



Tender # 1-2019-PW

for

One (1) –2019–68,000 G.V.W. Tandem Cab and Chassis

Complete with Viking Combination Dump and

Spreader Body Proline II 1415HW-HT and Viking Snow Plow Harness

1. Tender Closing

Tender must be completed on the forms provided and delivered in a sealed envelope, plainly marked as to contents to:

Tender # 1-2019-PW

Township of Howick Public Works Department

44816 Harriston Road

RR 1

Gorrie, Ontario N0G 1X0

Phone: 519-335-3208 Extension 5

Fax: 519-335-6208

E-mail: publicworks@howick.ca

Township of Howick

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Not later than 12 Noon local time, Thursday April 18th, 2019

2. Tenders must be properly signed, sealed and witnessed or signed and sealed if the bidder is a Corporation. Tenders received after the closing time will be rejected and returned unopened to the Tenderer. This entire document is to be submitted. The bidder must complete all sections of this document including specifications. Incomplete, late, email or facsimile submissions will be rejected.
3. Fill in all actual specification sheets or confirmation in proper space on specification sheets. The complete tender documents are included for your perusal. Should you have any questions regarding the specifications or the process, please contact:

Brady Nolan, Public Works Coordinator
Telephone: 519-335-3208 ext. 5
Fax: 519-335-6208
E-mail: publicworks@howick.ca

4. All Tenders received must remain valid for acceptance for up to 45 days beyond the closing date.
5. Manufacturer's brochures must be enclosed or forwarded in a separate envelope.
6. Any additions, deletions or substitutions to the specifications or quote without prior written approval will constitute the quote to be null and void.
7. The vehicle shall meet or surpass the mandatory requirements of the "Canadian Motor Vehicle Safety Regulations (S.O.R. 70-487) amended".
8. The Township of Howick reserves the right to reject any or all Tenders including without limitation the lowest tender and to award the Contract to whomever the Township of Howick in its sole and absolute discretion deems appropriate notwithstanding any custom of the trade to the contrary nor anything contained in the Contract Documents or herein.

The Township of Howick shall not under any circumstance be responsible for any costs incurred by the Tenderer in the preparing of its Tender.

Without limiting the generality of the foregoing, The Township of Howick reserves the right in its sole and absolute discretion, to accept or reject any Tender which in the view of the Township of Howick is incomplete, obscure or irregular, which has erasures or corrections in the documents, which contains exceptions and variations, which omits one or more prices, or which contains prices the Township of Howick considers unbalanced.

Criteria which may be used by the Township of Howick in evaluating tenders and awarding the contract are in the Township of Howick sole and absolute discretion and without limiting the generality of the foregoing, may include one or more of: price; total cost to the Township of Howick; ability of the tenderer to meet the attached specifications; reputation; claims history of the Tenderer; qualifications and experience of the Tenderer and its personnel; quality of services and personnel proposed by the Tenderer; ability of the Tenderer to ensure continuous availability of qualified and experienced personnel.

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Should the Township of Howick not receive any tender satisfactory to the Township of Howick in its sole and absolute discretion, the Township of Howick reserves the right to re-tender the Project or negotiate a contract for the whole or any part of the Project with any one or more persons whatsoever including one or more of the Tenderers.”

9. The Township of Howick will deliberate the results and a final decision will be made at Council in May of 2019. The results of this quotation will be available after that time.
10. The Township of Howick reserves the right to request a demonstration of any proposed equipment, which a Bidder might submit a Tender on. Bidders will arrange if necessary, an appropriate time and location.
11. The successful bidder will provide the specified equipment, which is to be in working order and 100% complete as specified within 36 weeks (252 days) of being notified of Council Award. Failure to provide the completed unit within this time period or a no-cost replacement to the satisfaction of the Township of Howick will result in damage being sustained by the Township. In the event of such delay, all the parties hereto agree that the bidder will pay to the Township the sum of Five Hundred dollars (\$500.00) per week for liquidated damages for each and every calendar week or portion thereof delay in supplying the completed unit as specified beyond the date described by this section. Alternatively, a no-cost loaner to the satisfaction of the Township of Howick may be provided from the date described in this section until the specified equipment is put in service by the Township of Howick. It is agreed that this amount is an estimate of actual damage to the Township which will accrue during the period in excess of the prescribed date of delivery. The Township may deduct any amount under this paragraph from any monies that may be due or payable to the successful bidder on any account whatsoever. The liquidated damages payable under this paragraph are in addition to and without prejudice to any other remedy, action or other alternative that may be available to the Township.

Specified And Optional Equipment Pricing Summary

Township of Howick

**Tender for one (1) – 68,000 G.V.W. Tandem Cab and Chassis With
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Net price for one (1) cab and chassis		\$
Net price complete for one complete (1) snow plow equipment and box, etc. as per (Viking-Cives) specifications		\$
Add: Air conditioning and tire stewardship tax		\$
Add; Delivery charge for completed unit with plow related equipment to the Township of Howick 44816 Harriston Road Gorrie Ontario N0G 1X0		\$
Subtotal for one complete (1) truck		\$
Add: HST		\$
Total tender for one (1) complete unit including cab and chassis equipped with snow plow equipment and box as per specifications (HST included)		\$
Options List (price of option shall be listed per one (1) truck before HST). Full details of list are located on page 29.		\$
I	Copper core radiator	\$
II	18-speed manual; with double overdrive and with air shift, including internal lube oil pump (Fuller RTLO-18918B)	\$
III	1 Front spare tire mounted on rim same as specified in Section 11	\$
IV	1 Rear spare tire mounted on rim same as specified in Section 11	\$
V	Bruiser™ hydraulic hose upgrade	\$
VI	LED heated plow lights	\$
VII	1 AMI Shoulder spreader	\$
VIII	Mudflaps installed fore & aft of rear axles , mounted with aluminium fenders to suit 54" axle spread. Aluminium fenders will be mounted to chassis frame and remained on frame while body is raised.	\$
IX	Trade in allowance (optional) for 2008 International 7600 Tandem c/w Viking Combination Dump and Spreader Bodies, and Viking snow plow harness. approximately 130,000 km (01-Mar-2019)	\$

