

**FORM A: BID**  
(See B8)

1. Contract Title SUPPLY AND DELIVERY OF A SWEEPER WITH WATERLESS DUST CONTROL

2. Bidder

\_\_\_\_\_  
Name of Bidder

\_\_\_\_\_  
Usual Business Name of Bidder as it appears on Invoice (if different from above)

\_\_\_\_\_  
Street

\_\_\_\_\_  
City

\_\_\_\_\_  
Province

\_\_\_\_\_  
Postal Code

\_\_\_\_\_  
Email Address of Bidder

\_\_\_\_\_  
Facsimile Number

(Mailing address if different)

\_\_\_\_\_  
Street or P.O. Box

\_\_\_\_\_  
City

\_\_\_\_\_  
Province

\_\_\_\_\_  
Postal Code

\_\_\_\_\_  
GST Registration Number (if applicable)

The Bidder is:

(Choose one)

a sole proprietor

a partnership

a corporation

carrying on business under the above name.

3. Contact Person

The Bidder hereby authorizes the following contact person to represent the Bidder for purposes of the Bid.

\_\_\_\_\_  
Contact Person

\_\_\_\_\_  
Title

\_\_\_\_\_  
Telephone Number

\_\_\_\_\_  
Facsimile Number

\_\_\_\_\_  
Email Address

4. Definitions

All capitalized terms used in the Contract shall have the meanings ascribed to them in the General Conditions and D3.

5. Offer The Bidder hereby offers to perform the Work in accordance with the Contract for the price(s), in Canadian funds, set out on Form B: Prices, appended hereto.

6. Commencement of the Work The Bidder agrees that no Work shall commence until he/she is in receipt of a notice of award from the Award Authority authorizing the commencement of the Work.

7. Contract The Bidder agrees that the Bid Opportunity in its entirety shall be deemed to be incorporated in and to form a part of this offer notwithstanding that not all parts thereof are necessarily attached to or accompany this Bid.

8. Addenda The Bidder certifies that the following addenda have been received and agrees that they shall be deemed to form a part of the Contract:

No.		Dated	
_____		_____	_____
_____		_____	_____
_____		_____	_____

9. Time This offer shall be open for acceptance, binding and irrevocable for a period of sixty (60) Calendar Days following the Submission Deadline.

10. Indigenous Self-Declaration The City is requesting that Bidders identify if their business is at least 51% owned by one or more Indigenous persons of Canada.

YES, 51% or more Indigenous ownership

NO, it is not

This information is being gathered for statistical purposes only and will not be used for purposes of evaluation.

11. Signatures

The Bidder or the Bidder's authorized official or officials have signed this

\_\_\_\_\_ Day of \_\_\_\_\_, 20\_\_\_\_\_.

Signature of Bidder or  
Bidder's Authorized Official or Officials

\_\_\_\_\_

(Print here name and official capacity of individual whose signature appears above)

\_\_\_\_\_

(Print here name and official capacity of individual whose signature appears above)

**FORM B: PRICES**  
(See B9)

SUPPLY AND DELIVERY OF A SWEEPER WITH WATERLESS DUST CONTROL

UNIT PRICES

ITEM NO.	DESCRIPTION	SPEC. REF.	UNIT	QUANTITY	UNIT PRICE
1.	Sweeper	17055	Each	1	

\_\_\_\_\_  
Name of Bidder

## FORM N: DETAILED SPECIFICATIONS 17055

### Sweeper with Waterless Dust Control System

#### 1.0 DESCRIPTION OF EQUIPMENT

- 1.1 These specifications describe a Sweeper and other equipment and features as specified herein. Primary use of the sweeper is to clean floors in the Transit Maintenance Garage, Bus Storage Tracks and general property sweeping. The sweeper is design to sweep year-round without the use of water, has high maneuverability and meets dust free sweeping criteria. The sweeper must be capable of wet pick-up of water, glycol, or other non-flammable fluids without damage to the hopper or filter system.
- 1.2 The Sweeper shall be a new 2018 model year or newer.
- 1.3 The Sweeper and all other items/components shall be the manufacturer's latest model. The equipment shall be furnished complete and ready for operation. Any parts or accessories not specifically mentioned, but which are required to complete and place the equipment and associated attachments in successful operation shall be furnished as though specifically mentioned in these specifications. The equipment and associated attachments, and all parts thereof, shall conform in strength and quality of material and workmanship, to the best standards and engineering practice of the industry.
- 1.4 It will be the responsibility of the Bidder to inform the City of any errors or omissions in these specifications, for under this Contract the Contractor shall be held responsible for the satisfactory operational function of the equipment.

