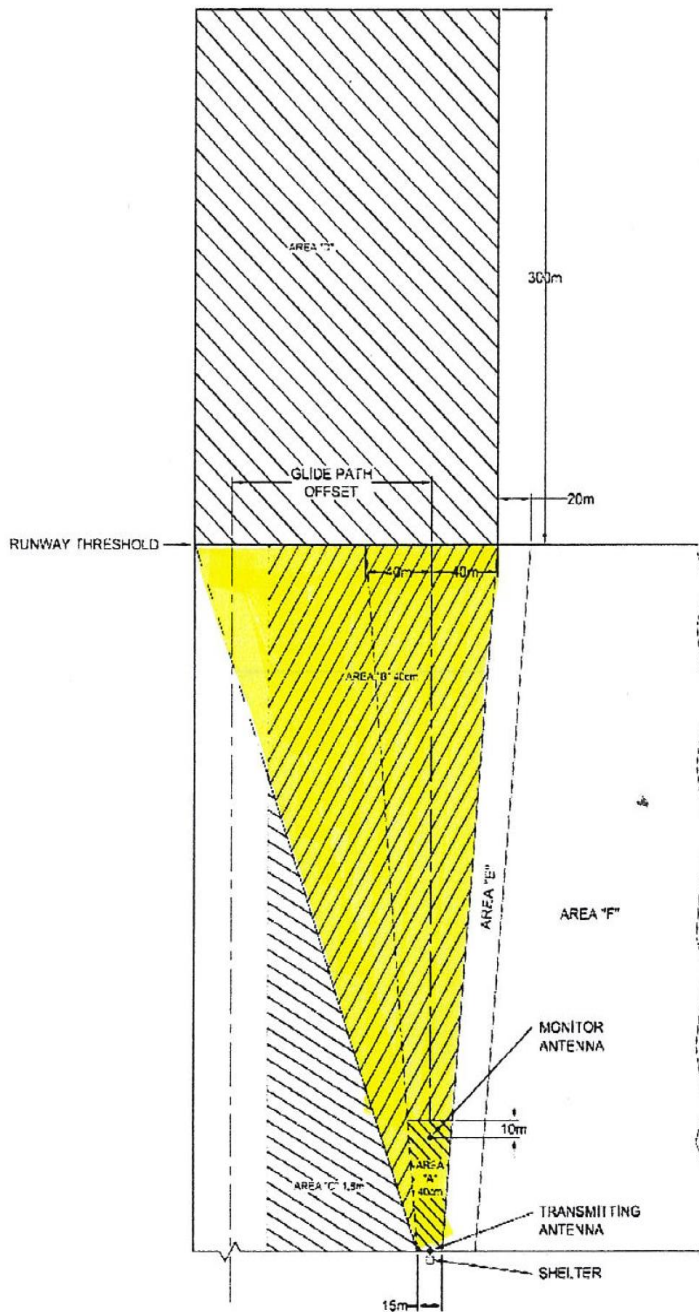
Runway 08/26 – Precision Runway, 3048m in length

Runway 18/36 – Non Precision Runway, 1369m in length



Annex H – Snow Removal – Glide Path and Localizer Sites

Glide Path Snow and Vegetation clearing zones



H-708-770-MI 001

Snow cleared from the runway must not be deposited in the Glide Path clearing zones.

Snow banks on the edge of the cleared area between the Glide Path and the runway threshold must be tapered with a maximum angle of 50 degrees relative to ground.

Area D:
Natural snow allowed. Snow cleared between the Glide Path and the runway threshold must not be deposited in this area.

Area E:
Snow depth must not exceed 1.8 metres. Snow banks must be tapered with a maximum angle of 50 degrees relative to ground.

Area F:
Natural snow allowed. Dumped snow higher than 1.8 metres must be tapered with a maximum angle of 6 degrees (1m per 10m) relative to 1.8m.

