

FORM A: BID
(See B8)

1. Contract Title SUPPLY AND DELIVERY OF LANDFILL COMPACTOR

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. 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 LANDFILL COMPACTOR

UNIT PRICES

ITEM NO.	DESCRIPTION	SPEC. REF.	UNIT	QUANTITY	UNIT PRICE
1.	Landfill Compactor	17011	Each	1	

Name of Bidder

FORM N: DETAILED SPECIFICATIONS 17011

LANDFILL COMPACTOR

1.0 DESCRIPTION OF EQUIPMENT

- 1.1 These specifications describe a **Landfill Compactor** and other equipment and features as specified herein. The **Landfill Compactor** shall be delivered with all necessary landfill components required to operate successfully at the City of Winnipeg Brady Landfill.
- 1.2 The **Landfill Compactor** shall be a new 2017 model year or newer.
- 1.3 The **Landfill Compactor** 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 The **Landfill Compactor** shall comply with the applicable regulations:
- National Safety Mark, NSM = <http://www.tc.gc.ca/eng/acts-regulations/acts-road.htm>
- Manitoba Safety and Health Act, Parts 12, 22 = <http://web2.gov.mb.ca/laws/statutes/ccsm/w210e.php> and <http://www.gov.mb.ca/labour/safety/>
- Canadian Standards Association, CSA = <http://www.csa.ca/about/Default.asp?language=english>
- 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, 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 located within 10 km of the boundaries of the City of Winnipeg. The facility, or a portion thereof, shall be dedicated to the service and maintenance of the type equipment being offered. Further to B9.1, 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 Provide five (5) Canadian references where this equipment is used in a working environment where climatic conditions are similar to the City of Winnipeg.

5.0 MAKE & MODEL

5.1 **State** make, year and model of the equipment 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 **Landfill Compactor**, 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 **Landfill Compactor** 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 fuelled upon delivery (no exceptions).

9.0 QUALIFICATIONS OF MANUFACTURER & CONTRACTOR

- 9.1 The manufacturer of the **Landfill Compactor** shall have five (5) years continuous experience manufacturing the equipment.
- 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 **Landfill Compactor** of the type being offered.

10.0 SPECIFICATIONS:

DIMENSIONS AND WEIGHTS

- | | | | |
|-------|--|------------------------------------|-------|
| 10.1 | Operating weight (full fuel tank, oil and coolant fluids, (1) operator, landfill package components, landfill blade) | Approximately 120,000-130,000 lbs. | _____ |
| 10.2 | Height to Top of Cab with A/C | Approximately 15 ft. | _____ |
| 10.3 | Height to Top of Exhaust Pipe | Approximately 15 ft. | _____ |
| 10.4 | Height to Top of Hood | Approximately 11 ft. | _____ |
| 10.5 | Ground Clearance to Bumper | Approximately 3 ft. | _____ |
| 10.6 | Center Line of Rear Axle to Edge of Counterweight | Approximately 10 ft. | _____ |
| 10.7 | Wheelbase | Approximately 14 ft. | _____ |
| 10.8 | Width over Wheels | Approximately 14 ft. | _____ |
| 10.9 | Height to ROPS/Canopy | Approximately 14 ft. | _____ |
| 10.10 | Height to Top of Cab with Strobe | Approximately 15 ft. | _____ |
| 10.11 | Length with Blade on Ground (straight blade) | Approximately 33 ft. | _____ |
| 10.12 | Turning Radius – Inside of Wheels | Approximately 11 ft. | _____ |
| 10.13 | Ground Clearance | Approximately 2 ft. | _____ |

ENGINE

- | | | | |
|-------|----------------|---|-------|
| 10.14 | Engine | Tier IV final compliant only -diesel, liquid cooled and turbo charged. Engines shall be warranted to use biodiesel at a B10 blend level (10% biodiesel to 90% ultra low sulphur diesel), where the biodiesel will meet product specification ASTM D 6751 to ensure fuel quality | _____ |
| 10.15 | Make and model | State- | _____ |