#### 2.0 OTHER SPECIFICATIONS AND STANDARDS

- 2.1 All applicable SAE standards form an integral part of these specifications and shall have precedence in any conflict concerning minimum acceptable standards.
- 2.2 Where applicable, the Sweeper shall comply with the following regulations:

Transport Canada, National Safety Mark, NSM:  
<http://www.tc.gc.ca/eng/acts-regulations/acts-road.htm>

Manitoba Safety and Health Regulation, Parts 12, 16, 22:  
<http://web2.gov.mb.ca/laws/regs/current/217.06.pdf>

Canadian Motor Vehicle Safety Standards C.M.V.S.S.  
[http://laws-lois.justice.gc.ca/eng/regulations/C.R.C.,\\_c.\\_1038/section-sched3.html](http://laws-lois.justice.gc.ca/eng/regulations/C.R.C.,_c._1038/section-sched3.html)

Manitoba Highway Traffic Act regulations and requirements including, but not limited to, a Manitoba Government Inspection with Safety Sticker.  
<http://web2.gov.mb.ca/laws/regs/index.php?act=h60>

Canadian Standards Association, CSA:  
<http://www.csagroup.org/>

Under Writers of Canada, U/L:  
<http://www.ulc.ca/>

Society of Automotive Engineers, SAE:  
<http://www.sae.org/>

City of Winnipeg Lighting Visibility Standard:  
<http://winnipeg.ca/matmgt/pdfs/PublicWorksEquipLightingVisibility.pdf>

- 2.3 It will be the responsibility of the Bidder to inform the City of any deficiencies in these specifications, for under this Contract the Contractor shall be held responsible for the design, performance, reliability and satisfactory operational function of the units.

### **3.0 SERVICE FACILITY**

- 3.1 For the purpose of warranty repairs, the Bidder shall have an authorized service facility. The facility, or a portion thereof, shall be dedicated to the service and maintenance of the type equipment being offered. Bidders shall provide a description of the service facility including, but not limited to, number of qualified service staff, years of service experience, and general service capabilities within three (3) Business Days upon request of the Contract Administrator.

### **4.0 REFERENCES**

- 4.1 If available, please provide five (5) references where this equipment is used in a working environment where climatic conditions are similar to the City of Winnipeg.

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### **5.0 MAKE & MODEL**

- 5.1 **State** year, make and model being bid: \_\_\_\_\_

### **6.0 INSTRUCTIONS FOR COMPLETION OF SPECIFICATIONS**

- 6.1 Each bid will be evaluated based on adherence to all terms, conditions and requirements outlined in the Bid Opportunity package.

- 6.2 All items in these specifications must be answered indicating compliance or non-compliance. **BIDDERS SHALL STATE "YES" FOR COMPLIANCE OR STATE DEVIATION**, or give reply where requested to do so. Deviations shall be clearly stated and fully detailed. Alternatives will be considered subject to evaluation.

- 6.3 **EACH BIDDER IS REQUIRED TO FILL IN EVERY BLANK. FAILURE TO DO SO MAY BE USED AS A BASIS FOR REJECTION OF BID**

### **7.0 PERFORMANCE RELIABILITY**

- 7.1 The responsibility for the design of the **Sweeper**, its performance and reliability shall rest upon the Contractor.

- 7.2 The term "repeated failures" as used herein is defined to mean that the same component, subassembly, or assembly develops repeated defects, breakdowns and/or malfunctions rendering the vehicle inoperative, or requiring repeated shop correction, service and/or replacement during the warranty period applicable for said component, subassembly, of assembly. Minor items or ordinary service adjustments are not included, or considered under the scope of "repeated failures", as well as other factors, such as operational damage due to accidents, misuse or lack of proper maintenance, service and lubrication attention by not following the manufacturer's preventative maintenance schedule.

- 7.3 Where the **Sweeper** develops "repeated failures" in service, the Contractor shall make any necessary engineering changes, repairs, alterations or modifications in order to guarantee reliability of performance.