Glide Path Snow Removal

Confirm that snow has not exceeded the limits prescribed below for Areas A, B, C and D as illustrated in Appendix "B1". In Areas B, C and D, there is no field monitor or ground check enabling us to determine if the system still operates safely. Snow accumulation exceeding the limits in these areas must be considered a threat to system integrity, whether or not the monitor detects a course shift.

The maximum allowable snow depths within these areas are as follows:

- Area A - Average snow depth not to exceed 40 cm.
- Area B - Average snow depth not to exceed 40 cm.
- Area C - Average snow depth not to exceed 1.8 m.
- Area D – Natural snow allowed. Snow cleared between the Glide Path and the runway threshold must not be deposited in this area.

If the average snow depth reaches the above limits in Area A, B or C, the system must be immediately removed from service until excess snow has been cleared.

For sites at which snow removal equipment cannot be used, suitable snow removal criteria must be developed at the regional level and approved by Navigation Systems Engineering, H.O. Site specific document supporting such approval(s) can be found in Appendix B, where applicable.

High snow banks along an access road may affect course structure, the degree being dependent on the location of the access road. Following a period of heavy snowfall and subsequent plowing, it may be necessary to have the banks cut down. This is particularly important in areas where snowblowing has created vertical snow cuts. Similarly, snow drifts or banks in the critical area may affect Glide Path operation and must be tapered.

It is important to prevent snow being blown into the area in front of the Glide Path during runway clearing operations. This applies to the areas A, B and C.

Field monitor readings are more sensitive to snow depth than the far-field. Supplementary instructions specific to equipment models is described below.

Glide Path Snow Removal (Cont'd)

(2) Normarc Glide Path

For the Normarc ILS, the primary monitoring functions are provided by the Integral monitor. Since the Near Field monitor readings are more sensitive to snow depth than the far-field, the NF monitor is set to alarm at 125 uA with the maintenance warning set to 60% (75 uA).

With the executive limits set to a much higher value than for the Integral, the Near Field monitor will tolerate higher snow accumulation before reaching these limits. For this reason, the maintenance warning limits are set to tighter values than normal to compensate for this. **Therefore, both Areas A and B should be cleared if snow accumulation causes the field monitor to indicate a maintenance warning.** (Note: In this case it is not necessary to immediately remove the glide path from service.)

Site Vegetation

Confirm that vegetation does not exceed 50 cm in height for the Localizer and 30 cm for the GP within the Areas described in 5.1.3.2, 5.1.3.3. and Appendix A and B and arrange for cutting as necessary.

Sites where the limits prescribed can not be met should request site specific limits via their Regional Specialist, who will coordinate with the LCM. Topographic information will normally be required in order to perform an analysis. Refer to special procedures Para. 6 of this manual for detailed instructions.

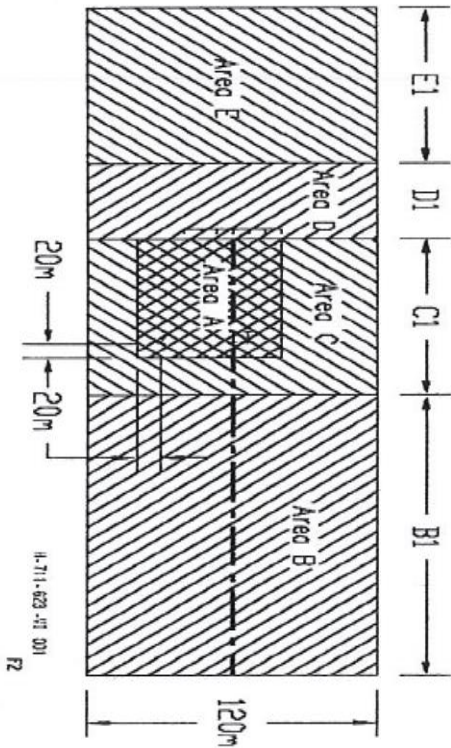
Runway Localizer Reference Marks

There are 4 runway reference marks. These marks must be kept visible and repainted when required.

