

Snow Removal Equipment and the Buildings That House Them.

Presentation to: North and South Dakota Aviation Users

Name: Brian P. Schuck

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Federal Aviation
Administration



Snow Removal Equipment

- **Advisory Circular 150/5200-30a “Airport Winter Operations.”**
- **Guide for Justifying Snow Removal Equipment Buildings dated 2010’**



Snow Removal Equipment

Decision Criteria

- **Commercial Service vs General Aviation**
- **Number of Operations**
- **Size of Runway and Supporting Taxiways**
- **Critical Apron Area**



Snow Removal Equipment

Snow Removal Equipment Calculations

* Shaded areas automatically calculated.

Airport Name:

Location:

Average Annual Snow Fall:

Type of Airport:

Annual Operations: Time allowed for removal per AC 150/5200-30a: hours.

Critical Snow Removal Areas:

Primary Runway (usually one)

<input type="text"/>	length (ft) x	<input type="text"/>	width (ft)	=	<input type="text" value="0.00"/>	sq. ft.
<input type="text"/>	length (ft) x	<input type="text"/>	width (ft)	=	<input type="text" value="0.00"/>	sq. ft.

Parallel taxiway and one or two principle connecting taxiways.

<input type="text"/>	length (ft) x	<input type="text"/>	width (ft)	=	<input type="text" value="0.00"/>	sq. ft.
<input type="text"/>	length (ft) x	<input type="text"/>	width (ft)	=	<input type="text" value="0.00"/>	sq. ft.
<input type="text"/>	length (ft) x	<input type="text"/>	width (ft)	=	<input type="text" value="0.00"/>	sq. ft.
<input type="text"/>	length (ft) x	<input type="text"/>	width (ft)	=	<input type="text" value="0.00"/>	sq. ft.

Terminal, Cargo, and General Aviation Aprons

Critical apron area assumed as 1/2 of the apron.

50% Req'd x	<input type="text"/>	length (ft) x	<input type="text"/>	width (ft)	=	<input type="text" value="0.00"/>	sq. ft.
50% Req'd x	<input type="text"/>	length (ft) x	<input type="text"/>	width (ft)	=	<input type="text" value="0.00"/>	sq. ft.
50% Req'd x	<input type="text"/>	length (ft) x	<input type="text"/>	width (ft)	=	<input type="text" value="0.00"/>	sq. ft.
50% Req'd x	<input type="text"/>	length (ft) x	<input type="text"/>	width (ft)	=	<input type="text" value="0.00"/>	sq. ft.
50% Req'd x	<input type="text"/>	length (ft) x	<input type="text"/>	width (ft)	=	<input type="text" value="0.00"/>	sq. ft.

Other critical areas (ie. emergency or ARFF access roads)

<input type="text"/>	length (ft) x	<input type="text"/>	width (ft)	=	<input type="text" value="0.00"/>	sq. ft.
<input type="text"/>	length (ft) x	<input type="text"/>	width (ft)	=	<input type="text" value="0.00"/>	sq. ft.
<input type="text"/>	length (ft) x	<input type="text"/>	width (ft)	=	<input type="text" value="0.00"/>	sq. ft.

Total Area = sq. ft.