10.16	Horsepower ISO 9249/ SAE J1349	Approx. 550 - 600 HP, state net and state gross hp-	_____
10.17	Torque	Approx. 2000 - 2200 ft-lb., state-	_____
10.18	Engine Displacement	State-	_____
10.19	Cooler	Air to air after-cooler, fuel to air cooler	_____
10.20	Cooling system	Must be a heavy duty coolant system capable of handling the engine cooling requirements with waste handling	_____
10.21	Pump	Electric fuel priming pump	_____
10.22	Shut-off	Ground level engine shut-off	_____
10.23	Starting Aid	Air intake or glow plugs	_____
10.24	Cleaner	Dual stage pre-cleaner with dust ejector required	_____
10.25	Radiator	Radiator with reversible fan on demand	_____
10.26	Radiator door	Rear rad door must open all the way and come with heavy duty hinges and be lockable	_____
10.27	Starter	Electric heavy duty starter	_____
10.28	Block Heater Receptacle	Block heater receptacle, state location-	_____

EXHAUST

10.29	Exhaust Configuration	Thermally protected exhaust hot side shielding to include turbo, muffler, piping and exhaust manifold	_____
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TRANSMISSION

10.30	Type	Power shift/auto shift, state type-	_____
10.31	Guarding	Transmission guarding required	_____
10.32	Guarding accessibility	Guarding shall be accessible for mechanical repair	_____
10.33	Travel Speed	Travel Speeds: Forward – Converter 1st approx. 4 mph	_____
10.34	Travel Speed Forward Converter	Travel Speeds: Forward – Converter 2nd approx. 7 mph	_____
10.35	Travel Speed Forward – Lockup 1st	Travel Speeds: Forward – Lockup 1st approx. 4 mph	_____
10.36	Travel Speed Forward – Lockup 2nd	Travel Speeds: Forward – Lockup 2nd approx. 7 mph	_____

10.37	Travel Speed Reverse – Converter 1st	Travel Speeds: Reverse – Converter 1st approx. 4 mph	_____
10.38	Travel Speed Reverse – Converter 2nd	Travel Speeds: Reverse – Converter 2nd approx. 6 mph	_____
10.39	Travel Speed Reverse – Lockup 1st	Travel Speeds: Reverse – Lockup 1st approx. 4 mph	_____
10.40	Travel Speed Reverse – Lockup 2nd	Travel Speeds: Reverse – Lockup 2nd approx. 7 mph	_____

HYDRAULIC SYSTEM

10.41	System	State hydraulic system type-	_____
10.42	Lift System	Double Acting Cylinder	_____
10.43	Pump Flow	Approx. 66.0 gal/min	_____
10.44	Steering System	Double Acting – End Mounted	_____
10.45	Vehicle Articulation Angle	Approx. 86°	_____
10.46	Pump flow at max. RPM	Approx. 3 gpm.	_____
10.47	System relief pressure	Approx. 2000 psi.	_____
10.48	Flow and directional control	Required.	_____
10.49	Capacity	State hydraulic fluid capacity-	_____

AXLES

10.50	Front	Planetary fixed	_____
10.51	Oscillation Angle	Approx. 13°	_____
10.52	Rear	Planetary Oscillating	_____

BRAKES

10.53	Control System	Full Hydraulic Split Circuit	_____
10.54	Parking Brake	Spring Applied, Hydraulic Released	_____
10.55	Brakes	Brakes fully hydraulic, enclosed, wet multiple disc brakes	_____

FUEL/TANK

10.56	Tank Capacity	State capacity-	_____
10.57	Heated fuel water separator	Required	_____

WHEELS & TIPS

10.58	Diameter with Tips	Approx. 7 ft.	_____
10.59	Drum Diameter	Approx. 5 ft.	_____
10.60	Drum Width	Approx. 4ft	_____
10.61	Tips per Wheel	Approx. State quantity-	_____
10.62	Wheels	State wheel configuration-	_____
10.63	Wheel Cleaner	Two (2) wire cutters at each wheel required	_____
10.64	Scrapers	Adjustable and replaceable scrapers front and behind each wheel	_____
10.65	STEERING		
10.66	Steering	Electronic joystick	_____
10.67	Steering type	Oscillation articulation	_____
	BLADE		
10.68	Blade Type-	Blade must come with a trash rack (should be part of the waste handling package; blade shall be wider than the width of both front wheels); must have replaceable blades and end bits	_____
	CAB		
10.69	Exterior Sound Level – Suppression	Approx. 105 -110 dB(A)	_____
10.70	Interior Sound Level – Suppression	Approx. 70 dB(A)	_____
10.71	Sound suppression	Required in Cab	_____
10.72	Doors	Locking service access doors	_____
10.73	Heating/Air Conditioning	Air conditioner , heater and defroster HVAC, state location-	_____
10.74	Sound Suppression	Cab, sound-suppressed and pressurized	_____
10.75	Roll-Over Protective Structure	Internal four-post rollover protective structure (ROPS/FOPS)	_____
10.76	Radio	Radio AM/FM/ with hands free Blue Tooth connectivity with antenna, speakers	_____
10.77	12 V Power Supply	Auxiliary 12 V power supply with independent circuits for 2 way radio, mobile phone and/or laptop	_____