7.4 The equipment shall be capable of consistent top performance in City of Winnipeg Environment.  
**Note: The City of Winnipeg has four seasons with ambient temperatures ranging from approximately 90°F (32°C) to -40°F (-40°C)**

**8.0 FUEL**

8.1 Where applicable, all equipment must be fully fueled upon delivery (no exceptions).

**9.0 QUALIFICATIONS OF MANUFACTURER & CONTRACTOR**

9.1 The manufacturer of the Sweeper shall have five (5) years continuous experience manufacturing Sweeper.

9.2 The manufacturer shall have in effect a documented quality control program ensuring that the quality of materials and workmanship, including welding, conforms to the best standards and engineering practice of the industry.

9.3 The Contractor shall have five (5) years continuous experience servicing, repairing and maintaining Sweeper of the type being offered.

**10.0 SPECIFICATIONS:**

10.1 Vehicle Make **State:** \_\_\_\_\_

10.2 Vehicle Model **State:** \_\_\_\_\_

**Sweeper Dimensions**

10.3 Length - Standard Approximately 4445 mm (175 in.)  
**State:** \_\_\_\_\_

10.4 Length – With Front Brush (If equipped) Approximately 5230 mm (206 in.)  
**State:** \_\_\_\_\_

10.5 Width Approximately 1780 mm (70 in.)  
**State:** \_\_\_\_\_

10.6 Height Approximately 2540 mm (100 in.)  
**State:** \_\_\_\_\_

10.7 Weight Approximately 5670 kg (12,500 lbs.)  
**State:** \_\_\_\_\_

10.8 Payload **State:** \_\_\_\_\_

10.9 Sweeping Path Approximately 2210 mm (87 in.)  
**State:** \_\_\_\_\_

<b>Engine</b>		
10.10	Engine	Turbo-Diesel Tier 4 (Interim or Final compliant) meeting current Emission Standards <b>State:</b> _____
10.11	Transmission	Hydrostatic _____
10.12	Horsepower	Approximately 74 kW (99 hp) <b>State:</b> _____
10.13	Speed – Forward (Variable to)	Approximately 40 km/h (25 mph) <b>State:</b> _____
10.14	Fuel Tank	<b>State:</b> size _____
<b>Air Cleaner</b>		
10.15	Type	Dual Stage Engine Air Cleaner <b>State:</b> _____
<b>Braking</b>		
10.16	Brake Type	Drum or Multi-Disc <b>State:</b> type  <b>Note:</b> enclosed to prevent any dirt from entering
10.17	Parking Brake	<b>Required:</b> _____
<b>Cooling System</b>		
10.18	System	Sealed and pressurized _____
10.19	Capacity	<b>State:</b> capacity _____
<b>Electrical System</b>		
10.20	Protection	All wiring shall be fully shielded for water and dust proof protection _____
<b>Fuel System</b>		
10.21	Capacity	<b>State:</b> capacity _____
<b>Hydraulics</b>		
10.22	Motors	Main broom Front brush Side (gutter) brushes Hopper  <b>State:</b> qty and function
10.23	Capacity	Approximately 68 L (15 gal) <b>State:</b> _____
10.24	Sight Gauge	<b>Required:</b> _____

10.25	Bypass Tow Valve	<b>Required:</b>	_____
10.26	Suction Filter	<b>Required:</b> <b>State:</b> type and size	_____
10.27	Return Filter	<b>Required:</b> <b>State:</b> type and size	_____
10.28	Pressure Bypass	<b>Required:</b>	_____
10.29	Accessory Pumps	<b>Required:</b> <b>State:</b> quantity and application	_____
<b>Hydrostatic Transmission</b>			
10.30	Transmission	<b>State:</b> type	_____
10.31	Transition	<b>Required:</b> ability to switch from Transit Mode to Sweeping Mode	_____
10.32	Memory System	Maintain previous settings when switching between sweep and transit modes	_____
10.33	<b>Steering System</b>		
10.34	Tilt Steering	<b>Required:</b>	_____
10.35	Power Steering	<b>Required:</b>	_____
10.36	Turning Radius	Approximately 4 m (13 ft.) Outside <b>State:</b>	_____
10.37	<b>Suspension System</b>		
10.38	System – Front & Rear	<b>State:</b>	_____
<b>Sweeping Components and System</b>			
10.39	<ul style="list-style-type: none"> <li>• Brooms and brushes to have the ability to be raised, lowered and positioned</li> <li>• Incorporate forward impact shock absorbers</li> <li>• Require minimal operator adjustment for wear</li> <li>• Controlled from inside the cab</li> </ul>		_____
<b>Main Broom</b>			
10.40	Self- adjusting for pressure and wear	<b>Required:</b>	_____
10.41	Length	Approximately 1295 mm (51 in.) <b>State:</b>	_____
10.42	Diameter	Approximately 610 mm (24 in.) <b>State:</b>	_____
10.43	Material	Polypropylene	_____
10.44	Rotation Speed	Approximately 175 rpm <b>State:</b>	_____