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Specifications

1	Make Model			
	Western Star 4700SB SBA 6x4 International HV SBA 6x4 Frightliner 114SD SBA 6x4	Specify: Make: _____ Model: _____		
(Other models comparable to those listed above may also be included – subject to Township approval before time of tender closing).				
2	Vehicle Weight			
	(a) (a) G.V.W. - 68,000 lb. minimum.	Specify: _____ lb.		
	(b) The allowable G.V.W. as supplied shall be shown on a metal tag.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>	
(c) (c) Chassis Weight - 18,300 lb. min. equipped as per these specs.	Specify: _____ lb.			
3	Engine: In Line wet sleeved 6 cylinder.			
	Make/Model			
	Detroit Diesel DD13 Navistar A26 Paccar MX-13	Specify: Make: _____ Model: _____		
	(a) Engine Warranty: State engine warranty included.	Specify: _____		
	(b) Number of cylinders.	Specify: _____		
	(c) Gross H.P. – 430 minimum	Specify: _____ Hp @ _____ rpm		
	(d) Engine compression (Jacob) brake to be included with 3 in dash settings for operator usage.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>	
	(e) Gross Torque – 1,650 lb./ft. min.	Specify: _____ lb. ft. @ _____ rpm		
	(f) Net Torque.	Specify: _____ lb. ft. @ _____ rpm		
	(g) Engine shall be programmed to Howick Townships specifications.	Specify: _____		
	(h) Displacement – 12.8 litre minimum.	Specify: _____		
	(i) Air Cleaner – Heavy Duty element shall consist of a replaceable type filter.	Specify: _____		
	(j) The Air intake shall be controllable for Summer/ Winter operations, manual slide control preferred. There shall be an inside/outside chromed air intake with snow door.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>	
	(k) Oil Filter – full flow type mounted on the engine (remote location not acceptable) – 2L capacity.	Capacity:	Litres	
(l) Alternator – shall be Delco 33SI brushless 180 amps. minimum capacity.	Capacity:	Amps		

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(m) Battery shut off switch in cab out board of driver's seat, accessible when driver's door opened.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
(n) Battery – Three 12-volt batteries to be supplied and shall have a total cranking capacity of 2100 CCA minimum.	Specify: _____ cca	
(o) Batteries shall be mounted in such a way as to be protected from the elements and not interfere with body builder equipment and close enough to prevent voltage loss to ECM.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
(p) For the hydraulic pump, the crankshaft of the engine shall be designed to allow adequate clearance of the P.T.O. shaft. Crankshaft shall be provided with an adapter for front mount P.T.O/pump drive.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>

Note: Specify whether or not the radiator has an O.E.M. cut out for front mount pump application or pump shaft goes under the radiator:

Specify: _____

(q) Anti-freeze shall be supplied to – 35°C.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
(r) Fan clutch – shall be an air-controlled model type.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
(s) High temperature and low oil pressure engine protection alarm bell or buzzer device shall be installed.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
(t) All coolant hoses shall be silicone type.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
(u) Air Compressor – BW Model BA-921 19.0 CFM. or equivalent. Type: _____	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
(v) Coolant filter/conditioner shall be installed.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
(w) The radiator shall have an aluminium core. Specify Size: _____	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
(x) Engine shall be equipped with Davco Fuel Pro 382 with electric pre-heater feature.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
(y) Horizontal/horizontal exhaust or horizontal exhaust with chromed vertical stack and 90 degree outlet with stainless or chrome mounted exhaust shield on curb side. After treatment SCR device frame mounted on outside of right hand frame rail under cab. Exhaust/air tanks must not interfere with installation of snow plow equipment.	Specify Exhaust Type: _____	
(z) Fresh air intake snow shield shall be provided.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
(aa) Air Tanks to be equipped with automatic drain valves.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>

4 Transmission

(a) Transmission - Shall be Allison 4500 RDS 6-speed transmission with deep low reduction double overdrive and push button control. Complete with on/off highway, temperature gauge, oil level sensor, PTO provision.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
(b) Transmission shall be equipped with oil cooler and temperature gauge.	Specify: _____	
(c) Transmission shall be filled with synthetic oil.	Specify: _____	
(d) The flywheel supplied shall be the heavy-duty iron type.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
(e) The truck ground speed shall be obtained by the use of a speed sensor attached to the truck transmission for sander application units.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
(f) The drive shafts shall have 2 halves on the u-joint in the event of towing truck, so the drive shaft can be removed easily.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>

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5	Chassis		
	(a) Cab to rear axle. – 141” clear ‘effective’ C.A. required. Viking Cives to do SPIF chassis layout before successful truck bidder orders cab and chassis.	Specify: _____ inches	
	(b) Front axle spring capacity, at the ground – 22,000 lbs minimum with 23,000 lb suspension with shock absorbers.	Specify: _____ lb.	
	(c) Rear axles must be 46,000 lb. Meritor RT-46-164 'no substitutes'.	Specify: _____ lb. Specify Type: _____	
	(d) Wheelbase to be 210 inches approximately.	Specify: _____ inches	
	(e) Rear Suspension shall be Hendrickson Haulmax HN462-54 rated at 46,000lbs. or equivalent with shock absorbers on both axles.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(f) Front Springs shall be Heavy Duty Multi leaf or Flat leaf design.	Specify: _____	
6	Cab		
(a) Conventional cab with a full front tilt hood, (complete with chrome grill separate from hood, fixed in front of rad, with rock guard and bug screen) that will not interfere with a front mounted P.T.O. Dual Hydraulic Pump. Service hood hatches on each side are required to check all fluid levels when the hood is unable to be lifted during winter operations. Cowl tray to be included to prevent the build-up of snow. Chrome stationary grill and chrome headlight surround.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>	
(b) For sound (Max 80 D.B.A. Interior Cab noise) and heat protection, deluxe Gray interior, double heavy-duty floor matting insulation. Padded/insulated cloth door trim panels with map pockets. Cloth headliner and complete back wall panel to be padded and insulated. Overhead console with storage pockets / netting and map lights to be provided.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>	
(c) The grey cloth driver’s seat shall be an elite high back air suspension driver seat with 3 chamber air lumbar, integrated cushion extensions, forward and rear cushion tilt and adjustable shock, c/w left and right arm rests. National 2000 or equivalent.	Specify:		
(d) The passenger’s seat shall be high back grey cloth/fully padded and of heavy-duty solid mount construction for install of batteries.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>	
(e) Right hand door window shall be raised and lowered electrically by a remote switch located within easy reach of the driver and passenger. Left hand window shall be raised and lowered electrically by a remote switch located within easy reach of the driver.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>	
(f) Heavy duty insulated rubber floor matting.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>	
(g) Floor mats – rubber for driver and passenger sides.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>	
(h) Sun Visors – dual adjustable as well as driver’s left side adjustable for driver’s door side window. Three (3) in total.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>	
(i) Windshield Wipers – Heavy Duty electric type with intermittent feature. Wiper blades shall be winter/snow type.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>	
(j) Electric horn.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>	
(k) Powered remote thermostatically controlled heated heads which are electrically heated to prevent fogging and ice build up with LED clearance lights, bright finish heads and arms, black brackets, 7.55”x 14.1” flat glass, 7.55” x 6.77” convex glass both sides . Chrome look down mirror on R.H. upper side of cab.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>	
(l) O.E.M. tinted windows shall be included.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>	