10.78	Camera	Rear vision camera with in cab monitor	_____
10.79	Hooks	Coat and hard hat hooks	_____
10.80	Seat	Cloth seat with flip-up armrest, air suspension, seat belt, retractable, heated and ventilated.	_____
10.81	Horn	Electric horn, state dba-	_____
10.82	Controls	Hydraulic controls, state location-	_____
10.83	Lockout	Implement hydraulic lockout	_____
10.84	Glass	All glass to be safety laminate type tinted	_____
10.85	Cab Light	Cab dome light	_____
10.86	Storage	Storage for lunchbox and beverage holders	_____
10.87	Gauges	Instrumentation, Gauges: DEF fluid level, hydraulic oil temperature, speedometer, tachometer , torque converter temperature, transmission gear (indicator)	_____
10.88	Instrumentation	Instrumentation/warning Indicators: Axle/brake oil temp, front – Brake oil pressure, electrical system, low voltage, engine failure malfunction alert and action lamp	_____
10.89	Mirrors	External heated rear view mirrors.	_____
10.90	Parking brake status	Required	_____
10.91	Front Sun Visor	Required	_____
10.92	Rear Sun Shade	Required	_____
10.93	Wipers	Wet-arm wipers/washers (front and rear) Intermittent wipers (front and rear)	_____
10.94	Steps	Steps and walk way platforms are to be self-cleaning type and have provisions for 3 point entry and exit	_____

GUARDING/PROTECTION

10.95	Guarding	Waste Handling Guarding/Protection- must be OEM factory installed. Required to protect critical components as a result to debris from waste handling and to minimize material build up. Bidder shall state a listing of all items included in their waste management handling package-	_____
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10.96	Guarding Type	Shall be smooth surface design with easy mechanical staff access. Shall be designed to eliminate catch points which can cause dents.	_____
10.97	Guarding Removal	All guarding for stump pans shall be hydraulically actuated for safe operation for mechanical staff and minimize down time and service costs.	_____
10.98	Front and Rear Axle Guarding	Front and rear axle guarding required	_____
10.99	Engine Guarding	Required	_____
10.100	Transmission Guarding	Required	_____
10.101	Window Guarding	Cab window guarding	_____
10.102	Component Guarding	Guarding required for all drive components. Guards also for crankcase and power train, rear fan and grill	_____
10.103	Belly Guarding	3 hydraulic belly guards/stump pans and one small one up front which does not require hydraulic provisions or equivalent	_____

ELECTRICAL

10.104	Back Up Alarm	Back up alarm required, state dba-	_____
10.105	Alternator	150-170 amp alternator	_____
10.106	Batteries	Four (4) 1000 CCA maintenance-free batteries	_____
10.107	Battery disconnect switch	Required	_____
10.108	Remote battery boosting provision	Required	_____
10.109	Type	12V or 24V system, state-	_____
10.110	Lighting	All Lighting shall be LED	_____

10.111 Work Lights-

High Intensity LED work lights
mounted at the following locations:
(**State** make, model and part #)



- (4) facing rear near radiator
- (4) facing forward mounted to cab
- All work lights to guarded and protected from vibration

Exact locations to be determined upon pre-production meeting.

10.112 Safety Lighting

Make Whelen LED, Model Tir 3 amber lighting mounted at the following locations:



- Total of (10)
- (1) located at each corner of the roof cab for a total of (8)
- (2) mounted at the rear near the radiator

Exact locations to be determined upon pre-production meeting.

10.113 Stairway Lighting

Access stairway lighting required.

