

**RETURN BIDS TO:  
RETOURNER LES SOUMISSIONS À:**  
**Bid Receiving Public Works and Government  
Services Canada/Réception des soumissions  
Travaux publics et Services gouvernementaux  
Canada**  
**Pacific Region**  
**800 Burrard Street, 2nd Floor**  
**800, rue Burrard, 2e étage**  
**Vancouver, B. C.**  
**V6Z 0B9**  
**Bid Fax: (604) 775-7526**

## REQUEST FOR PROPOSAL DEMANDE DE PROPOSITION

**Proposal To: Public Works and Government  
Services Canada**

We hereby offer to sell to Her Majesty the Queen in right of Canada, in accordance with the terms and conditions set out herein, referred to herein or attached hereto, the goods, services, and construction listed herein and on any attached sheets at the price(s) set out therefor.

**Proposition aux: Travaux Publics et Services  
Gouvernementaux Canada**

Nous offrons par la présente de vendre à Sa Majesté la Reine du chef du Canada, aux conditions énoncées ou incluses par référence dans la présente et aux annexes ci-jointes, les biens, services et construction énumérés ici sur toute feuille ci-annexée, au(x) prix indiqué(s).

**Comments - Commentaires**

<b>Title - Sujet</b> Airport Runway Sweeper	
<b>Solicitation No. - N° de l'invitation</b> T7056-130003/A	<b>Date</b> 2013-04-19
<b>Client Reference No. - N° de référence du client</b> T7056-130003	
<b>GETS Reference No. - N° de référence de SEAG</b> PW-\$XSB-005-6978	
<b>File No. - N° de dossier</b> XSB-3-36006 (005)	<b>CCC No./N° CCC - FMS No./N° VME</b>
<b>Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2013-06-03</b>	<b>Time Zone Fuseau horaire</b> Pacific Daylight Saving Time PDT
<b>F.O.B. - F.A.B.</b> <b>Plant-Usine:</b> <input type="checkbox"/> <b>Destination:</b> <input type="checkbox"/> <b>Other-Autre:</b> <input type="checkbox"/>	
<b>Address Enquiries to: - Adresser toutes questions à:</b> Armstrong, Wendy	<b>Buyer Id - Id de l'acheteur</b> xsb005
<b>Telephone No. - N° de téléphone</b> (604) 775-7691 ( )	<b>FAX No. - N° de FAX</b> (604) 775-7526
<b>Destination - of Goods, Services, and Construction: Destination - des biens, services et construction:</b> DEPARTMENT OF TRANSPORT PORT HARDY AIRPORT P.O.BOX 460 PORT HARDY British Columbia V0N2P0 Canada	

**Instructions: See Herein**

**Instructions: Voir aux présentes**

**Vendor/Firm Name and Address**

**Raison sociale et adresse du  
fournisseur/de l'entrepreneur**

**Issuing Office - Bureau de distribution**

Public Works and Government Services Canada - Pacific  
Region  
800 Burrard Street, 12th Floor  
800, rue Burrard, 12e étage  
Vancouver, BC V6Z 0B9

<b>Delivery Required - Livraison exigée</b> See Herein	<b>Delivery Offered - Livraison proposée</b>
<b>Vendor/Firm Name and Address</b> <b>Raison sociale et adresse du fournisseur/de l'entrepreneur</b>	
<b>Telephone No. - N° de téléphone</b> <b>Facsimile No. - N° de télécopieur</b>	
<b>Name and title of person authorized to sign on behalf of Vendor/Firm (type or print)</b> <b>Nom et titre de la personne autorisée à signer au nom du fournisseur/ de l'entrepreneur (taper ou écrire en caractères d'imprimerie)</b>	
<b>Signature</b>	<b>Date</b>

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**PART 1 - GENERAL INFORMATION****1.1. Security Requirement**

There is no security requirement associated with the requirement.

**1.2. Requirement**

Supply the quantity of one Medium Duty Hydrostatic runway sweeper as per Annex A. The requirement is for a runway sweeper having a minimum (14 ft x 36inch) broom, and a minimum air blower output rating of 20,000CFM. All items noted in sections 1 through 6 of this specification are to be included in the basic configuration.

**1.3. Debriefings**

After contract award, bidders may request a debriefing on the results of the bid solicitation process. Bidders should make the request to the Contracting Authority within 15 working days of receipt of the results of the bid solicitation process. The debriefing may be in writing, by telephone or in person.

## PART 2 - BIDDER INSTRUCTIONS

### 2.1. Standard Instructions, Clauses and Conditions

All instructions, clauses and conditions identified in the bid solicitation by number, date and title are set out in the *Standard Acquisition Clauses and Conditions Manual*

(<https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual>) issued by Public Works and Government Services Canada.

Bidders who submit a bid agree to be bound by the instructions, clauses and conditions of the bid solicitation and accept the clauses and conditions of the resulting contract.

The 2003 (2012-11-19) Standard Instructions - Goods or Services - Competitive Requirements, are incorporated by reference into and form part of the bid solicitation.