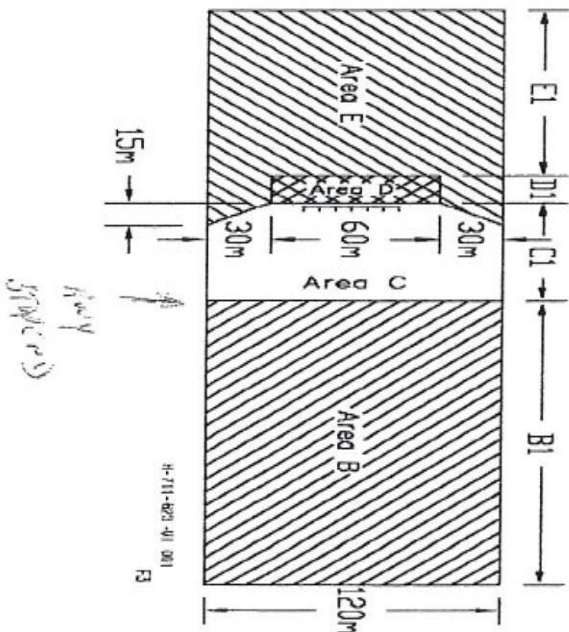
- (1) Three vehicle check marks are used to measure the course position at centreline and the course quarter sector widths using an ILS receiver. These marks are normally located approximately between 900 and 1300 meters in front of the localizer array.
- (2) One DDM Null Reference mark is located approximately between 250 and 500 meters in front of the localizer array, on the runway extended centreline. The DDM centreline null measurements are performed in order to verify the "far-field" signal relationship between each antenna pair of the localizer array.

Localizer Snow Clearance

Phillips Twin-T Arrays



Normarc Wilcox Arrays



Supplementary notes:

- Area A:** Corresponds to the Near field monitor zone. Snow must be removed to stabilize the monitors. The size of this area is similar for all near field monitors. Facing the array, the zone is delimited on one side by the edge of the Array (right hand side) with the opposite side 20 meters passed the Clearance monitor antenna.
 - Area B:** In most cases, this zone does not exist. It is necessary for sites where more than one snow depth tolerance is defined due to the nature of the terrain.
 - Area C:** In most cases, it corresponds to the zone delimited by the front of the Array and the runway end (normal sites) or the beginning of zone A where snow depth tolerance differs from C.
 - Area D:** The zone at the back of the Array that needs to be cleared.
 - Area E:** Snow naturally accumulating can be tolerated and snow removal is not required in this area. This area cannot be used as a dumping site for snow cleared from the runway or any other area. However, if there is a road in this area, snow removal is permitted to allow access.
- For sites with a reciprocal ILS system, the snow cleared between the Localizer and the runway stop end must not be deposited on the same side as the reciprocal Glida Path.
- Snow banks on the edge on either side of the cleared area between the Localizer and the runway stop end must be tapered with a maximum angle of 50 degree relative to the ground. Height of the snow bank should be limited to the height of the array.