**Side (Gutter) Brushes**

10.45	<ul style="list-style-type: none"> <li>• Direct hydraulic drive type</li> <li>• Hydraulic relief valve to protect from damage</li> <li>• Variable speed</li> <li>• Ability to be raised or lowered</li> <li>• Transportation locking device</li> <li>• Adjustable kick-back features</li> </ul>	_____
10.46	Dual Side (Gutter) Brushes	<b>Required:</b> _____
10.47	Side (Gutter) Brush - Diameter	Approximately 810 mm (32 in.) <b>State:</b> _____
10.48	Side (Gutter) Brush - Material	Polypropylene and wire _____
10.49	Rotation Speed	Approximately 40 - 80 rpm <b>State:</b> _____

**Dust Control System**

10.50	Dust Filtration	Shall be PM-10, AQMD-Rule 1186 certified _____
10.51	Filter System	Dry filtering _____
10.52	Filter Type	Mildew resistant _____
10.53	Filter Area	Approximately 21 m <sup>2</sup> (221 ft <sup>2</sup> ) <b>State:</b> _____
10.54	Vacuum Fans	<b>Required:</b> to control dust <b>State:</b> qty, size and speed _____
10.55	Skirting	<b>Required:</b> Dry dust control skirting system _____

**Hopper**

10.56	Material	Stainless steel _____
10.57	Capacity	Approximately 2.6 m <sup>3</sup> (3.4 yd <sup>3</sup> ) <b>State:</b> _____
10.58	Dump Height	<b>Required:</b> Low Dump (Ground Level) <b>State:</b> height _____
10.59	Full Load Warning System	<b>Required:</b> full load indicator light if equipped with a rear hopper <b>State:</b> _____
10.60	Hopper Movement Warning Alarm	<b>Required:</b> _____

**Wander Hose**

10.61	Inlet	Approximately 150 mm (6 in.) to 203 mm (8 in.) <b>State:</b> _____
10.62	Reach	Approximately 3.7 m (12 ft.) <b>State:</b> _____

10.63 Air Flow **State:** \_\_\_\_\_

**Debris Transport System – Conveyor System** \_\_\_\_\_

**Note:** Complete this section if the sweeper is equipped with a conveyor system to transport debris to the hopper. Mark as “N/A” if the sweeper is equipped with a vacuum system

10.64 Conveyor Belt Rubber or squeegee  
**State:** type \_\_\_\_\_

10.65 Paddles/Troughs **State:** type and quantity if applicable \_\_\_\_\_

10.66 Drive Direct hydraulic , variable with forward and reverse \_\_\_\_\_

10.67 Protection Hydraulic relief cartridge \_\_\_\_\_

10.68 Speed Variable forward and reverse \_\_\_\_\_

10.69 Bearings Sealed, high load capacity with dust seals \_\_\_\_\_

10.70 Conveyor system Automatic hydraulic self-tensioning conveyor chain system \_\_\_\_\_

**Debris Transport System – Vacuum System** \_\_\_\_\_

**Note:** Complete this section if the sweeper is equipped with a vacuum system to transport debris to the hopper. Mark as “N/A” if the sweeper is equipped with a conveyor system