### 2.2. Submission of Bids

Bids must be submitted only to Public Works and Government Services Canada (PWGSC) Bid Receiving Unit by the date, time and place indicated on page 1 of the bid solicitation.

### 2.3. Enquiries - Bid Solicitation

All enquiries must be submitted in writing to the Contracting Authority no later than ten (10) calendar days before the bid closing date. Enquiries received after that time may not be answered.

Bidders should reference as accurately as possible the numbered item of the bid solicitation to which the enquiry relates. Care should be taken by bidders to explain each question in sufficient detail in order to enable Canada to provide an accurate answer. Technical enquiries that are of a proprietary nature must be clearly marked "proprietary" at each relevant item. Items identified as "proprietary" will be treated as such except where Canada determines that the enquiry is not of a proprietary nature. Canada may edit the questions or may request that the Bidder do so, so that the proprietary nature of the question is eliminated, and the enquiry can be answered with copies to all bidders. Enquiries not submitted in a form that can be distributed to all bidders may not be answered by Canada.

### 2.4. Applicable Laws

Any resulting contract must be interpreted and governed, and the relations between the parties determined, by the laws in force in British Columbia.

Bidders may, at their discretion, substitute the applicable laws of a Canadian province or territory of their choice without affecting the validity of their bid, by deleting the name of the Canadian province or territory specified and inserting the name of the Canadian province or territory of their choice. If no change is made, it acknowledges that the applicable laws specified are acceptable to the bidders.

## **PART 3 - BID PREPARATION INSTRUCTIONS**

### **3.1. Bid Preparation Instructions**

Canada requests that bidders provide their bid in separately bound sections as follows:

Section I: Technical Bid ( \_3\_ hard copies)  
Section II: Financial Bid ( \_1\_ hard copy)  
Section III: Certifications ( \_1\_ hard copy)

Prices must appear in the financial bid only. No prices must be indicated in any other section of the bid.

Canada requests that bidders follow the format instructions described below in the preparation of their bid:

- (a) use 8.5 x 11 inch (216 mm x 279 mm) paper;
- (b) use a numbering system that corresponds to the bid solicitation.

In April 2006, Canada issued a policy directing federal departments and agencies to take the necessary steps to incorporate environmental considerations into the procurement process [Policy on Green Procurement](http://www.tpsgc-pwgsc.gc.ca/ecologisation-greening/achats-procurement/politique-policy-eng.html) (<http://www.tpsgc-pwgsc.gc.ca/ecologisation-greening/achats-procurement/politique-policy-eng.html>). To assist Canada in reaching its objectives, bidders should:

- 1) use 8.5 x 11 inch (216 mm x 279 mm) paper containing fibre certified as originating from a sustainably-managed forest and containing minimum 30% recycled content; and
- 2) use an environmentally-preferable format including black and white printing instead of colour printing, printing double sided/duplex, using staples or clips instead of cerlox, duotangs or binders.

#### **Section I: Technical Bid**

In their technical bid, bidders should explain and demonstrate how they propose to meet the requirements and how they will carry out the Work.

#### **Section II: Financial Bid**

Bidders must submit their financial bid in accordance with the Basis of Payment. The total amount of Goods and Services Tax (GST) or Harmonized Sales Tax (HST) must be shown separately, if applicable.

#### **Section III: Certifications**

Bidders must submit the certifications required under Part 5.

## **PART 4 - EVALUATION PROCEDURES AND BASIS OF SELECTION**

### **4.1. Evaluation Procedures**

- (a) Bids will be assessed in accordance with the entire requirement of the bid solicitation including the technical and financial evaluation criteria.
- (b) An evaluation team composed of representatives of Canada will evaluate the bids.

#### **4.1.1 Technical Evaluation**

##### **1.1.1 Mandatory Technical Criteria**

In accordance with Annex A - Requirement.

#### **4.1.2 Financial Evaluation**

##### **4.1.2.1 Evaluation of Price:**

The price of bids will be evaluated in Canadian dollars, Goods and Services Tax (GST) excluded, FOB destination for goods, Customs duties and Excise taxes included

### **4.2. Basis of Selection**

#### **4.2.1 Basis of Selection - Mandatory Technical Criteria**

A bid must comply with the requirements of the bid solicitation and meet all mandatory technical evaluation criteria to be declared responsive. The responsive bid with the lowest evaluated price will be recommended for award of a contract.

## PART 5 - CERTIFICATIONS

Bidders must provide the required certifications and related documentation to be awarded a contract. Canada will declare a bid non-responsive if the required certifications and related documentation are not completed and submitted as requested.

Compliance with the certifications bidders provide to Canada is subject to verification by Canada during the bid evaluation period (before award of a contract) and after award of a contract. The Contracting Authority will have the right to ask for additional information to verify bidders' compliance with the certifications before award of a contract. The bid will be declared non-responsive if any certification made by the Bidder is untrue, whether made knowingly or unknowingly. Failure to comply with the certifications, to provide the related documentation or to comply with the request of the Contracting Authority for additional information will also render the bid non-responsive.