Localizer Snow Clearance & Site Specific Tolerances

ILS Name	Runway	ILS Model	Snow Depth limits (meters)					Distance to be protected (meters)				
			Area A	Area B	Area C	Area D	Area E	B1	C1	D1	E1	
Sites not listed	-	PHILLIPS (with BC)	0.50	N/A	0.50	0.75		0		60	240	
		PHILLIPS (no BC)	0.50	N/A	0.50	0.75		0		60	45	
		PHILLIPS with screen	0.50	N/A	0.50	0.75		0	Array to Runway stop end	15	45	
		WILCOX / NORMARC	N/A	N/A	0.50	0.75		0		15	45	
Bale Comeau	10	NORMARC	N/A	N/A	0.75	1		0	15	45		
Calgary	28	NORMARC	N/A	N/A	1.00	1.25		0	15	45		
Castlegar	15	WILCOX	N/A	N/A	1.40	1.40	100		15	45		
Churchill	33	NORMARC	N/A	N/A	0.70	1.00		0	15	45		
Deer Lake	25	PHILLIPS	0.50	N/A	0.60	1.00		0	60	240		
Fort Nelson	03	PHILLIPS	0.50	N/A	0.50	0.75		0	60	0		
Fort St. John	29	PHILLIPS	0.75	N/A	0.75	1.00		0	60	240		
Gander	13	NORMARC	N/A	N/A	0.75	1.00		0	15	60		
Grande Prairie	29	PHILLIPS	0.65	N/A	0.65	1.00		0	60	240		
Mirabel	24	NORMARC	N/A	N/A	1.00	1.25		0	15	45		
Moncton	06	PHILLIPS	0.75	N/A	0.75	1.00		0	20	240		