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(m) Fresh air heater and defroster with minimum 3 speed fan and side windows defroster. Electrically heated windshield.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
(n) O.E.M. factory installed, cab pressurizing air conditioning shall be supplied.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
(o) Doors and ignition to be keyed the same with 3 sets of keys.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
(p) Door storage pockets shall be provided.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
(q) Power door locks will be supplied.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
(r) Cab will be equipped with air ride suspension.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
(s) Right and left under cab lower and intermediate footsteps shall be supplied. All footsteps to be constructed of expanded aluminium or stainless steel. Boot brush on driver's lower entry step. Specify: _____	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
(t) Air filter restriction gauge (dial or electronic) shall be mounted in the dash. Specify: _____	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
(u) Exterior aerodynamic sunshade (sun visor) painted to match cab colour.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
(v) Chrome towel grab bars on outside of cab to assist easy entry and exit for driver and passenger. Grab bars inside cab for entry and exit of cab.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
(w) Air Horns – chrome roof mounted and shall be supplied complete with snow shields.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
(x) AM/FM/WB Stereo clock radio with Bluetooth and microphone, front USB port, front and rear auxiliary inputs complete with 4 speakers in cab.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
(y) Rubber fender extensions on each front wheel opening to help check road spray shall be supplied. The extension will cover the entire fender with no voids.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
(z) Inner fender splashguards that completely cover the engine compartment from overspray from the front wheels. Full width extension/mud flaps that extend from the front ¼ fenders to within at least 9 inches of the road surface, to be entire width of the front fender to cover under cab fuel tank / battery box / DPF.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
(aa) The electrical system shall be supplied with circuit breakers where possible.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
(bb) All electrical connections shall be waterproofed with Glyptol or equivalent.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
(cc) An O.E.M. electrical junction box for plug and go of all body lights shall be mounted in cab back of driver's seat or rear centre of back wall. Specify Location: _____	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
(dd) Chromed receptacle for 120 volt / 1500 watt engine block heater to be supplied, mounted under cab on driver's side.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
(ee) Three (3) triangular reflectors to be mounted in cab after control floor pedestals and plow related hardware is installed.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
(ff) Dry Type 'ABC' 5 lb. fire extinguisher mounted in cab on floor beside driver's seat – accessible when door opened. <i>Extinguisher must meet Class 3-A: 40-BC rating.</i>	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
(gg) Twelve (12) auxiliary <u>powered</u> in-dash switches for plow/sander equipment lighting. A terminal panel or builder's junction point relay board shall be incorporated into the wiring system to access wiring circuits to add additional lighting for the body	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>

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	installation. Body builder's module shall be inside of cab only.					
	(hh)Auxiliary fan for windshield defrosting, to be mounted from the ceiling or dash with low/high speed settings.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>			
	(ii) Electronic cruise control - in dash or on steering wheel. Specify Location of control: _____	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>			
	(jj) Tinted door glass on left and right-hand side windows.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>			
	(kk) Lower right-hand door window with Fresnel lens.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>			
	(ll) Moulded plastic door panel with aluminium kick plate on driver's lower door.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>			
	(mm) Two (2) in-dash cup holders accessible to the driver.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>			
	(nn) In dash 12V power supply.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>			
	(oo)2-Way radio wiring effects; wiring with 20-amp fuse protection, including ignition wire with 5 amp fuse, wire ends heat shrink and routed to centre of header console in cab.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>			
	(pp)Adjustable tilt and telescoping 18" steering column.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>			
	(qq)An aluminium or stainless valance panel shall extend from the bottom of the cab to just above the fuel tank. SPECIFY: _____	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>			
	(rr) Cab gauges shall include but not limited to: tachometer, speedometer, oil pressure, engine temperature, fuel, hour meter, amp/volt meter, dual air pressure, and air cleaner restriction indicator and transmission temperature gauge.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>			
	(ss) Rear tinted cab window to be supplied.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>			
	(tt) Driver seat shall be equipped with left and right arm rests.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>			
7	Frame					
	(a) Axle to rear of frame distance to be 65 in. min.	Specify:				
	(b) Frame shall be supplied as follows:					
	Make	Frame Size	Reinforcing Size	Material Yield Strength	Section Modulus	Resistance Bending Moment
	Western Star	14.12 x 3.06 x.312	Full Length Double Channel	120,000 P.S.I.	30.0	3,300,000
	Navistar	10.125" x 3.580" x 0.312"	10.813" x 3.892" x 0.312"	120,000 P.S.I.	31.10	3,421,000
	Other: _____					
	Resisting bending moment (Section Modulus x yield strength) shall be 3,100,000 lb. in. min. Section Modulus shall be 28.0 minimum.					
	Specify: Make					
	Frame Size					
	Reinforcing Size					
	Material Yield Strength					
	Section Modulus					
	Resistance Bending Moment					
	(c) Left side of frame shall be kept clear 90 in. forward of centre of 1 st drive axle for the sander spinner.	Yes: <input type="checkbox"/>			No: <input type="checkbox"/>	