### 5.1. Mandatory Certifications Required Precedent to Contract Award

#### 5.1.1 Code of Conduct and Certifications - Related documentation

By submitting a bid, the Bidder certifies as per section 01 of Standard Instructions 2003, for himself and his affiliates, to be in compliance with the Code of Conduct and Certifications clause of the Standard instructions. The related documentation therein required will help Canada in confirming that the certifications are true.

### 5.2. Additional Certifications Precedent to Contract Award

The certifications listed below should be completed and submitted with the bid, but may be submitted afterwards. If any of these required certifications is not completed and submitted as requested, the Contracting Authority will so inform the Bidder and provide the Bidder with a time frame within which to meet the requirement. Failure to comply with the request of the Contracting Authority and meet the requirement within that time period will render the bid non-responsive.

#### 5.2.1 Federal Contractors Program - Certification

##### Federal Contractors Program for Employment Equity - \$200,000 or more

1. The Federal Contractors Program (FCP) requires that some suppliers, including a supplier who is a member of a joint venture, bidding for federal government contracts, valued at \$200,000 or more (including all applicable taxes), make a formal commitment to implement employment equity. This is a condition precedent to contract award. If the Bidder, or, if the Bidder is a joint venture and if any member of the joint venture, is subject to the FCP, evidence of its commitment must be provided before the award of the Contract.

Suppliers who have been declared ineligible contractors by Human Resources and Skills Development Canada (HRSDC) are no longer eligible to receive government contracts over the threshold for solicitation of bids as set out in the Government Contracts Regulations. Suppliers may be declared ineligible contractors either as a result of a finding of non-compliance by HRSDC, or following their voluntary withdrawal from the FCP for a reason other than the reduction of their workforce to less than 100 employees. Any bids from ineligible contractors, including a bid from a joint venture that has a member who is an ineligible contractor, will be declared non-responsive.

2. If the Bidder does not fall within the exceptions enumerated in 3.(a) or (b) below, or does not have a valid certificate number confirming its adherence to the FCP, the Bidder must fax (819-953-8768) a copy of the signed form LAB 1168, Certificate of Commitment to Implement Employment Equity, to the Labour Branch of HRSDC.

3. The Bidder, or, if the Bidder is a joint venture the member of the joint venture, certifies its status with the FCP, as follows:

The Bidder or the member of the joint venture

- (a) ( ) is not subject to the FCP, having a workforce of less than 100 full-time or part-time permanent employees, and/or temporary employees having worked 12 weeks or more in Canada;
- (b) ( ) is not subject to the FCP, being a regulated employer under the Employment Equity Act, S.C. 1995, c. 44;
- (c) ( ) is subject to the requirements of the FCP, having a workforce of 100 or more full-time or part-time permanent employees, and/or temporary employees having worked 12 weeks or more in Canada, but has not previously obtained a certificate number from HRSDC (having not bid on requirements of \$200,000 or more), in which case a duly signed certificate of commitment is attached;
- (d) ( ) is subject to the FCP, and has a valid certificate number as follows:  
\_\_\_\_\_ (e.g. has not been declared an ineligible contractor by HRSDC.)

Further information on the FCP is available on the HRSDC Web site.



## PART 6 - RESULTING CONTRACT CLAUSES

### 6.1. Security Requirement

There is no security requirement associated with the requirement.

### 6.2. Requirement

Supply the quantity of one Medium Duty Hydrostatic runway sweeper as per Annex A. The requirement is for a runway sweeper having a minimum (14 ft x 36inch) broom, and a minimum air blower output rating of 20,000CFM. All items noted in sections 1 through 6 of this specification are to be included in the basic configuration.

### 6.3. Standard Clauses and Conditions

All clauses and conditions identified in the Contract by number, date and title are set out in the *Standard Acquisition Clauses and Conditions Manual*

(<https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual>) issued by Public Works and Government Services Canada.

#### 6.3.1 General Conditions

2010A (2013-03-21), General Conditions - Goods (Medium Complexity), apply to and form part of the Contract.

### 6.4. Term of Contract

#### 6.4.1 Delivery Date

All the deliverables should be received on or before December 15, 2013.

### 6.5. Authorities

#### 6.5.1 Contracting Authority

The Contracting Authority for the Contract is:

Wendy Armstrong , Supply Specialist  
Public Works and Government Services Canada  
#219 - 800 Burrard St.  
Vancouver, B.C. V6Z 0B9  
Tel: (604) 775-7691  
Fax: (604) 775-7526  
E-Mail: wendy.armstrong@pwgsc.gc.ca

The Contracting Authority is responsible for the management of the Contract and any changes to the Contract must be authorized in writing by the Contracting Authority. The Contractor must not perform work in excess of or outside the scope of the Contract based on verbal or written requests or instructions from anybody other than the Contracting Authority.

#### 6.5.2 Contractor's Representative

General Enquiries

Name: \_\_\_\_\_

Telephone No. \_\_\_\_\_

Facsimile No. \_\_\_\_\_

Email address: \_\_\_\_\_

**6.6. Payment****6.6.1 Basis of Payment**

\$\_\_\_\_\_ / Quantity 1 Medium Duty Hydrostatic runway sweeper

In consideration of the Contractor satisfactorily completing all of its obligations under the Contract, the Contractor will be paid a firm price of \$\_\_\_\_\_. (to be inserted at time of award) Customs duties are included and Goods and Services Tax or Harmonized Sales Tax is extra, if applicable.