Tons of Snow (using 1 in. of snow at 25 lbs/cu. ft.) = tons

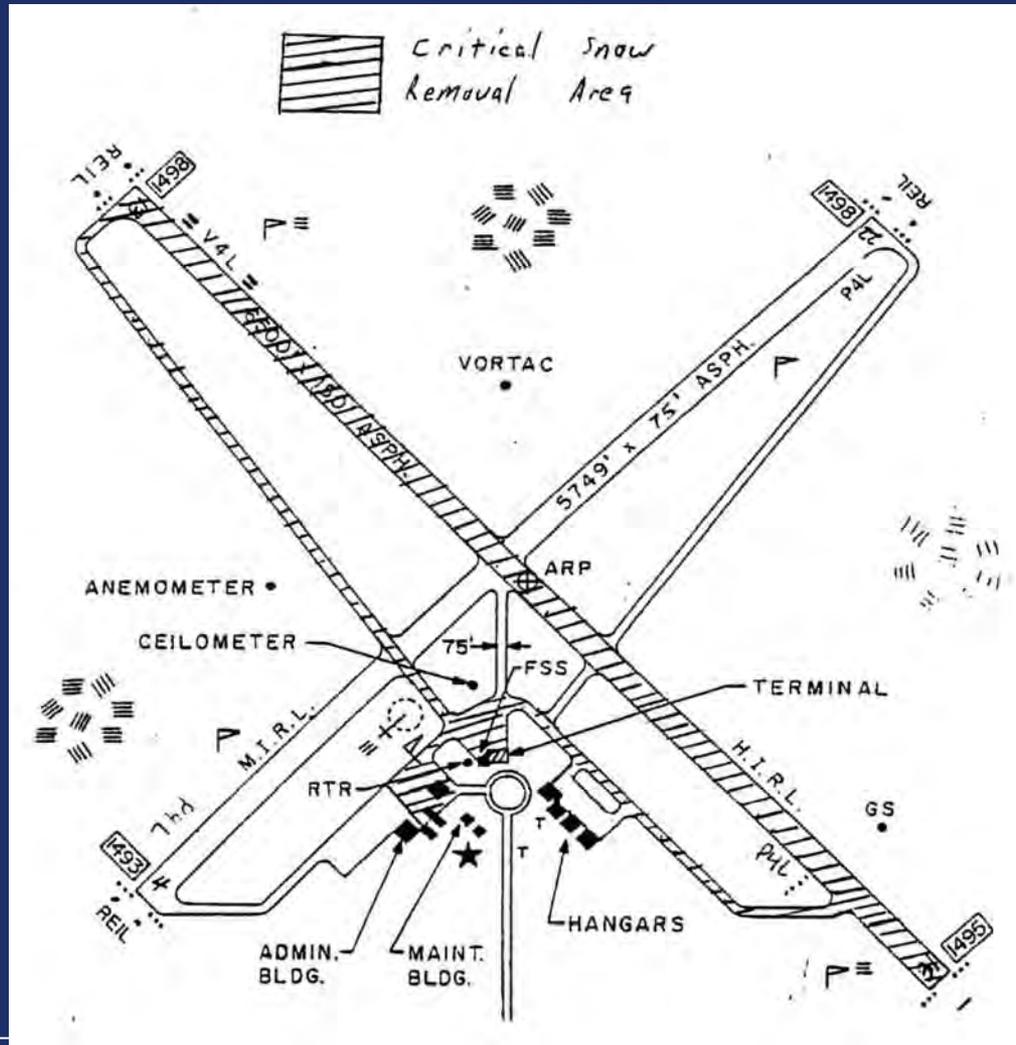
Minimum snow removal rate (70% efficiency) = tons/hr

Eligible Items	Maximum Quantity	Assumptions Made:
Snow Blower	<input type="text" value="0.00"/>	Class 3 (up to 2500 tons/hr)
Plow	<input type="text" value="0.00"/>	2 times the # of snow blowers (plows should have equal capacity as blower).
Sweeper	<input type="text" value="0.00"/>	1 sweeper per 750,000 sq. ft. (rounded up)
Hopper Spreader	<input type="text" value="0.00"/>	1 Hopper Spreader per 750,000 sq. ft.
Front End Loader	<input type="text" value="0.00"/>	Front End Loader per 500k sq. ft. of critical apron space.

Note: If an airport requests more than the listed quantities of snow removal equipment, special justification must be submitted.



Snow Removal Equipment



Snow Removal Equipment Building



Snow Removal Equipment Buildings

- **Advisory Circular 150/5220-18 “Buildings for Storage & Maintenance of Airport Snow and Ice Control Equipment and Materials”**
 - Has been updated
- **Advisory Circular 150/5220-20 “Airport Snow and Ice Control Equipment”**
- **Guide for Justifying Snow Removal Equipment Buildings dated 2010**
- **SRE Building Worksheet is obsolete**



Snow Removal Equipment Buildings

Decision Criteria

- **Number and Size of SRE equipment.**
- **How will the building be used.**
- **Sand and snow removal chemicals.**
- **Utilities.**

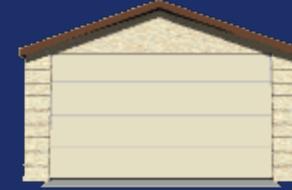


Attachments

- **Attachments to be stored next to the wall:**
 - Usually are stored right next to the wall. 1 foot can be used for distance between the attachment and the wall.
 - Can have 5 feet to the equipment next to it.
 - Should have a minimum of 4' in front of it. This can overlap the 4' space required in front of a vehicle.



Attachments



- **Attachments to be attached to the carrier vehicle:**
 - Can be included in the length calculation of the vehicle
 - Are not included in the width calculation of the vehicle but is used to determine how much room is need between the vehicle and other objects.