See note in Appendix A1

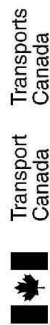
Array to Runway stop end

Array to Runway stop end

Annex I – Manual Aircraft Movement Surface Condition Report – Rwy 08/26



**AIRCRAFT MOVEMENT SURFACE CONDITION REPORT
and CANADIAN RUNWAY FRICTION INDEX**



Report #:	Signature:	Voice Report to:	Report #:
Runway: <input type="checkbox"/> SLIPPERY WHEN WET	Valid TO:	Valid FM:	Valid FROM:
NOTAM End Time: <input type="checkbox"/> 8 hours <input type="checkbox"/> Other: _____		CLEARED WIDTH: <input type="checkbox"/> FULL _____ FT <input type="checkbox"/> CENTRED: _____ FT <input type="checkbox"/> OFFSET: _____ FT <input type="checkbox"/> DIRECTION: _____	
HIGHER THRESHOLD			
LOWER THRESHOLD	MIDPOINT	MIDPOINT	HIGHER THRESHOLD
Runway Surface Description	Runway Surface Description	Runway Surface Description	Runway Surface Description
% Coverage CC	% Coverage CC	% Coverage CC	% Coverage CC
100	100	100	100
6	6	6	6
5	5	5	5
4	4	4	4
3	3	3	3
2	2	2	2
1	1	1	1
0	0	0	0
Other:	Other:	Other:	Other:
1"	1"	1"	1"
3/4"	3/4"	3/4"	3/4"
1/2"	1/2"	1/2"	1/2"
1/4"	1/4"	1/4"	1/4"
≤1/8"	≤1/8"	≤1/8"	≤1/8"
Contaminant	Contaminant	Contaminant	Contaminant
WET	WET	WET	WET
SLUSH	SLUSH	SLUSH	SLUSH
ICE	ICE	ICE	ICE
WET ICE	WET ICE	WET ICE	WET ICE
SLUSH on top of ICE	SLUSH on top of ICE	SLUSH on top of ICE	SLUSH on top of ICE
WATER on top of COMPACTED SNOW	WATER on top of COMPACTED SNOW	WATER on top of COMPACTED SNOW	WATER on top of COMPACTED SNOW
DRY SNOW on top of ICE	DRY SNOW on top of ICE	DRY SNOW on top of ICE	DRY SNOW on top of ICE
WET SNOW on top of ICE	WET SNOW on top of ICE	WET SNOW on top of ICE	WET SNOW on top of ICE
FROST	FROST	FROST	FROST
≤1/8 in (3mm) depth	≤1/8 in (3mm) depth	≤1/8 in (3mm) depth	≤1/8 in (3mm) depth
SLUSH	SLUSH	SLUSH	SLUSH
DRY SNOW	DRY SNOW	DRY SNOW	DRY SNOW
COMPACTED SNOW	COMPACTED SNOW	COMPACTED SNOW	COMPACTED SNOW
(-15°C and Colder air temp.)	(-15°C and Colder air temp.)	(-15°C and Colder air temp.)	(-15°C and Colder air temp.)
SLIPPERY WHEN WET	SLIPPERY WHEN WET	SLIPPERY WHEN WET	SLIPPERY WHEN WET
N/A	N/A	N/A	N/A
DRY SNOW on WET SNOW	DRY SNOW on WET SNOW	DRY SNOW on WET SNOW	DRY SNOW on WET SNOW
COMPACTED SNOW	COMPACTED SNOW	COMPACTED SNOW	COMPACTED SNOW
> 1/8 in (3mm) depth	> 1/8 in (3mm) depth	> 1/8 in (3mm) depth	> 1/8 in (3mm) depth
DRY SNOW	DRY SNOW	DRY SNOW	DRY SNOW
COMPACTED SNOW	COMPACTED SNOW	COMPACTED SNOW	COMPACTED SNOW
(warmer than -15°C air temp.)	(warmer than -15°C air temp.)	(warmer than -15°C air temp.)	(warmer than -15°C air temp.)
> 1/8 in (3mm) depth	> 1/8 in (3mm) depth	> 1/8 in (3mm) depth	> 1/8 in (3mm) depth
STANDING WATER	STANDING WATER	STANDING WATER	STANDING WATER
SLUSH	SLUSH	SLUSH	SLUSH
ICE	ICE	ICE	ICE
WET ICE	WET ICE	WET ICE	WET ICE
SLUSH on top of ICE	SLUSH on top of ICE	SLUSH on top of ICE	SLUSH on top of ICE
WATER on top of COMPACTED SNOW	WATER on top of COMPACTED SNOW	WATER on top of COMPACTED SNOW	WATER on top of COMPACTED SNOW
DRY SNOW on top of ICE	DRY SNOW on top of ICE	DRY SNOW on top of ICE	DRY SNOW on top of ICE
WET SNOW on top of ICE	WET SNOW on top of ICE	WET SNOW on top of ICE	WET SNOW on top of ICE
Average Runway CRFI: --- or below for CRFI by thirds ---	Average Runway CRFI: --- or below for CRFI by thirds ---	Average Runway CRFI: --- or below for CRFI by thirds ---	Average Runway CRFI: --- or below for CRFI by thirds ---
CRFI: (LOWER THR)	CRFI: (MIDPOINT)	CRFI: (HIGHER THR)	CRFI: (HIGHER THR)
SELECT ONE: <input type="checkbox"/> Confirm RWYCC <input type="checkbox"/> Downgrade RWYCC <input type="checkbox"/> Upgrade RWYCC	SELECT ONE: <input type="checkbox"/> Confirm RWYCC <input type="checkbox"/> Downgrade RWYCC <input type="checkbox"/> Upgrade RWYCC	SELECT ONE: <input type="checkbox"/> Confirm RWYCC <input type="checkbox"/> Downgrade RWYCC <input type="checkbox"/> Upgrade RWYCC	SELECT ONE: <input type="checkbox"/> Confirm RWYCC <input type="checkbox"/> Downgrade RWYCC <input type="checkbox"/> Upgrade RWYCC
FINAL RWYCC	FINAL RWYCC	FINAL RWYCC	FINAL RWYCC