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	(d) Full length 'C' channel frame reinforcing with 24" double front frame extensions with 1/4" insert.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(e) Argent grey swept back full width bumper.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(f) O.E.M. heavy duty snow plow cross member within 10" B.O.C. for winging function support.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
8	Steering		
	(a) Dual power steering boxes shall be supplied or TRW THP-60 power steering with RCH45 auxiliary gear. Specify: _____	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(b) There shall be a filter for the steering fluid and it shall be serviceable without dismantling any power steering components.	Specify: _____	
9	Axles		
	(a) Set Back front axle shall be 22,000 lb. capacity minimum with 23,000 lb. suspension and to include front shock absorbers and synthetic oil.	CAPACITY: _____ lb. _____	
	(b) Rear axle and suspension shall be 46,000 lb. capacity min.	CAPACITY: _____ lb. _____	
	(c) Rear axle shall be tandem, dual drive.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(d) Rear axle spacing shall be 54 in. between the axle centres.	SPREAD: _____ inches	
	(e) Rear axle shall be single speed.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(f) Rear axle shall have a driver-controlled power divider lockout for both axles - forward > rear and rear > rear axle.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(g) Front axle shall be Set Back and have Oil Bath wheel bearings.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(h) Road speed at rated RPM in top gear shall be 105 km/hr.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(i) State axle ratio for best performance and fuel economy for snow plowing operations. Rear axle ratio of 3.91 is desired, Township to be consulted with Before Chassis Are Ordered .	Specify: _____	
	(j) Following is a list of approved axles: Make Model Meritor RT-46-164-54	Make	Model
	(k) A driveline analysis shall be provided With bid submission - to include start off, grade ability and shift ranges.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(l) Rear axles shall be filled with synthetic oil.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(m) Driver controlled locking differential in the rear axle.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(n) Rear shock absorbers to be installed on both axles.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
10	Brakes		
	(a) Service Brakes - full air brakes shall be supplied with ABS.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(b) Front brakes, size 16.5 x 6 in. min. shall be supplied. S cam type.	Specify Type: Size _____ Mm. _____	
	(c) Rear brakes, size 16.5 x 8.62 in. min. shall be supplied. S cam type c/w dust shields / covers	Specify Type: Size _____ Mm. _____	
	(d) Brakes shall be in accordance with MVS 121 U.S. Standards.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(e) Bendix Westinghouse AD-9 (or equivalent) air dryer to be supplied.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
		Specify:	
	(f) Slack Adjusters - shall be equipped with Haldex automatic slack adjusters.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(g) Suspended accelerator / brake / clutch pedal is required.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>

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11	Wheels and Tires			
	(a) Front aluminium rims shall be stud hub piloted and hubs shall have a load rating of 12,500 lbs each. 10 stud x 285.75 mm B.C. Specify rim type, Accuride #, load rating: Front wheels to be equipped with stainless steel centre caps and stainless nut covers. Front wheels shall be Accuride Accu-Flange™ wheels – No Exceptions	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>	
	(b) All <u>rear</u> rims shall be powder coated grey .	Specify: _____		
	(c) Front Wheel rim size shall be 22.5"x13".	Specify: _____		
	(d) Front tire size shall be 425/65R x 22.5 - 20 ply steel belted radials.	Specify: _____		
	(e) Front tires shall be Michelin XZY3 (Michelin part number 40321).	Specify: _____		
	(f) Dual rear wheels shall be supplied.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>	
	(g) The rear wheel rims size shall be 22.5 x 8.25 in, 10-stud hub piloted, Flanged Nut. Accuride part number is 28828.	Specify: _____		
(h) Rear tires shall be Michelin XDS2 11R22.5 radials. The Michelin part number is 05359, no exceptions permitted.	Specify: _____			
12	Paint			
	(a) Paint shall be White clear coat . Colour will be selected at time prior to truck dealer ordering chassis - it is the truck dealers obligation to have a pre-build meeting with Township prior to ordering chassis.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>	
13	Fuel / Urea Tank			
	(a) 80 U.S. Gallon / 302 L fuel capacity 25" diameter 'non-polished' aluminium fuel tank with stainless steel straps is required on driver's side. Tank shall not extend more than 8 inches beyond rear of cab . This area may be needed for spinner modifications. Minimum 9 U.S. gallon / 36L polished aluminium DEF tank ahead of fuel tank. Specify tank B.O. C. _____".	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>	Specify diameter for fuel tank and gallons/litres: _____
	(b) Check with Viking Cives for possible interference with manufacturer standard fuel tank system. Schematic diagram showing layout of fuel tank(s) shall accompany this tender document.			
	(c) Stainless steel straps shall be used for mounting and supporting of fuel tank.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>	
14	Lights and Warning Devices			
	(a) Two, fender mounted, 4 in. diameter amber directional lights, facing front.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>	
	(b) Rear red directional lights shall be supplied.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>	
	(c) Stop lights shall be supplied.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>	
	(d) Five identification streamlined cab lights shall be supplied.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>	
	(e) Four-way flashers shall be supplied.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>	
	(f) Back-up lights shall be supplied.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>	
	(g) Back-up alarm with a minimum 97 dB rating.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>	
	(h) All rear stop / tail/ turn and clearance lights shall be LED .	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>	
			Specify: _____	

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	(i) O.E.M. plow wiring harness provision to front of chassis must be made so auxiliary front plow lights can be plugged directly in to the truck. No splicing in to factory wiring for plow equipment will be permitted. O.E.M. in-cab dash switch for auxiliary plow lights.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
		Specify: _____	
	(j) Electrical system shall have a master cut-off switch located just inside the cab beside the driver's seat.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
15	Warranty and Service Literature		
	(a) Signed Manufacturer's Factory Warranty shall be supplied.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(b) Shop Manual and Parts Book shall be supplied for trucks including Shop Manual for Engine. All manuals & books to be in book (paper) format. One full set of each is required in paperback form.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(c) Parts Book copy shall also be supplied in CD format.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(d) 7-Year / 250,000 mile vocational internal protection extended engine warranty shall be <u>included</u> . No deductible coverage required. Proof of engine warranty from manufacturer must be supplied. This warranty will also cover all genuine engine parts, after treatment support system, turbo, sensors on engine and particulate filter.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(e) Mobile service vehicle and mechanic is available for emergency repairs.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(f) A late warranty registration for truck and engine shall be supplied after all sander and plow equipment has been installed on these cab and chassis. Township will notify truck dealer at time of in-service date of truck(s).	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(g) A list shall be supplied stating filter and belt numbers, all types of oils required and time frames for regular maintenance work.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	Note: This specification lists only the major details of a unit; therefore, it is the supplier's responsibility to deliver a fully equipped vehicle with compatible components to provide dependable efficient service.		
16	Trade-In:	Optional Trade in – Option VIII	
17	Notes:		
	(a) Complete Manufacturer's Literature and Specifications shall accompany each quotation.		
	(b) These Specifications Sheets shall be completed and returned with the quotation form.		
	(c) This unit shall be delivered to the Corporation of the Township of Howick @ 44816 Harriston Road Gorrie Ontario. Delivery fees to be included in pricing of the truck.		
	(d) Licensing shall be at the expense of the Township. Vehicle shall have Annual Safety Inspection Certificate and sticker on delivery.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(e) A qualified representative shall provide sufficient initial vehicle training to municipal staff.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
18	Special Instructions		
	When this truck is being built all components and accessories must be placed so they will not interfere with each other and situated with the operator's safety and comfort in mind.	Specify:	
19	The cab and chassis will need to be at the Viking Cives facility no later than August 30, 2019. After this date a \$300.00 per business day penalty will be deducted from the purchase price of the cab and chassis.	Specify:	
		Initial: _____	
20	Delivery Date:		
	Number of weeks after receipt of order:	Specify: _____ Weeks	