**6.6.2 SACC Manual clause H1000C (2008-05-12) - Single Payment****6.7. Invoicing Instructions**

The Contractor must submit Invoices in accordance with the information required in section 10, Invoice Submission, of the 2010A General Conditions - Goods or Services (Medium Complexity).

**6.8. Certifications**

**6.8.1** Compliance with the certifications provided by the Contractor in its bid is a condition of the Contract and subject to verification by Canada during the term of the Contract. If the Contractor does not comply with any certification or it is determined that any certification made by the Contractor in its bid is untrue, whether made knowingly or unknowingly, Canada has the right, pursuant to the default provision of the Contract, to terminate the Contract for default.

**6.9. Applicable Laws**

The Contract must be interpreted and governed, and the relations between the parties determined, by the laws in force in British Columbia.

**6.10. Priority of Documents**

If there is a discrepancy between the wording of any documents that appear on the list, the wording of the document that first appears on the list has priority over the wording of any document that subsequently appears on the list.

- (a) the Articles of Agreement;
- (b) the general conditions 2010A (2013-03-21), General Conditions - Goods (Medium Complexity),
- (c) Annex A, Requirement;
- (d) the Contractor's bid dated \_\_\_\_\_

ANNEX A

**Specification**

**14 Ft x 36 Inch, Towed, Medium Duty Hydrostatic, 300 HP, Airport Runway Sweeper.**

Date: 2013-01  
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**1. SCOPE**

1.1 Scope - Supply the quantity of Medium Duty Hydrostatic runway sweepers noted in the request for proposal. The requirement is for a runway sweeper having a minimum (14 ft x 36inch) broom, and a minimum air blower output rating of 20,000CFM. All items noted in sections 1 through 6 of this specification are to be included in the basic configuration.

SPECIFY THE ACTUAL COMPONENTS SUPPLIED, AND THEIR RATED CAPACITIES, FOR THE UNITS TENDERED. NOTE IN DETAIL ANY DEVIATIONS FROM THE SPECIFIED ITEMS.

**2. GENERAL REQUIREMENTS**

2.1 Standard Requirements - The sweeper(s) supplied under this specification must be new and based on the manufacturer's latest standard commercial product including the specifications contained here-in. The sweepers offered MUST HAVE 3 YEARS RECENT SUCCESSFUL IN SERVICE USE, OR SUCCESSFUL ACCEPTANCE TESTING, (NO DEVIATIONS WILL BE CONSIDERED) Minimum 3 references required complete with contact names and numbers and locations

PROVIDE DETAILS \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

2.2 Overview - The sweeper(s) supplied under this specification must be capable of operating at 40 km/h. It is to be complete with a minimum 14ft broom, a minimum 300 continuous HP engine, and a minimum 20,000 CFM air blower. The sweeper(s) supplied is to be complete with all accessories customarily furnished and installed on this type of unit, whether specified herein or not, to enable the sweeper to function reliably and efficiently under all conditions of service.

MAKE \_\_\_\_\_  
MODEL \_\_\_\_\_

2.3 Operating Conditions - The sweeper(s) supplied must be capable of operating without failure of components when operated continuously for a period of 24 hours at a speed of 40 km/h, with a broom pattern setting of 76 mm (3 in). The sweeper must not experience any broom bounce, or wheel shimmy when removing up to 13 mm (1/2 in) of snow/slush or FOD at 40 km/h.

COMPLY \_\_\_\_\_  
\_\_\_\_\_

**Specification**

**14 Ft x 36 Inch, Towed, Medium Duty Hydrostatic, 300 HP, Airport Runway Sweeper.**

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2.4 Mandatory Items - Items noted in the specification as "shall, must, to be, minimum, and maximum are mandatory requirements". No deviations will be accepted for these items.

2.5 Responses - Any responses noted as approximately will be interpreted as "ACTUAL". Any non-completed areas will be interpreted as non-compliance.

**3.0 COMPONENT CERTIFICATION**

3.1 General - Upon the request of the design authority, the prime contractor must obtain component certification, from the component manufacturer, for any of the items installed on the sweeper. These certifications, when requested, must indicate the model of the machine on which the component will be installed and the characteristics for which the component was designed.

PROVIDE DETAILS \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**4.0 DELIVERY**

4.1 Pre-delivery - A pre-delivery service must be completed by the sweeper manufacturer at time of delivery at the final destination. The sweeper(s) are to be lubricated and serviced with all associated products suitable for the climatic conditions in the area the sweeper(s) will operate. The unit must be delivered with a maximum of 50 hrs of engine operation.

PDI DEALER \_\_\_\_\_

ADDRESS \_\_\_\_\_

4.2 Inspection - The prime contractor is responsible to ensure that the sweeper(s) are thoroughly tested, inspected, and that all deviations are corrected prior to delivery. The consignee reserves the right to inspect the sweeper(s) at any stage of production and have all deviations corrected upon request. A final inspection must be completed by the consignee at the destination point.