MISCELLANEOUS

10.114 Hitch

Drawbar with pin

10.115 Towing Eyes

Required front and rear

10.116 Oil Sampling

Oil sampling valves required

10.117 Cleaner finger arrangement

Required

10.118 Fuel line heater

Required

10.119 Fast fill fuel

Required

10.120	High speed oil change	Required	_____
10.121	Cab pre-cleaner	RESPA cab pre-cleaner required	_____
10.122	Pre-heater	Pre-start cabin heating	_____

FIRE SUPPRESSION SYSTEM

10.123	Fire Suppression Required	Compactor must include a fire suppression system, state make, model and recommended location. The fire suppression system must be pre-approved by the WFMA Safety Officer and Contract Administrator prior to placing the landfill dozer into service. Also to be included a (10) lbs. ABC Type Fire Extinguisher, First Aid Kit, Flare Kit mounted as per Manufacture's OEM recommendation, state-	_____
10.124	First Aid Kit	Required	_____
10.125	Fire Extinguisher	Five (5) pound high volume ABC type securely mounted with quick release, state location	_____
10.126	Striping	Reflective striping: DOT, all sides.	_____

AUTO GREASER

10.127	Auto Greaser	8 litre pump Groenveld Auto Greaser required	_____
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GPS (OPTION)-

10.128	GPS	Bidder to provide price and details on specifically Landfill GPS Systems. Bidder to provide features and functions.	\$_____
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ONLINE DEALER SUPPORT-

10.129 Online Support

The following information shall be available (live web based on line) at the time of delivery of the equipment and shall be included in the price of the unit. On-line dealer support shall be for a (5) year life cycle. The Refuse Compactor shall have a factory Installed Equipment Management System which provides the following:

Wireless communications designed to deliver:

- Location
- Utilization
- Performance
- Maintenance data
- Fault codes
- Service history
- Preventative Maintenance schedules
- Fuel data.
- On-line support shall be 24 hours/ 7days a week /365 days a year
- (PDF versions not acceptable)

10.130 Operational (Operator manual) information

Operational (Operator manual) information- Shall consist of the following:

- On line comprehensive technical and operational information preferred
- On-line support shall be 24 hours/ 7days a week /365 days a year Preferred

10.131 Parts/technical/service/repair information

Parts/technical/service/repair information- Shall consist of the following:

- Parts/technical/service/repair information
- On-line equipment electrical diagnostic information
- The ability to purchase parts from an on-line catalogue is preferred.
- Ordered parts lists, ie; PM service kits.
- Parts recalls
- Ability to order parts on line 24 hours/ 7days a week /365 days a year preferred
- (PDF versions not acceptable)
- Ability to browse the on-line catalogue, check availability, view any remanufactured options, verify pricing, choose a delivery method and confirm delivery time, available on line 24/7. Ability to create your own frequently ordered parts lists, or PM lists
- Provide a comprehensive, easy-access technical library, on line, available 24/7 to allow service work to be completed faster and more accurately, minimizing downtime and reducing repair costs

10.132 Preventative maintenance schedules

Preventative maintenance schedules- Shall consist of the following:

- Provide on-line detailed checklists that outline critical steps in the PM process
- Detailed fluid analysis reports which include present and past results preferred.
- The ability to view frequently ordered parts lists, ie PM Service kits.
- (PDF versions not acceptable)

10.133	Website	<p>Website subscriptions that is necessary in providing delivery of the information shall be included in the price of the unit.</p> <p>The information contained in the website must be deemed acceptable by the City's equipment inspector. In the event that the City inspector finds the that the information contained on the website.</p> <ul style="list-style-type: none">• Does not provide enough detail• Is too difficult to navigate• (PDF versions not acceptable) <p>At the inspectors discretion, the Contractor shall instead, supply the required manuals/CD's/paper bound copies.</p> <p>State Website address-</p>	<hr/>
10.134	Software	<p>All necessary computer software, cables etc. shall be included</p>	<hr/>
11.0	<u>WARRANTY</u>		<hr/>
11.1	<p>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.</p>		<hr/>
11.2	<p>The Contractor shall warrant all equipment and all parts thereof, against any defects of workmanship, construction and materials, and agrees to repair or replace, without cost to the City, any article that has become defective and not proven to have been caused by negligence on the part of the user within five (5) years or 7500 hours from the date the equipment is put into service by the City of Winnipeg.</p>		<hr/>
11.3	<p>The Contractor shall warrant all attachments, and all parts thereof, against any defects of workmanship, construction and materials, and agrees to repair or replace, without cost to the City, any article that has become defective and not proven to have been caused by negligence on the part of the user within one (1) year from the date the equipment is put into service by the City of Winnipeg.</p>		<hr/>
11.4	<p>All warranty work performed by the contractor is be accompanied with a priced warranty invoice showing a zero balance minus any deductibles.</p>		<hr/>
11.5	<p><u>EXTENDED WARRANTY OPTION-</u> State optional pricing for extended warranty options-</p>		<hr/>