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21	Snow Plow Equipment - 9' One Way Snow Plow Viking 135 Hse 9 Specify Model: _____	
(a)	This one-way snow plow shall conform with the provisions of M.T.O. standards ES-414, except that the dimensions of this specifications shall prevail when the two contradict.	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
(b)	The plow shall operate effectively and without modification with the M.T.O. snow plow truck harness ES-401.	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
(c)	The weight of the plow shall range from 2,100 to 2,300 lbs. and shall be constructed to prevent the accumulation of water in any area.	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
(d)	The plow shall have a hood extending 18" past the vertical centre line, in normal operating positions.	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
(e)	All ribs shall be of one-piece construction 100% welded both sides to the moldboard. The top edge of the moldboard shall be welded 100% to the ribs. The top rail of the moldboard shall be manufactured of 2 ½" X 2 ½" angle iron and welded securely to the ribs and moldboard with a continuous bead. All other welds must also be 100%.	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
(f)	The thickness of the moldboard and hood shall be 3/16 inches thick.	Specify: _____
(g)	The moldboard shall be pivoted to allow tilting in different positions.	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
(h)	The moldboard brace rod shall be adjustable for plow angles of 45-degree, 50 degree and 55 degree.	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
(i)	Moldboard adjustment to be done with a 4" x 10" hardened chromed hydraulic cylinder with featherable control from inside the cab and secured with a pin on the brace rod. A moldboard angle rod indicator gauge is to be positioned on the one way, so it is visible to the operator from the cab.	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
(j)	Male end of adjusting brace assembly to be solid steel.	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
(k)	Both male and female ends shall have 3/4" mounting pins.	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
(l)	The female end shall be at the top to prevent the accumulation of water.	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
(m)	Holes in drive bars for push frame shall be 1 ¼" diameter.	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
(n)	The distance from the centerline of the holes to the end of the drive bar shall be 1 ½".	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
(o)	The height of the moldboard at the top of curve shall be as follows: Intake: 35" min. Discharge: 64" min.	Specify: _____ Specify: _____
(p)	The overall length shall be 14'- 4" minimum. Plow shall clear 9'3" @ 37.	SPECIFY: _____
(q)	The plow shall be fitted with two shoes as per M.T.O. ES-508.	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
(r)	There shall be eight vertical ribs, 3 ½" high by 3/8" thick. Minimum weld between the moldboard and rib shall be 100% weld each side.	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
(s)	The bottom rail on the moldboard shall be 5" X 3" X 1/2" angle below with a 3" X 2" X 3/8" gussets shall be welded between the two legs of the bottom angle, between each bolt hole, except for the two sets of end holes and between two holes in the middle of the moldboard. The moldboard shall be continuously welded to the bottom rails.	Yes: <input type="checkbox"/> No: <input type="checkbox"/>

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(t) The moldboard shall be designed for use with Carbide 7/8" cutting edge and Carbide nosepiece. The cutting edge and nosepiece shall be supplied with carbide edges and carbide nose piece.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
(u) Moldboard shall have a total bearing area (pin dia. times web thickness times number of webs involved) or 4 1/2" square inches minimum at the point where the drive links attach.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
(v) Trip link safety mechanism shall be incorporated the blade mechanism must return to the normal plowing position automatically. Trip springs must be secured with lock nuts.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
(w) Two separate Grade 70 lift chains shall be used, and these shall pick up on the drive frame at points approximately 48" apart.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
(x) These lift chains shall be 1/2" dia. Grade 70 minimum.	Specify: _____	
(y) The height of the shoes shall be adjustable as shown on M.T.O. ES-521. Height adjustable one-way snow plow shoe holder.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
(z) The shoes shall oscillate.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
(aa)The moldboard shall be formed in the shape of a smooth curve; plows w/breaks are not acceptable.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
(bb)The horizontal distance from the discharge end of the plow blade to the discharge end of the moldboard shall be 24" minimum.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
(cc)A sturdy eye 1/2" thickness shall be provided at the centre of gravity for handling of the moldboard.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
(dd)The design and quality shall meet M.T.O. requirements.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
(ee)The complete snow plow unit shall be painted upgraded BARIL181 Medium Gloss Black.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
(ff) A spare parts manual shall be supplied.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
(gg)A signed manufacturer's warranty shall be supplied.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
(hh)A small double wide pinned on foot step to be installed on the one-way plow frame to assist the operator stepping up to the hood.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
(ii) 1/2" x 12" rubber deflector shall be installed by bolting across complete top length of moldboard. Metal strapping shall be placed every 18 inches along the entire length of the deflector to keep the deflector from flapping while driving down the road.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
(jj) 36" Orange plow marker on each end of plow. Marker shall have a cable on inside of marker.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
(kk) Quick attach push frame swivel for plow hook up to plow harness.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
(ll) Sleeve check cable from top of plow to push frame.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>

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22	Specifications for Snow Plow Equipment 12' Standard Wing or 13' O.A.L. Standard		
(a) Viking VCL 144 Ahw-M 12' METRO wing in compliance with the following specification: Make: _____ Model: _____	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>	
(b) The inside height of the wing shall be 29" minimum.	Specify: _____		
(c) The outside height of the wing shall be 39" minimum.	Specify: _____		
(d) Overall length of the wing shall be 12 feet.	Specify: _____		
(e) The thickness of the moldboard shall be 10 U.S.S. Ga. (.1345), minimum.	Specify: _____		
(f) The rear of the wing will be completely enclosed and smooth paneled.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>	
(g) Rear of wing enclosure two-piece assembly consisting of moldboard channel 3/16" plate 12 5/8" x 143 5/16" top angle 3/16" plate 9 7/16" at intake end 18 1/16" at discharge end 143 5/16" overall length.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>	
(h) The three discharge end caps are 3/16" plate all welded 100% to the moldboard face the rear upper moldboard top angle and the rear lower moldboard channel.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>	
(i) Lower backer angle 5/8" x 4" x 4".	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>	
(j) Backer angle reinforced with 4 gussets 1/2" x 3" x 3" and 8 angle stiffeners 3/16" x 4".	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>	
(k) One knuckle weldment for connecting the single push arm.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>	
(l) Moldboard will be reinforced without the use of vertical ribs, horizontal internal reinforcement supplied.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>	
(m) Pinned on wing parking stand for back of wing moldboard	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>	
The Wing shall be fitted with the following:			
(n) One wing High Wear blade in lieu of standard 1/2" cutting edge.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>	
(o) One wing shoe M.T.O. ES-509.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>	
(p) Wing prepped and painted upgraded BARIL 181 Medium Gloss Black .	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>	
(q) Turn buckle assembly to be permanently mounted on the rear of the wing.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>	
(r) One 36" Orange plow marker mounted at rear of wing.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>	
(s) The turnbuckle will pivot out and attach to the wing brace, in order to support the brace during the disconnecting and reconnecting.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>	
(t) Conspicuity safety tape on wing trip arms and on rear edge of wing.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>	
(u) A safety chain shall be attached at front of the wing to the moldboard and not the pivot.	Specify: _____		