10.71 Fan **State:** \_\_\_\_\_  
 Type: \_\_\_\_\_  
 Drive: \_\_\_\_\_  
 Vacuum: \_\_\_\_\_

10.72 Vacuum **State:** \_\_\_\_\_

10.73 Filter **State:** \_\_\_\_\_

**Operator Compartment**

10.74 Cabin **Required:** Sealed, pressurized cabin \_\_\_\_\_

10.75 Cabin Filter **Required:** MERV 15 rated \_\_\_\_\_

10.76 Filtered Air Intake **Required:** \_\_\_\_\_

10.77 Air Conditioning, Heater and Defroster **Required:** factory installed \_\_\_\_\_

10.78 Windshield Washer - Electric **Required:** \_\_\_\_\_

10.79 Windshield Wipers - Intermittent **Required:** \_\_\_\_\_

10.80 Operator and Passenger Seats **Required:** \_\_\_\_\_

10.81 Seats Air suspension, fully adjustable bucket seats \_\_\_\_\_

10.82	Seat Belts	<b>Required:</b>	_____
10.83	Glass	<b>Required:</b> Tinted safety glass	_____
10.84	Doors	Total view glass cab doors	_____
10.85	Keyed Door Locks	<b>Required:</b>	_____
10.86	Windows	Dual pane sliding/locking windows	_____
10.87	Sun Visors	<b>Required:</b>	_____
	<b>Controls</b>		
10.88	Steering Wheel	<b>Required:</b>	_____
10.89	Forward/Reverse/Neutral Selector	<b>Required:</b>	_____
10.90	Brake Pedal	<b>Required:</b>	_____
10.91	Sweep Selector	<b>Required:</b>	_____
10.92	Brush Position Control	<b>Required:</b>	_____
10.93	Brush Speed	<b>Required:</b>	_____
10.94	Brush Pressure	<b>Required:</b>	_____
10.95	Key Ignition / Start Switch	<b>Required:</b>	_____
10.96	Horn	<b>Required:</b>	_____
10.97	Headlights	<b>Required:</b>	_____
10.98	Windshield Washer and Wipers	<b>Required:</b>	_____
10.99	Dash Mounted Switches	<ul style="list-style-type: none"><li>• Lighting</li><li>• Hazard warning</li><li>• Beacon</li><li>• Hopper raise / lower</li></ul>	_____
		<b>State:</b> any additional switches and functions	
10.100	Overhead Display	Provide status for: <ul style="list-style-type: none"><li>• Fuel</li><li>• Engine temperature</li><li>• Engine oil pressure</li><li>• Engine rpm</li><li>• Hour meter</li><li>• Hopper raised indicator</li><li>• Hydraulic oil temperature</li><li>• High beams</li><li>• Clock</li></ul>	_____
		<b>State:</b> any additional displays	
	<b>Standard Equipment</b>		
10.101	Mirrors	<b>Required:</b> LH and RH side	_____
10.102	Dual Headlights/Taillights	<b>Required:</b>	_____

10.103	Back-Up Camera and Monitor	<b>Required:</b>	_____
10.104	Back-Up Lights	<b>Required:</b>	_____
10.105	Rear Bumper - Rubber	<b>Required:</b>	_____
10.106	Tow Hooks	<b>Required:</b>	_____
	<b>Safety</b>		
10.107	360 Degree View	360 degree view around the sweeper from inside the cab through the use of windows, mirrors and cameras	_____
10.108	Stop Sweep Function	<b>Required:</b> Operator Controlled or Automatically, when transmission is placed in reverse; all sweep functions shall stop <b>State:</b> method	_____
10.109	Back-Up Alarm	<b>Required:</b>	_____
10.110	Sound Level	<b>State:</b> dBA	
	<b>Greasing System</b>		
10.111	Sweeper shall have an <u>Automatic Centralized Greasing System</u> (Parallel or Progressive) installed per manufacturer's specifications		_____
	<b>State:</b>		
	Type: _____		
	Make: _____		
	Model: _____		
10.112	<b>Grease Pump:</b>		_____
	<ul style="list-style-type: none"><li>• Use spring-less pump elements with desmodromic drive</li><li>• Equipped with data logger</li><li>• Diagnostic capabilities</li><li>• Three (3) operating modes: length of time, time interval and amount of cycles</li><li>• Grease agitator</li><li>• Equipped with low level shut-off and with in-cab indicator (alarm or display required)</li><li>• Equipped with an over pressure micro switch and an under pressure sensor with in-cab indicator (alarm or display)</li><li>• Equipped with one way check valve</li></ul>		
10.113	<b>Grease:</b>		_____
	Grease pump will pump Original Equipment Manufacturer specified EP2 grease from -35°C to + 70°C.		
10.114	<b>Power Input:</b>		_____
	System power connection to ignition source with an accessible fuse protection and for greasing system to shut down when engine is turned off		
10.115	<b>Check Valves:</b>		_____
	One way check valves installed between the pump and the distributor blocks and any subsequent distributor blocks or in the case of a parallel injector type system between the pump and each injector.		