COMPLY \_\_\_\_\_

4.3 Delivery - Quoted price must include FOB the airport.

COMPLY \_\_\_\_\_

**Specification**

**14 Ft x 36 Inch, Towed, Medium Duty Hydrostatic, 300 HP, Airport Runway Sweeper.**

**Date: 2013-01**

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**5.0 WARRANTY AND MANUALS**

5.1 Manuals - Provide a minimum of two copies, in English, of each set of manuals requested below, for each sweeper delivered. The contract will not be considered complete until all manuals noted are received.

COMPLY

5.2 Maintenance Manuals - Provide two hard copies, per sweeper, of the manufacturer's overall maintenance manuals. The maintenance manuals must indicate the proper maintenance procedure for all component installations.

COMPLY

5.3 Parts Manual - Provide two copies of the parts manuals (Hard Copy), per sweeper. All parts manuals MUST list each of the individual component.

COMPLY

5.4 OEM Parts and Maintenance Manuals - Provide two copies, per sweeper, of the maintenance and parts manuals, supplied by the respective manufacturer (OEM), for each of the major components installed in the sweeper.

COMPLY

5.5 Operators Manual - Provide two copies, per sweeper, of the operators manual.

COMPLY

5.6 Training Videos - If available, provide one CD or DVD in English for each sweeper delivered. The videos must show the proper operation, adjustment sequences and daily maintenance requirements of the sweeper.

PROVIDE DETAILS

5.7 Major Component Warranty period - Provide an unconditional warranty on all major components {engine, axles, gear boxes, differentials, air blower and broom drive systems} and repair labour for a minimum of 1500 HRS or 24 months, from the date the unit is initiated into service.

PROVIDE DETAILS

5.8 Other Component Warranty - Provide parts and labour warranty for a minimum of 18 months or 1000 HRS, from the date the unit is initiated into service, on all the non-major components of the sweeper.

PROVIDE DETAILS

## Specification

**14 Ft x 36 Inch, Towed, Medium Duty Hydrostatic, 300 HP, Airport Runway Sweeper.**

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5.9 Warranty Coverage - The warranty noted must include all failures attributed to the lack of, or improper installation of, fail safe mechanisms, i.e.; engine shut down devices, relief valves, etc.

AGREE \_\_\_\_\_

5.10 Dealer - Specify the dealer responsible for performing any required warranty repairs, and provide the name and phone number of the person to be contacted should warranty repairs be required.

DEALER \_\_\_\_\_

CONTACT \_\_\_\_\_

PHONE NUMBER \_\_\_\_\_

## 6.0 SWEEPER SPECIFICATIONS

### 6.1 General Specifications and Conditions

1 The unit must be a towed type runway sweeper.

COMPLY \_\_\_\_\_

2 The sweeper hydraulics must be closed loop hydrostatic drive.

TYPE \_\_\_\_\_

3 All bushings, pivot points, and any moving parts subject to wear must be sealed against ingress of dirt and moisture and fitted with a means of lubrication.

COMPLY \_\_\_\_\_

4 The sweeper must be towed in line with the truck. The design must be a tricycle type with a swivel front wheel.

PROVIDE DETAILS \_\_\_\_\_

5 The unit must be designed to operate in ambient conditions from minus 50 degrees to +30 degrees Celsius.

ACTUAL \_\_\_\_\_

6 The unit must be capable of operating on concrete and asphalt surfaces at full rated capacities.

COMPLY \_\_\_\_\_

7 The sweeper must be capable of completing a turn within a 12.2 m (40 ft) diameter circle.

COMPLY \_\_\_\_\_

## Specification

**14 Ft x 36 Inch, Towed, Medium Duty Hydrostatic, 300 HP, Airport Runway Sweeper.**

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.8 The unit must have superior maintainability. The mean time between maintenance must exceed two hundred (200) hours of operation. ACTUAL \_\_\_\_\_

.9 The unit must be capable of operating a minimum of 24 hours without adjustment (other than brush pattern) and lubrication. COMPLY \_\_\_\_\_

## 6.2 Performance

.1 The sweeper must be capable of operating without broom bounce or wheel shimmy up to 20 km/h with any broom pattern. ACTUAL \_\_\_\_\_

.2 The broom speed must be variable between 0 to 550 RPM at governed engine RPM. ACTUAL \_\_\_\_\_

.3 The broom must have a minimum sweeping width of 3.4 m (11.5 ft) at a 35 degree broom angle. ACTUAL \_\_\_\_\_

.4 The sweeping angle must be variable from a minimum of 35 degrees right to 35 degrees left of the transverse position. ACTUAL \_\_\_\_\_

.5 The sweeper must be capable of removing a minimum of 80 % of the slush and snow left by plows, up to 13 mm (1/2 inch) for snow density of 128 to 240 kg/cu m (8 to 15 lb/cu ft) and when traveling at 20 k/h. COMPLY \_\_\_\_\_

.6 The sweeper must be capable of sweeping deposits of dry sand, dust, water and other light debris from runway surfaces at full sweeping speed of 20 km/hr. COMPLY \_\_\_\_\_