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23	All Hydraulic 8" Front Wing Post - No Cables or Sheaves	
	Specify Model: _____	
	(a) The wing tower and front post will be capable of high shelving the wing moldboard.	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
	(b) The design and construction of the wing post shall be in compliance with MTO ES403, or be equivalent design approved by the MTO. Brace "A" li ES403 shall be replaced by a second sturdy cross member. This cross member shall be bolted to both cheek plates. Alternate braces must be approved.	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
	(c) The wing post shall be made of 8" I-Beam, 18.4 lb. /ft., minimum. Cross member shall be of heavy construction to sustain snow plowing operation in severe conditions.	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
	(d) The wing post will use a 3" x 48" double acting hydraulic cylinder mounted on the truck side of front post.	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
	(e) A secondary 6" x 13lbs/ft support channel will run across the top of both tail plates.	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
	(f) Guide bars will be provided for the slide assembly running the full height of the wing post.	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
	(g) A front slide plate will be provided with a safety trip hinge assembly to return the wing to normal operating position after it has tripped.	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
	(h) The safety trip block will be vertically mounted on the trip hinge above the inner and outer trip blocks and connected/activated by a 3/4" x 24 1/2" stud bolt.	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
	(i) Front slide shall be provided with a tip over, arrangement. A spring shall be included to return the blade to normal position after it has tripped.	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
	(j) Bottom of wing post shall be approx. 11" from the ground, truck empty, and shall be protected by a shoe.	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
	(k) The hinge is designed to lift the wing as it trips via a trapezoidal motion.	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
	(l) The trip block will be triple convolution rubber with a 55-density rating composition.	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
	(m) The front post slide will be 3/4" x 6 3/4" x 72" designed steel plate with a minimum slide travel of 60" and a minimum provision of 14" float.	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
	(n) An integral BOC oil reservoir of 130 litre (35 US gallon.) capacity.	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
	(o) Guide bars for the slide shall be welded 100% up 2' from bottom.	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
(p) Design and quality must be approved by the MTO.	Yes: <input type="checkbox"/> No: <input type="checkbox"/>	
(q) The wing post and cross member shall be painted upgraded BARIL 181 Medium Gloss Black .	Yes: <input type="checkbox"/> No: <input type="checkbox"/>	
(r) A parts manual shall be supplied with each unit.	Yes: <input type="checkbox"/> No: <input type="checkbox"/>	
(s) Grote part number 12020 - 12" convex mirror shall be mounted to back side of post on 10" angle bracket to enable driver to view down the curb side of the truck.	Yes: <input type="checkbox"/> No: <input type="checkbox"/>	
(t) 2- 4" Grote LED lights on front wing post mounted on an adjustable 18" bracket c/w separately marked switches in cab on floor pedestal to be operated independently of the headlights.	Yes: <input type="checkbox"/> No: <input type="checkbox"/>	

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	(u) The main supporting member for the front post will be a 4" O.D. x 2 3/4" I.D. x 5/8" wall tube cross member running through both tail plates and reinforced with a 1/2" steel plate between the tail plate and front post.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(v) A frame cross member approximately 10" BOC will help prevent diamond shaping of frame from side load forces.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(w) Wing tower shall be of 10" channel construction with a 25-degree offset and its mountings shall be sufficient to sustain snow plowing operations under severe conditions.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(x) One pipe brace 2 3/4" diameter shall connect the bottom of the wing tower and the truck chassis near the forward mount of the right rear springs to reduce the shock of the truck frame.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(y) The rear wing tower shall be heavily braced and gusseted to the frame rail.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(z) Aeon rubber helper kit installed on right hand / curb side chassis springs to aid in winging operation.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
24	Full Hydraulic Snow Plow Wing Tower Viking Model Vcl 350AHW/Metro Specify Model: _____		
	(a) Additional Viking tube X-Member approx. 10" B.O.C. to be supplied and installed by body builder to compensate for rear wing tower / wing and hydraulics.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(b) The harness assembly shall be of heavy construction to sustain snow plowing operations under severe conditions.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(c) An integral rear wing tower hydraulic oil reservoir B.O.C. above fame, 35 U.S. gallon capacity shall be supplied but must not interfere with the operation of the box. Shut off ball valves shall be installed on outlet lines at the reservoir. Two adjustable needle valves in hydraulics B.O.C. to allow operator to slow/speed up wing function mode.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(d) The wing arm connecting rear slide bracket will be a two-point connection with upper and lower pins for the single brace arm and wing lift cylinder. The connecting bracket will also incorporate a rubber bumper for wing arm in travel position.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(e) The wing operation will be fully hydraulic without the use of sheaves or cables. The bottom of the wing tower will have a ground clearance of 14" minimum when truck is empty of payload.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(f) The hydraulic cylinder controlling wing brace slide shall be 3" dia. x 36" double acting.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>