**AIRCRAFT MOVEMENT SURFACE CONDITION REPORT
and CANADIAN RUNWAY FRICTION INDEX**



CONDITIONS ON RUNWAY	
<p>1 - SNOW DRIFTS Height: ___ FT ___ IN</p> <p>2 - WINDROWS Height: ___ FT ___ IN</p> <p>3 - SNOWBANKS Height: ___ FT ___ IN</p>	<p>Distance from threshold: # _____ FT Threshold _____</p> <p>From centreline (CL): # _____ FT Direction _____</p> <p>Along inside runway edge(s): # _____ FT Direction _____</p> <p>Along cleared width edge(s): # _____ FT Direction _____</p> <p>Across specified intersection: # _____ Intersection _____ RWY _____</p>
OTHER LOCALIZED CONDITIONS ON RUNWAY	
<input type="checkbox"/> ICE PATCHES <input type="checkbox"/> COMPACTED SNOW PATCHES <input type="checkbox"/> STANDING WATER PATCHES Distance from threshold: _____ FT Threshold _____	
<input type="checkbox"/> CHEMICALLY TREATED Time applied: _____ <input type="checkbox"/> LOOSE SAND Time applied: _____	
RUNWAY REMAINING WIDTH CONDITION AND DEPTH	
<input type="checkbox"/> WET <input type="checkbox"/> COMPACTED SNOW <input type="checkbox"/> WET ICE <input type="checkbox"/> FROST <input type="checkbox"/> DRY SNOW on COMPACTED SNOW <input type="checkbox"/> SLUSH on top of ICE <input type="checkbox"/> SLUSH <input type="checkbox"/> WET SNOW on COMPACTED SNOW <input type="checkbox"/> WATER on top of COMPACTED SNOW <input type="checkbox"/> DRY SNOW <input type="checkbox"/> STANDING WATER <input type="checkbox"/> DRY SNOW on top of ICE <input type="checkbox"/> WET SNOW <input type="checkbox"/> ICE <input type="checkbox"/> WET SNOW on top of ICE	
CONDITIONS ADJACENT TO RUNWAY	
<input type="checkbox"/> SNOW BANKS Height: ___ FT ___ IN Distance and direction(s) outside runway edge(s): _____ FT Direction _____	
RUNWAY REMARKS	
TAXIWAY REMARKS	
APRON REMARKS	
GENERAL REMARKS	<input type="checkbox"/> CLEARING/SWEEPING IN PROGRESS Other: _____ <input type="checkbox"/> EXP TO BE CLEARED BY _____ NEXT OBS AT _____ <input type="checkbox"/> CONDITIONS CHANGING RAPIDLY

Annex J – Manual Aircraft Movement Surface Condition Report – Rwy 18/36



**AIRCRAFT MOVEMENT SURFACE CONDITION REPORT
and CANADIAN RUNWAY FRICTION INDEX**



Report #:	Voice Report to:	Signature:	
Runway:	Valid TO:	NOTAM End Time:	CLEARED WIDTH:
<input type="checkbox"/> SLIPPERY WHEN WET		<input type="checkbox"/> 8 hours <input type="checkbox"/> Other:	<input type="checkbox"/> FULL CENTRED: _____ FT <input type="checkbox"/> OFFSET: _____ FT DIRECTION: _____
Runway Surface Description	% Coverage	Depth (in inches)	
	<=1/8 1/4 1/2 3/4 1 1.5 2 Other		
DRY	100		
FROST			
WET			
SLUSH			
DRY SNOW			
WET SNOW			
COMPACTED SNOW			
SLIPPERY WHEN WET	N/A		
DRY SNOW ON COMPACTED SNOW			
WET SNOW ON COMPACTED SNOW			
STANDING WATER			
ICE			
WET ICE			
SLUSH ON TOP OF ICE			
WATER ON TOP OF COMPACTED SNOW			
DRY SNOW ON TOP OF ICE			
WET SNOW ON TOP OF ICE			
COMPACTED SNOW AND GRAVEL MIX			
<i>For unpaved runways only</i>			
<input type="checkbox"/> Graded	<input type="checkbox"/> Packed	<input type="checkbox"/> Scarified	

TIME IN UTC:	TEMP-ERATURE:	

CRFI: (LOWER THR)	CRFI: (MIDPOINT)	CRFI: (HIGHER THR)