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.I.V.S. (if applicable) to 1901 Brady Road Landfill, Winnipeg MB. The successful bidder shall be notified by the Contractor Administrator the delivery address prior to issuance of the purchase order _____

12.2 Delivery Time: **January 5th, 2018.** Equipment shall be delivered between 8:00 am and 2:00 pm on Business Days. _____

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 Manuals supplied under this Contract. The manuals shall cover the complete equipment including all components thereof, CD or USB flash drive is preferred where available. _____

13.2 The following manuals shall be supplied with the units when delivered:

a) Operator's manual – Two (2) per unit (one operator manual shall be sent to the Equipment Operator Training Branch _____

b) Parts and service manuals – One (1) complete sets including preventative maintenance schedules. CDs or USB flash drive are preferred. _____

14.0 **FIRST SERVICE PREVENTATIVE MAINTENANCE KIT**

14.1 In order to assure minimum downtime of the equipment in future service, the Contractor shall 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. _____

14.2 The Contractor shall 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. _____

15.0 **DISCOUNT FOR PARTS AND LABOUR**

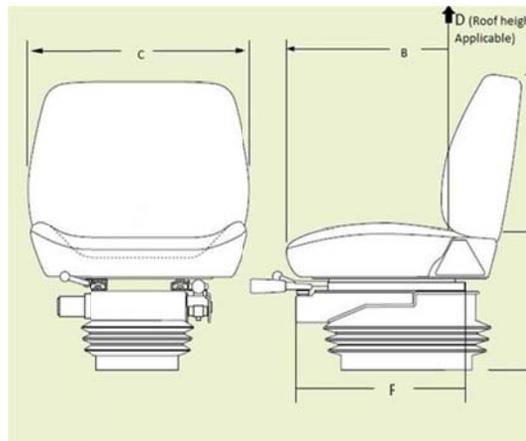
15.1 **State** Parts and Labor discount- _____ %
_____ %

16.0 ERGONOMICS

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 (use below diagram to answer questions)



- 16.6 Sitting height range from floor (where feet rest) (A) **State**, seat height range in inches _____
- 16.7 Seat length/depth (B) **State**, seat length/depth in inches _____
- 16.8 Seat width (C) **State**, seat width in inches _____
- 16.9 Cab height from seat to roof (if applicable) (D) **State**, cab height range in inches _____
- 16.10 Back rest height (E) **State**, back rest height in inches _____
- 16.11 Seat travel range (F) **State**, seat travel in inches _____
- 16.12 Lumbar support Is lumbar support provided **(Y or N)?** _____
- 16.13 Head rest Is head rest provided **(Y or N)?** _____
- 16.14 Seat is made of breathable material **State**, type of seat material _____

Operation

16.15	Reaching distance to usual work	State , reaching distance in inches	_____
16.16	Maximum reaching distance	State , maximum reach distance in inches	_____
16.17	Adjustable pedals (accelerator/brake/clutch)	Are pedals adjustable (Y or N) ?	_____
16.18	Adjustable steering wheel	Is steering wheel adjustable (Y or N) ?	_____
16.19	Adjustable shoulder belt	Is belt adjustable and anchored (Y or N) ?	_____
Cargo Area			_____
16.20	Lid opens to provide adequate space	Adequate space provided (Y or N) ?	_____
16.21	Loading height	State , trunk height in inches	_____
Environment			
16.22	Operator compartment is insulated from equipment noise (while operating)	State , dBA inside cab while operating	_____
16.23	Operator insulated from equipment vibration	Is operator insulated from vibration (Y or N) ?	_____
16.24	Heating/cooling systems	State , cab temperature range	_____
16.25	Cab lighting	State , lumens inside cab	_____
Maintenance/ Inspection			
16.26	Lift assistance provided (when necessary)	Is lift assistance provided (Y or N) ?	_____
16.27	Easy access to compartment doors	Is easy access provided (Y or N) ?	_____
16.28	Include any other relevant ergonomic specifications and applicable range of adjustment		_____ _____