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	(g) An oil reservoir of 35 U.S. gallon capacity shall be supplied complete with oil filter oil level sight/temperature gauge, breather type filler cap, drain plug and oil shut off ball valve.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(h) A low-level hydraulic oil indicator shall be supplied with in cab warning light and audible buzzer.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(i) The complete valve stack assembly will be mounted vertically on a ¼" mounting plate, integral with the rear wing tower assembly.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(j) The valve mounting plate will be welded to the horizontal channel and sloping diagonal brace.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(k) The valve assembly will be completely open and easily accessible from the driver's side of the chassis for washing and maintenance.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(l) There shall be a high-pressure hydraulic filter.	Specify: _____	
	(m) A low-pressure filter to be supplied on the hydraulic return line.	Specify: _____	
26	Sauer Danfoss 90cc Variable Displacement Front Mount Hydraulic Pump		
	(a) The hydraulic pump supplied shall be Sauer Danfoss model: 90cc variable displacement pump with air shift control to engage.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
		Specify: Model: _____ Make: _____	
	(b) Bosch-Rexroth 10AV low hydraulic pump over ride.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(c) Low hydraulic oil in-cab buzzer and light.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(d) Pump mounting plate and splined drive shaft shall be supplied.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(e) The pump shall be driven from the crankshaft by a machined/balanced tube drive shaft.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(f) The pump shall have a manufacturer's R.P.M. rating equivalent or higher than that of the truck engine at governed speed.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(g) Hydraulic hoses to connect pump shall be supplied. Their size shall be adequate for quick operation of all hydraulic operations and shall be Eaton Aeroquip 2 wire, 3 1/2" radius bend, 4500 > 5300 PSI rated, -50 degree + 260-degree temperature ratedSAE100RS, with swivels on both ends.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(h) The drive shaft shall be supplied with spline long enough to allow telescopic retraction of the shaft in order to change fan belt without removing the pump.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(i) The hydraulic system must be set up so all other hydraulic functions do not "rob "the sander equipment.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(j) There will be no flow divider valves used to split oil flows between spreader and plow / wing functions.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(k) A parts manual shall be supplied with each unit.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(l) All hydraulic hoses to be routed, tied and or wrapped to prevent pre-mature wear. All hoses to be wrapped with Parker Partec hose wrap.	Specify: _____	
27	Viking Proline li 1415hw-Ht All Season Combination Dump body/Spreader		
	(a) General: These specifications describe an all-season combination dump body and sand/salt spreader. The dump box shall remain stationary on the chassis frame while spreading. Rear discharge shall be front hoist tilt action as per conventional dump bodies. The unit will be oval shaped to permit gravity flow unloading. The main conveyor will be centered and recessed along the length of the box. The cross conveyor will be chassis frame mounted with spreader discharge on the front left side (drivers) of dump box.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>

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(b) The spreader body offered by the bidder under this specification shall be the manufacturers latest model standard commercial product and shall have demonstrated and proven industry acceptance by having been manufactured and sold in significant numbers to municipalities and contractors and shall have been proven in service for at least one year prior to the issuing of this quotation document.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
(c) 'U' dump / sander body to be Proline II 1415HW-HT High Tensile steel.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
(d) Dump body to be prepped and painted Imron 5000 Elite SS Oceanside Blue ' Bakked Finish ' which differs from cab and chassis as per section 34 of this quotation.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
(e) Dimensions: To provide optimum combination of legal payload and capacity all dimensions below are maximum / minimum and will be Exactly as specified.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
(f) Body shall be SMOOTH oval shaped, With No Breaks In Sidewalls allowing materials to unload by gravity flow into spreading position.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
(g) Total weight of the complete body assembly in ready to work condition including hoist, tarp, tailgate, cross conveyor, main conveyor, and all other required components.	Specify: _____ lbs.	
(h) Water level capacity will be 12.5 cu. yd. minimum.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
(i) Water level capacity with 10" Hardwood sideboards - painted black will be 15.4 cu. yd. minimum.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
(j) Outside length 15' approx.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
(k) Inside length 14' approx.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
(l) Overall width 8' (96") approx.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
(m) Height of sides 50" from conveyor floor.	Specify: _____	
(n) Height of tailgate 55" from conveyor floor.	Specify: _____	
(o) Height of front panel approximately 60".	Specify: _____	
(p) Front wall panel to be constructed from 3/16". Cor-ten "A" One Piece steel sheet.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
(q) Body front head will be 3/16" Hardox 450 steel in lieu of standard 3/16" Cor-ten "A".	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
(r) The front wall of the body will be completely clean and clear of any type of recesses or protrusions into the body of any kind, including hoist dog house, bulkheads, etc.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
(s) The front panel slope will be continuous and uninterrupted for the full length: top to bottom.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
(t) Top rail of body will be 6" x 4" x 3/8" rectangular tubing.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
(u) Body sides to be fabricated from 3/16" Hardox 450 steel in lieu of standard 3/16" Cor-ten "A".	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
(v) Rear vertical corner posts will be 10 ga. fabricated in such a way as to Include provision for rear facing lighting requirements, i.e., stop/tail/turn/back-up lights as well as strobes.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>

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	(w) Rear vertical corner posts to be tied to integrally with radius side panels and horizontal top rails, welded 100%.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(x) Rear vertical corner posts to be connected to main conveyor by a rear horizontal 3" x 8" x 3/8" wall HSS tube expanding the full body width.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(y) Body construction shall include integral full-length body side fenders fabricated from a minimum 3/16" Cor-ten "A" corrosion resistant material.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(z) Full length 100% welded integral steel body fenders to be sloped away from unit to prevent any excess material spill over.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(aa) Dump box access aluminium ladder shall be 15" wide located on road side at front of body and to be M.T.O. fold-up style below rub rail.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(bb) Adjustable fold down Stainless-Steel windrow salt chute to be provided.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
28	Hoist		
	(a) Hoist shall be a front mounted Mailhot CS130 three stage telescopic with 5" bore.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(b) Hoist class shall be 80 / 30-ton capacity.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(c) Cylinder stroke shall be 330 CM (130") minimum.	Specify: _____	
	(d) Hoist control valve shall be air operated and featherable from within cab.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(e) Hoist cylinder will be rod sealed.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(f) Hoist to be nitrated.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(g) Dump box tipping angle shall be 50 degrees from horizontal.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(h) Rear dump body hinge diameter shall be 2.5" c/w grease fittings	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(i) Under body rear safety prop shall be integral with rear dump body hinge with drop in pins to allow operator to set body without going under raised body.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	Tailgate		
	Tailgate shall be double acting.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
29	(a) Tailgate shall have a lever coal chute / 18" H x 20" W opening	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(b) Tailgate height shall be 55" from conveyor floor.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
		Specify: _____	
	(c) Upper hinge plates to be offset design, Flame Cut 1" steel plate.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(d) Tailgate shall be oval shaped to allow use of asphalt or gravel spreaders.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(e) Construction shall be of 3/16" HARDOX 450 in lieu of standard 3/16" Cor-ten "A" steel with 3/16" formed cross bracing for integral strength.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(f) Exterior vertical side support tubes to be 3 1/2" x 3 1/2" x 1/4" wall HSS tubing.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(g) Latch mechanism for the tailgate shall be air operated using two air brake pot booster chambers actuated from within cab by means of air control switch on floor pedestal.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(h) Brake chambers, one right side and one left side enclosed and protected by integral full-length body fenders.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(i) Bolt on steel protector cover plates to underside of integral body fenders for each gate brake chamber.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>