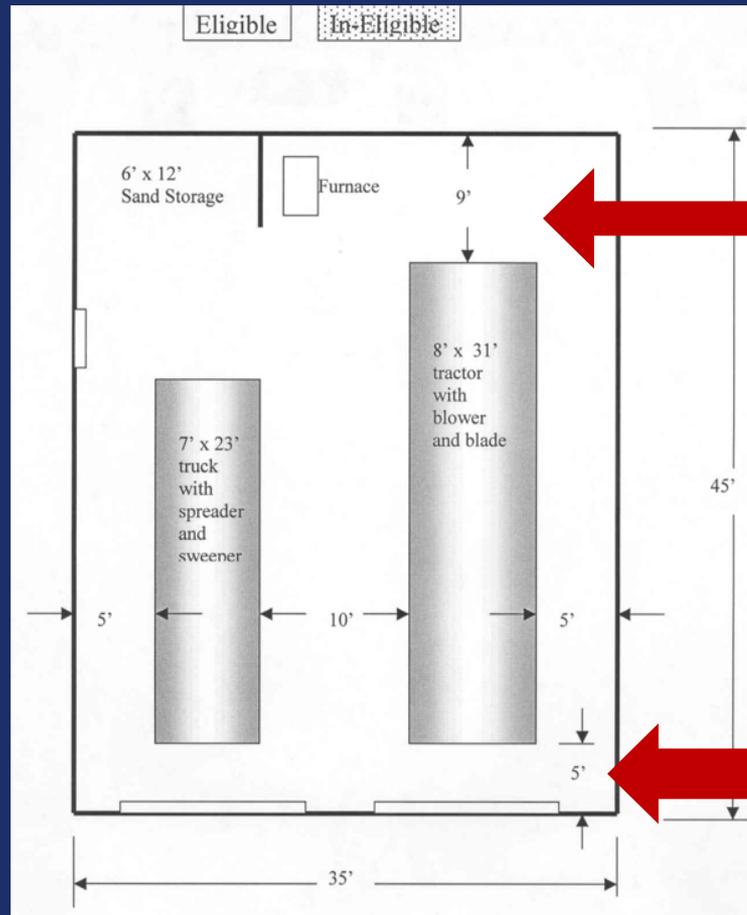
Attachments

- The distance between a vehicle and an object is:

Width of Attachment	Wall (ft)	Equipment (ft)
$\leq 10'$	5	10
$> 10' - 14'$	7	14
$> 14' - 22'$	10	20
$22' +$	don't have attached in doors	



Snow Removal Equipment Buildings



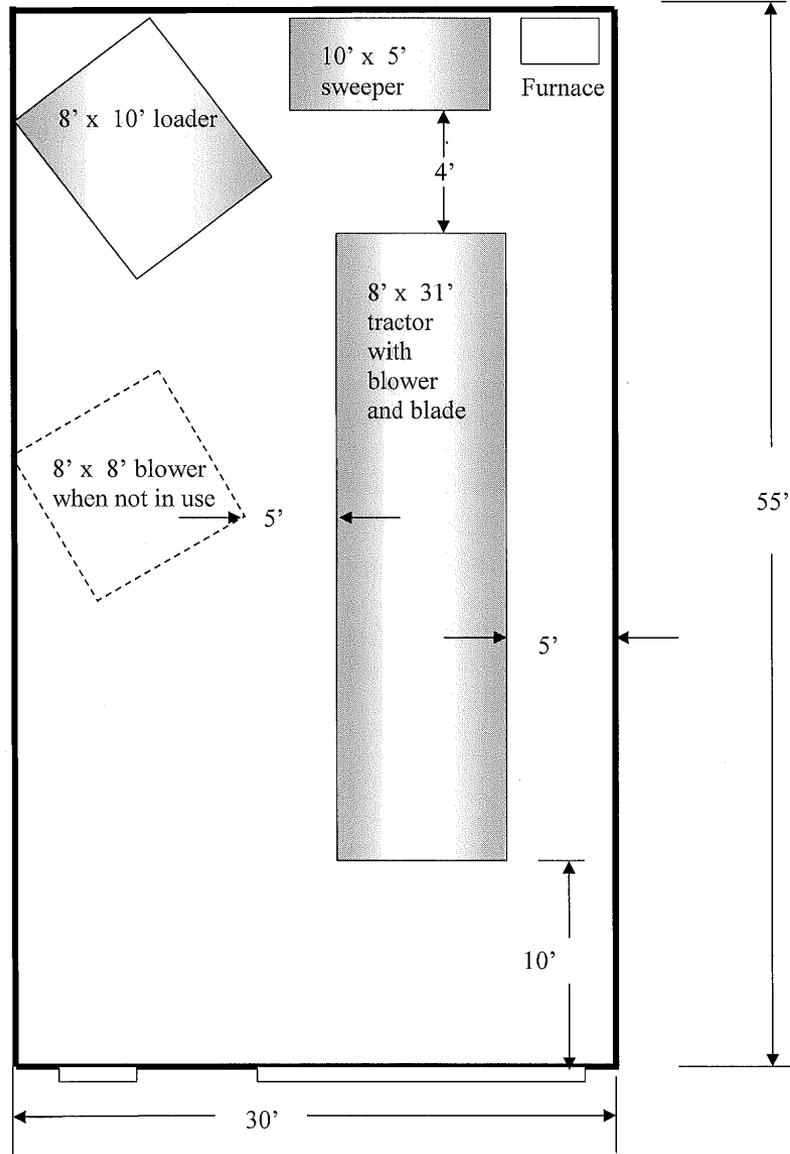
Updated AC calls for 4', not 5' as shown presumed in the old guide.

Updated AC calls for 10', not 5' as shown



Figure 4

Eligible In-Eligible



Snow Removal Equipment Buildings

- **The building should be located:**
 - So the snow removal equipment can easily access the airfield.
 - So the building does not use up valuable apron/hangar area.



Questions?