## 6.3 Dimensions

**Specification**

**14 Ft x 36 Inch, Towed, Medium Duty Hydrostatic, 300 HP, Airport Runway Sweeper.**

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1. The maximum overall length, from tow eye to rear of the sweeper, must not exceed 11.2 m (36.5 feet). ACTUAL \_\_\_\_\_
2. The maximum overall width with broom centered must not exceed 4.9 m (16 feet). ACTUAL \_\_\_\_\_
3. With a new broom installed there must be a minimum of 100 mm (4 in) ground clearance with the broom in the raised (traveling) position. ACTUAL \_\_\_\_\_
4. The maximum overall height of all components must not exceed 2.5 m (8' feet). ACTUAL \_\_\_\_\_

**6.4 Engine**

1. The engine must be a liquid cooled diesel. MAKE / MODEL \_\_\_\_\_
2. The engine must have a minimum of 300 Hp continuous rating. ACTUAL \_\_\_\_\_
3. Provide a two stage, dry type, air cleaner. TYPE \_\_\_\_\_
4. Provide a coolant filter with replaceable element. TYPE \_\_\_\_\_
5. Provide a heated engine fuel filter/water separator, complete with a glass bowl, and a replaceable element. TYPE \_\_\_\_\_
6. Provide a thermostatically controlled fan clutch if non-intercooled engine. TYPE \_\_\_\_\_
7. Provide silicon hoses with the appropriate spring type clamps. COMPLY \_\_\_\_\_
8. Provide a severe duty radiator capable of withstanding the sweeper vibration. TYPE \_\_\_\_\_



**Specification**

**14 Ft x 36 Inch, Towed, Medium Duty Hydrostatic, 300 HP, Airport Runway Sweeper.**

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.9 Provide electric Engine coolant and hydraulic oil heaters. The heater is to be complete with a conveniently located bulkhead exterior receptacle. TYPE \_\_\_\_\_

.10 Provide a vertical exhaust complete with a muffler and an elbow or rain cap. PROVIDE DETAILS \_\_\_\_\_

.11 The engine must be equipped with automatic shut down for all of the following conditions; low engine oil pressure, engine coolant high temperature. PROVIDE DETAILS \_\_\_\_\_

.12 Provide 120-volt 1250-watt engine coolant heater. COMPLY \_\_\_\_\_

**6.5 Frame**

.1 The sweeper must be designed with a new heavy duty welded frame. ACTUAL \_\_\_\_\_

.2 The frame must be constructed from structural steel. COMPLY \_\_\_\_\_

**6.6 Tow Bar**

.1 The sweeper must be equipped with a tow bar. COMPLY \_\_\_\_\_

.2 The tow bar must incorporate a 360 degree swivel castor idle wheel. The tire on the idle wheel must be identical to the sweeper chassis tire. PROVIDE DETAILS \_\_\_\_\_

.3 The tow bar must be complete with a replaceable tow eye "Holland DB-1250-15" or approved equivalent. Provide a minimum of two safety chains with safety hooks. PROVIDE DETAILS \_\_\_\_\_

.4 The tow arm length is to be kept to a minimum while providing the COMPLY \_\_\_\_\_

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maximum truck turning radius.

**6.7 Cowling**

- .1 Provide a durable enclosure, which protects the major components from the elements.
- .2 The enclosure must have doors on a minimum of two sides. The doors must be large enough to allow for maintenance and servicing of all components with ease.
- .3 The top of the cowling must either fold open or be easily removed to allow the engine to be easily removed from the sweeper.
- .4 Cowling must have positive latching mechanism to secure the doors in the closed position.
- .5 Provide an easy positive mechanical means of holding the doors (and roof if folding type) open.
- .6 Provide a light(s) to illuminate the enclosure to allow work to be performed at night.

**6.8 Fuel Tank**

- .1 Provide a minimum 246 litre minimum capacity fuel tank.
- .2 The filler must be located in an accessible position away from the accumulation of dust and snow.
- .3 The filler must be marked "Diesel Fuel Only" in minimum 1 in letters.

COMPLY \_\_\_\_\_

PROVIDE DETAILS \_\_\_\_\_

PROVIDE DETAILS \_\_\_\_\_

COMPLY \_\_\_\_\_

PROVIDE DETAILS \_\_\_\_\_

TYPE \_\_\_\_\_

ACTUAL \_\_\_\_\_

LOCATION \_\_\_\_\_

COMPLY \_\_\_\_\_

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**6.9 Electrical System**

1. The sweeper must be equipped with a 12 volt electrical and starting system. COMPLY \_\_\_\_\_
2. Provide a minimum of two batteries having a total minimum of 1500 CCA. PROVIDE DETAILS \_\_\_\_\_
3. Provide an engine cowl mounted amber light. **Whelen 2519PH** TYPE \_\_\_\_\_  
High vibration strobe or equivalent.
4. Provide a minimum of two spotlights capable of illuminating the broom and drive train. TYPE \_\_\_\_\_
5. Provide rear stop, and tail lamps, which are waterproof and shockproof. PROVIDE DETAILS \_\_\_\_\_
6. All wiring is to be installed inside of loom. All loom is to be protected from damage and to be complete with sufficient frame connectors. COMPLY \_\_\_\_\_
7. The wiring must be colour coded or marked every 6 inches with a permanent identification. Circuit identification markers must be attached to each end of the wire. PROVIDE DETAILS \_\_\_\_\_  
\_\_\_\_\_
8. All circuits must be protected with manual reset circuit breakers which are to be located in a common area at the control panel. PROVIDE DETAILS \_\_\_\_\_  
\_\_\_\_\_