10.116 **Distribution Blocks:** \_\_\_\_\_  
Corrosion resistant  
Tested to withstand a 720-hour salt-spray test

10.117 **Grease Fittings:** \_\_\_\_\_  
• All grease fittings shall be readily accessible or shall be equipped with remote grease zerks as required.  
• All grease zerks shall have thread sealant applied to prevent leakage

10.118 **Grease Lines:** \_\_\_\_\_  
• Low temperature compatible grease lines  
• #4 JIC fittings

**State:**  
Hose Manufacturer: \_\_\_\_\_  
Temperature Range: \_\_\_\_\_  
Hose Diameter: \_\_\_\_\_  
Bend Radius: \_\_\_\_\_  
PSI Rating: \_\_\_\_\_

10.119 **Grease Points:** \_\_\_\_\_  
**State:** quantity of grease points: \_\_\_\_\_  
**State:** quantity of grease points that cannot be connected to the Automatic Centralized Greasing System. \_\_\_\_\_

**Optional Equipment**

**Front Brush**

10.120 Front Brush \_\_\_\_\_  
• Fully traversing and independently controlled  
• Ability to extend approximately 1420 mm (56 in.)  
• Controlled from inside the cab  
• controlled height, reach (left to right of the machine) and tilt

10.121 Front Brush - Diameter \_\_\_\_\_  
Approximately 965 mm (38 in.)  
**State:**

10.122 Front Brush - Material \_\_\_\_\_  
Polypropylene and wire

10.123 Rotation Speed \_\_\_\_\_  
Approximately 40 - 80 rpm  
**State:**

10.124 **State:** Optional Price for **Front Brush.** \$ \_\_\_\_\_

11.0 **WARRANTY:**

11.1 All warranty information shall be detailed and **include all exclusions.** \_\_\_\_\_

The successful bidder shall provide all published warranty information upon delivery of the equipment.

Bidder shall state all warranty information.

11.2 Parts **State:** \_\_\_\_\_

11.3 Labour **State:** \_\_\_\_\_

11.4 Greasing System **State:** \_\_\_\_\_

12.0 **DELIVERY:**

12.1 **Delivery Point:** The complete unit shall be serviced, ready for operation and delivered F.O.B. with the freight prepaid, including invoice and N.V.I.S. (if applicable) to the WFMA 185 Tecumseh Street, Winnipeg MB. \_\_\_\_\_

12.2 **Delivery Time:**  
Approximately 8 – 12 calendar weeks from date of award \_\_\_\_\_

Equipment shall be delivered between 8:00 am and 2:00 pm on Business Days.

**State:** earliest delivery time: \_\_\_\_\_

12.3 **Delivery Contact:** The Contractor shall contact the Contract Administrator prior to delivery of the equipment. \_\_\_\_\_

12.4 **P.D.I.:** A pre-delivery inspection shall be performed by the Contractor on the equipment. Proof upon inspection including completed check list \_\_\_\_\_

13.0 **MANUALS:**

13.1 **Operator's Manual:** One (1) per unit shall be supplied with the units when delivered: \_\_\_\_\_

13.2 **Service Manual:** One (1) per unit shall be supplied with the units when delivered: \_\_\_\_\_

14.0 **PARTS/LABOUR PRICING:**

14.1 Bidder to provide City of Winnipeg Parts Discount % Pricing from retail parts pricing. **State percentage discount** \_\_\_\_\_

14.2 Bidder to provide City of Winnipeg Labor Discount % Pricing from Retail shop labor rate. **State percentage discount** \_\_\_\_\_

**15.0 FIRST SERVICE PREVENTATIVE MAINTENANCE KIT:**

- 15.1 In order to assure minimum downtime of the Equipment in future service, the Contractor must provide one (1) complete replacement set of new OEM filters for each unit purchased. The set of required filters shall include (if applicable to the equipment type) air, fuel, oil, cab and hydraulic, or otherwise all known necessary common replacement filters required for the first preventative maintenance servicing. \_\_\_\_\_
- 15.2 The Contractor must provide a list of factory recommended lubricants to be used with the equipment, as well as a complete cross reference guide for all warranty approved lubricants and filters that can be used during Preventative Maintenance servicing. \_\_\_\_\_