Complete above for CRFI by THIRDS, complete below for CRFI by FULL runway

FULL RWY AVG CRFI	

of Fax page



**AIRCRAFT MOVEMENT SURFACE CONDITION REPORT
and CANADIAN RUNWAY FRICTION INDEX**



CONDITIONS ON RUNWAY	
1 - SNOW DRIFTS Height: ___ FT ___ IN	Distance from threshold: # _____ FT Threshold _____ From centreline (CL): # _____ FT Direction _____ Distance _____ FT Direction _____ Along inside runway edge(s): # _____ FT Direction _____ Distance _____ FT Direction _____ Along cleared width edge(s): # _____ FT Direction _____ Distance _____ FT Direction _____ Across specified intersection: # _____ Intersection _____ RWY _____
2 - WINDROWS Height: ___ FT ___ IN	
3 - SNOWBANKS Height: ___ FT ___ IN	
OTHER LOCALIZED CONDITIONS ON RUNWAY	
<input type="checkbox"/> ICE PATCHES <input type="checkbox"/> COMPACTED SNOW PATCHES <input type="checkbox"/> STANDING WATER PATCHES	Distance from threshold: _____ FT Threshold _____
<input type="checkbox"/> CHEMICALLY TREATED	Time applied: _____ Time applied: _____
TREATMENTS	
RUNWAY REMAINING WIDTH CONDITION AND DEPTH	
<input type="checkbox"/> WET	<input type="checkbox"/> COMPACTED SNOW
<input type="checkbox"/> FROST	<input type="checkbox"/> DRY SNOW on COMPACTED SNOW
<input type="checkbox"/> SLUSH	<input type="checkbox"/> WET SNOW on COMPACTED SNOW
<input type="checkbox"/> DRY SNOW	<input type="checkbox"/> STANDING WATER
<input type="checkbox"/> WET SNOW	<input type="checkbox"/> ICE
CONDITIONS ADJACENT TO RUNWAY	
<input type="checkbox"/> SNOW BANKS Height: ___ FT ___ IN	Distance and direction(s) outside runway edge(s): _____ FT Direction _____ Distance _____ FT Direction _____
RUNWAY REMARKS	
TAXIWAY REMARKS	
APRON REMARKS	
GENERAL REMARKS	

CLEARING/SWEEPING IN PROGRESS
 EXP TO BE CLEARED BY _____
 CONDITIONS CHANGING RAPIDLY

Other: _____
 NEXT OBS AT _____

Annex K – TRACR to NES Aircraft Movement Surface Condition Report

TRACR-NG GRF - Runway Condition Report

Airport Name: **North Bay Airport**
 Airport Code: **CYYB**
 Report #: **7bdada86**
 Operator: **Bryan Avery (averyb)**
 Date: **2021-09-15 19:35:47Z**

Condition Report

Surface	Summary	Submitted
08-26	Reported Width 150' (Full) Section A: Contaminants: 100% DRY, RWYCC 6 Section B: Contaminants: 100% DRY, RWYCC 6 Section C: Contaminants: 100% DRY, RWYCC 6	2021-09-15 19:32:55Z
18-36	Reported Width 148' (Full) Contaminants: 100% DRY	2021-09-15 19:33:38Z
ECHO	Contaminants: DRY	2021-09-15 19:34:18Z
FOXTROT	Contaminants: DRY	2021-09-15 19:34:18Z
GOLF	Contaminants: DRY	2021-09-15 19:34:18Z
HOTEL	Contaminants: DRY	2021-09-15 19:34:18Z
JULIET	Contaminants: DRY	2021-09-15 19:34:18Z
LIMA	Contaminants: DRY	2021-09-15 19:34:18Z
APRON I	Contaminants: DRY	2021-09-15 19:33:56Z
APRON II	Contaminants: DRY	2021-09-15 19:33:56Z
APRON III	Contaminants: DRY	2021-09-15 19:33:56Z
APRON IV	Contaminants: DRY	2021-09-15 19:33:56Z
APRON V	Contaminants: DRY	2021-09-15 19:33:56Z