**6.11 Broom Drive**

1. The broom must be hydraulically driven via a closed loop hydrostatic system from both ends (dual drive) of the broom core. PROVIDE DETAILS \_\_\_\_\_  
\_\_\_\_\_

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**6.12 Broom Frame**

- 1 The broom frame must be supported on two or more caster wheels. The caster wheels must swivel 360 degrees. PROVIDE DETAILS \_\_\_\_\_
- 2 The castor wheels must be complete with a mechanical brake to prevent wheel shimmy up to 50 km/h. PROVIDE DETAILS \_\_\_\_\_
- 3 The broom must be complete with a cover, consisting of a plate over the top of the broom and a hydraulically adjustable deflector cover over the front of the broom. The cover must be designed to minimize the accumulation of snow. PROVIDE DETAILS \_\_\_\_\_
- 4 The broom cover must include a replaceable broom stripper bar and cover. The stripper bar must be vertically adjustable to maintain light contact with the broom through its entire wear cycle. PROVIDE DETAILS \_\_\_\_\_
- 5 The broom frame must be designed to withstand the weight of the broom with a full set of steel wafers and a full snow load on the cover. PROVIDE DETAILS \_\_\_\_\_
- 6 The brooms stops must be sufficiently designed to withstand the full dynamic loading of the broom hydraulic angling cylinders. PROVIDE DETAILS \_\_\_\_\_

**6.13 Broom**

- 1 The sweeper is to be complete with a minimum 4.2 m (13.75 ft) wide horizontal rotating broom. COMPLY \_\_\_\_\_
- 2 The broom core is to be 10.75 in diameter. ACTUAL \_\_\_\_\_

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- .3 Provide with a complete set of steel broom wafers installed with spacers. Convulted wafers are not acceptable. PROVIDE DETAILS \_\_\_\_\_
- .4 The broom must be complete with bearings and supports at both ends. The bearings must be easily replaceable. The bearings must be complete with easily accessible grease points. PROVIDE DETAILS \_\_\_\_\_
- .5 The broom must have a minimum of 100 mm (4 in) ground clearance with new broom wafers installed. PROVIDE DETAILS \_\_\_\_\_
- .6 The broom must be complete with a mechanical positive locking pattern adjuster. PROVIDE DETAILS \_\_\_\_\_
- .7 The broom pattern adjuster must be located in a safe convenient location for the operator. PROVIDE DETAILS \_\_\_\_\_
- .8 The pattern adjuster must be capable of setting any broom pattern from 25 mm (1 in) to 254 mm (10 in) at any stage of broom wear. PROVIDE DETAILS \_\_\_\_\_

**6.14 Air Blower**

- .1 Provide an air blower to clean the residue left from the broom assembly. PROVIDE DETAILS \_\_\_\_\_
- .2 The air blower is to have a minimum output capacity of 20,000 CFM at the blower outlet. ACTUAL \_\_\_\_\_
- .3 The air blower assembly must be directly mounted. The fan must be driven by a variable speed, hydrostatic motor. COMPLY \_\_\_\_\_

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4. The air blower nozzles direction must be fully adjustable, left and right. ACTUAL \_\_\_\_\_
5. The air outlet velocity must be a minimum of 500 KPH (320 MPH). PROVIDE DETAILS \_\_\_\_\_
6. The nozzle(s) must be capable of being lowered to a minimum of 4 in off the runway surface. PROVIDE DETAILS \_\_\_\_\_
7. The nozzle must raise automatically to a minimum of 203 mm (8 inches) from the ground level when the broom is raised to transport position. COMPLY \_\_\_\_\_
8. The blower air inlet must be protected from ingesting snow and ice. COMPLY \_\_\_\_\_
9. The sweeper must be designed to prevent the formation of ice in the blower outlet shaft(s). The nozzle must have the smallest cross sectional area of the outlet shafts. COMPLY \_\_\_\_\_
10. The nozzle(s) must be equipped with a means of hydraulic adjustment to allow the sweeper to be used to clean the runway lights. PROVIDE DETAILS \_\_\_\_\_
1. Provide a hydraulic pump, which must be positive mechanical drive. PROVIDE DETAILS \_\_\_\_\_
2. Provide a hydraulic tank, which has a minimum capacity of 45 litres. The hydraulic tank must be complete with a breather PROVIDE DETAILS \_\_\_\_\_

**6.15 Hydraulic System**

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extended into the sweeper engine compartment, shielded to prevent the ingress of water, dirt and snow.