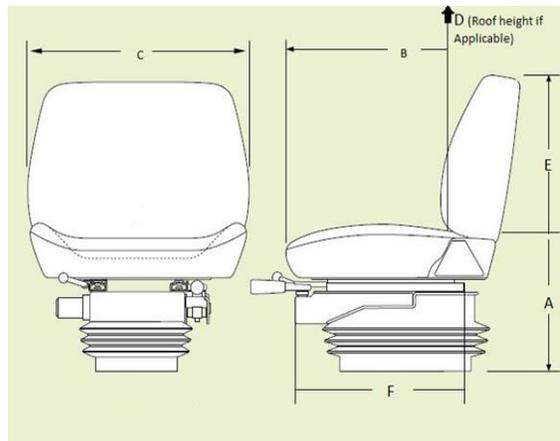
**16.0 ERGONOMIC SPECIFICATIONS**

**Entry/ Exit**

- 16.1 First step entry height **State:** height of first step in inches \_\_\_\_\_
- 16.2 First handhold entry height **State:** first handhold entry height in inches \_\_\_\_\_
- 16.3 Access to equipment **State:** door opening height in inches \_\_\_\_\_
- 16.4 Access to equipment **State:** door opening width in inches \_\_\_\_\_
- 16.5 Designed to prevent slipping **Anti-slip steps/handholds (Y or N)?** \_\_\_\_\_

**Seat**

16.6 Use diagram to answer questions.



- 16.7 Sitting Height Range (from floor (where feet rest) (A)) **State:** seat height range in inches \_\_\_\_\_

- 16.8 Seat Length/Depth (B) **State:** seat length/depth in inches \_\_\_\_\_
- 16.9 Seat Width (C) **State:** seat width in inches \_\_\_\_\_
- 16.10 Cab Height  
(from seat to roof (if  
applicable) (D)) **State:** cab height range in inches \_\_\_\_\_
- 16.11 Back Rest Height (E) **State:** back rest height in inches \_\_\_\_\_
- 16.12 Seat Travel Range (F) **State:** seat travel in inches \_\_\_\_\_
- 16.13 Lumbar Support Is lumbar support provided (**Y or N**)? \_\_\_\_\_
- 16.14 Head Rest Is head rest provided (**Y or N**)? \_\_\_\_\_
- 16.15 Seat is made of breathable  
material **State:** type of seat material \_\_\_\_\_

**Operation**

- 16.16 Reaching Distance  
(to usual work) **State:** reaching distance in inches \_\_\_\_\_
- 16.17 Maximum Reaching  
Distance **State:** maximum reach distance in inches \_\_\_\_\_
- 16.18 Adjustable Pedals  
(accelerator/brake/clutch) Are pedals adjustable (**Y or N**)? \_\_\_\_\_
- 16.19 Adjustable Steering  
Wheel Is steering wheel adjustable (**Y or N**)? \_\_\_\_\_
- 16.20 Adjustable Shoulder Belt Is belt adjustable and anchored (**Y or N**)? \_\_\_\_\_

**Cargo Area**

- 16.21 Lid opens to provide  
adequate space Adequate space provided (**Y or N**)? \_\_\_\_\_
- 16.22 Loading Height **State:** trunk height in inches \_\_\_\_\_

**Environment**

- 16.23 Operator compartment is  
insulated from equipment  
noise (while operating) **State:** dB inside cab while operating \_\_\_\_\_
- 16.24 Operator insulated from  
equipment vibration Is operator insulated from vibration (**Y or N**)? \_\_\_\_\_
- 16.25 Heating/Cooling Systems **State:** cab temperature range \_\_\_\_\_
- 16.26 Cab Lighting **State:** lumens inside cab \_\_\_\_\_

**Maintenance/ Inspection**

- 16.27 Lift Assistance  
(when necessary) Is lift assistance provided (**Y or N**)? \_\_\_\_\_

- 16.28 Easy Access Is easy access provided **(Y or N)**? \_\_\_\_\_  
(to compartment doors)
- 16.29 Include any other relevant ergonomic specifications and applicable range of adjustment \_\_\_\_\_