- .3 A method must be provided to allow the broom to be raised in the event of a hydraulic pump failure. COMPLY \_\_\_\_\_

- .4 The hydraulic system is to include adequate filtration (with replaceable filters), pressure control and relief devices, and other equipment necessary to ensure the satisfactory and safe operation of all hydraulic components. PROVIDE DETAILS \_\_\_\_\_

- .5 The hydraulic fluid is to be "Dextron II" or equivalent with a minimum pour point of minus 40 degrees celsius. PROVIDE DETAILS \_\_\_\_\_

- .6 Hydraulics must control the angling and the elevation of the broom and the air nozzle assemblies. PROVIDE DETAILS \_\_\_\_\_

- .7 All electro hydraulic valves, controls, and components must be heavy duty industrial type sealed against the ingress of water, dirt, moisture, etc., and must be suitable for the application. PROVIDE DETAILS \_\_\_\_\_

- .8 All hydraulic lines must be secured to the frame and must be installed to prevent chaffing and damage during sweeper use. PROVIDE DETAILS \_\_\_\_\_

- .9 Provide 120 volt, 150-watt hydraulic tank heater. COMPLY \_\_\_\_\_

**6.16 Axles**

- .1 The axle is to be a heavy duty type rated for a minimum of 125 percent of the maximum imposed axle loads. COMPLY \_\_\_\_\_

MAXIMUM AXLE LOAD \_\_\_\_\_

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**6.17 Wheels and Tires**

- 1 The tires and wheels weight rating must be a minimum of the axle rating. AXLE CAPACITY \_\_\_\_\_
- 2 Replacement tires must be available from one of the major tire manufacturers and must be available at any of the manufacturer's outlets in Canada. SIZE \_\_\_\_\_  
LOAD RATING \_\_\_\_\_
- 3 The maximum tire load must be 500 lb. per inch of tread width. COMPLY \_\_\_\_\_
- 4 The castor wheels must be designed to eliminate any wheel shimmy, while allowing enough free movement to always run parallel to the sweeper axis. PROVIDE DETAILS \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- 5 The castor wheels must be designed to be easily removed and replaced. PROVIDE DETAILS \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**6.18 Instrument Panel**

- 1 Must have a lockable weatherproof instrument panel located on one side of the engine cowling. PROVIDE DETAILS \_\_\_\_\_
- 2 The minimum gauges to be supplied are; voltmeter, oil pressure, coolant temp, hour meter, and fuel gauge. PROVIDE DETAILS \_\_\_\_\_  
\_\_\_\_\_
- 3 All gauges are to be dust, moisture, and shock proof. All gauges are to include lights for night operation. PROVIDE DETAILS \_\_\_\_\_  
\_\_\_\_\_



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- .4 The minimum switches to be supplied are; engine stop and start, engine speed control, and flood light switch. PROVIDE DETAILS \_\_\_\_\_
- .5 The control panel is to include lights for night operation. COMPLY \_\_\_\_\_
- .6 A warning light, indicating the automatic engine shutdown system has engaged must be provided. PROVIDE DETAILS \_\_\_\_\_  
\_\_\_\_\_
- 6.19 Remote Control
- .1 Provide a remote box to allow the sweeper to be operated from the cab of the truck. COMPLY \_\_\_\_\_
- .2 The minimum gauges and controls to be supplied are; tachometer, variable broom and air blower speed controls, engine emergency stop. Elevation and broom angle controls for the broom and air nozzles. COMPLY \_\_\_\_\_  
\_\_\_\_\_
- .3 The wiring (cable) for the remote box is to be complete with two sets of pin type connectors. One is to be located at the control box. The second connector is to be located 1.5 m (5 ft) from the tow eye. Provide a minimum of 12.2 m (40 ft) of cable between the two connectors. COMPLY \_\_\_\_\_  
\_\_\_\_\_
- .4 The cable is to be weather proof, ultraviolet resistant and is to be designed for the purpose intended. Provide a means of storing the cable on the sweeper tongue. PROVIDE DETAILS \_\_\_\_\_  
\_\_\_\_\_
- .5 Provide a weather resistant box, mounted on the tongue, to store the control box when not in use. PROVIDE DETAILS \_\_\_\_\_  
\_\_\_\_\_

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**6.20 Painting**

- .1 The sweeper is to be primed and painted a minimum of two coats of epoxy type paint, Dupont Imron or equivalent. Finished paint colour to be Orange CBSG 1-GP-88 shade 508-101 standard paint colour 1-GP-12 or acceptable manufacturers equivalent

PAINT TYPE \_\_\_\_\_

**6.21 Instruction identification**

- .1 Provide permanently installed ISO or bilingual written instructions, diagrams and warning plates, where required to ensure efficient operation and servicing with maximum safety.

COMPLY \_\_\_\_\_

**6.22 Training**

- .1 Provide one (8hr) day on site sweeper maintenance and operational training session.

PROVIDE DETAILS \_\_\_\_\_

**6.23 Optional equipment**

- .1 Provide one spare replacement broom core with brushes and spacers
- .2 Provide 1 full set (min 4) broom core carts for ease of broom core storage and change over

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