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	(j) Spreader chains and brackets shall be supplied on tailgate and rear apron. Chains shall be grade 70-coil proof 5/16" minimum.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
30	Main Conveyor		
	(a) The main conveyor shall be centered and recessed along the length of dump box floor.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(b) Three piece formed construction, minimum 25" wide.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(c) Constructed of 1/4" Cor-ten "A" steel.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(d) Conveyor floor is 1/4" Hardox 450 H.D. steel rated at 180,000 > 203,000 P.S.I.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
		Specify: _____	
	(e) Permanent non-removable built in protective main conveyor chain link covers.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(f) The protective covers will run from the front to the rear of the body, right and left side of the main conveyor.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(g) The protective non-removable main conveyor link covers will protect the main conveyor chain links from damage by impact at all times in all operation modes.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(h) A removable 3/16" Hardox 450 steel conveyor chain cover will be supplied.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(i) The conveyor chain shall be self cleaning D667 pintle type with a minimum tensile strength of 21,700 PSI, spaced 21" on center.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(j) 1/2 "x 1 1/2" cross flights welded to every 2 nd . link (approx. 4.5" spacing).	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(k) All conveyor flights shall be 100% fully welded to the chain links.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(l) Drive and idler shafts to be 2" diameter.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(m) Drive and idler shafts manufactured from high-resistance stress proofed SAMSOM 100.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
		Specify: _____	
	(n) Drive and idler sprockets to minimum eight (8) tooth cast steel.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(o) All drive and idler sprockets to minimum C1030 cast steel.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
		Specify: _____	
	(p) Planetary drive for main conveyor.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(q) Main conveyor drive shall be a single 25:1 high efficiency planetary drive with high torque low speed motor.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(r) The planetary drive shall deliver 50,000 IN/LB torque intermittent with 34,960 In/Lb constant.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(s) Planetary drive close coupled to main conveyor shaft. Specify: make and model of planetary. Make: _____ Model: _____	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(t) Connection of the planetary drive shaft to main conveyor shaft shall be accomplished by a split two (2) piece rectangular shaped coupler assembly.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(u) The upper and lower half of the coupler assembly will be bolted together by (4) 5/8" x 4 1/2" N.C. Grade 8 Hex Head bolts.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(v) Removal of the (4) coupling bolts will allow simple disassembly of the planetary drive shaft from the main conveyor shaft, for ease of maintenance.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>

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	(w) The 2-main conveyor drive shaft flange bearings will be bolted directly to the body long sill weldments.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(x) Each of the two body long sill weldments will be vertical slotted. Simply removing the drive shaft flange bearings and uncoupling the planetary and main conveyor drive shafts will allow the entire main conveyor drive shaft assembly to drop out through the vertical long sill slots providing easy access and simple maintenance.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(y) Idler end of main conveyor will also be vertical slotted drop out design as described above.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(z) The flow control gate between main and cross conveyors shall be screw adjustable by hand crank from driver's side at front of body. A slide gate scale sticker will be located on the body, so the operator may set gate to appropriate opening.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(aa) The flow control gate will be flush and even with the front of the body without any type of recess.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(bb) Underside of main conveyor to be complete with full-length poly guard to prevent material spillage on to chassis frame and components.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(cc) Main conveyor chain adjustment shall be by self-tensioning located mid-point of under body long sills. Service panel each side to be pinned on for ease of servicing mechanism. There will be two (2) grease lines each side at front of body for greasing the tensioning mechanism.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
31	Belt Drive Cross Conveyor		
	(a) The cross conveyor shall be hydraulic direct drive.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(b) A cross conveyor assembly shall be used to discharge material from main conveyor to the unit spinner on driver's side.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(c) Spinner chute to be Stainless Steel poly lined.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(d) Cross conveyor assembly to mount on chassis frame independent from and in front of main body.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(e) Cross conveyor unit shall be removable design to reduce added weight in non-spreading applications/off seasons.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(f) Cross conveyor weldment shall be fabricated from 3/16" Stainless Steel material in lieu of 3/16" Cor-Ten "A" steel. Cross conveyor table assembly to be non-painted.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(g) Cross conveyor will have a one-piece high speed rubber belt with lugs on the underside.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(h) Cross conveyor shall be bi-directional with in-cab switch on pedestal control between seats.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(i) Stainless Steel material chute with poly liner on R.H./curb side.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(j) Cross conveyor assembly to include replaceable Stainless-Steel guards to prevent material from overflowing on body hoist frame saddle and chassis frame rear of x-conveyor table.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(k) Cross conveyor assembly to provide provisions for mounting of material sand/salt chutes and spinner units.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
32	Spinner		
	(a) A polyurethane spinner shall be installed on left hand side (driver side) to spread ahead of rear wheels.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(b) A 3.0 cubic inch hydraulic motor shall drive the spinner assembly.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
		Specify: _____	
	(c) The spinner height shall be adjustable from 20" to 28" below the mounting surface of the body.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(d) The spinner shall be capable of spreading evenly up to a 20'	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>

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	radius with a main operating range of 0' to 15' radius.		
	(e) Spinner assembly shall be capable of discharge rate from 100 lbs / lane mile to 2500 lbs / lane mile.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(f) Spinner position adjustable fore and aft horizontal along chassis frame rails.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(g) Spinner assembly will be flip up style allowing the spinner assembly to be carried in an on board stored raised position for off-season/off road operation.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(h) Hydraulic hoses to the spinner motor are to be quick disconnect couplers for ease of hook-up and removal of spinner assembly with the male plugging into the female end on the spinner motor and the hoist frame saddle when the spinner is disconnected/removed.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(i) Grote 4"L.E.D. spinner light with marked cab control on floor pedestal.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(j) Poly lined Stainless Steel spinner chute to be included.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
33	Future AMI edger		
	Right Hand frame to be set up to accept future AMI edger	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
34	Paint		
	(a) The dump body shall be shot blasted and zinc primed, finish paint acrylic urethane, IMRON 5000 Elite SS – Baked Finish! No substitutes. Specify (type and finish): _____ Dump Body: Blue in colour, code# _____ All Plow Equipment: BARIL 181Medium Gloss Black	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(b) Conspicuity safety tape package on lower sides of body and on tailgate.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
35	Load Cover		
	(a) An air tarp shall be standard equipment with fabricated tarp arms dimensions of 1 ½" X 1 ½" aluminum tubing, 1/8" mesh tarp and TWO (2) 14" stroke air cylinders mounted to sides of body. Tarp arms to be Dog Legged to allow arms to be moved forward allowing better loader access and less chances of damage to tarp arms. In cab air operated control on floor pedestal.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(b) 10-inch hardwood sideboards painted white installed on each side of truck box.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(c) Mud flaps fore and aft of rear axle, frame mounted by full width steel flat bar with stop bar stiffener.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
36	Lights and Wiring		
	(a) Lights and wiring shall be completely sealed with corrosion and vapour proof lamps and junction box.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(b) Two upper plugs in rear MTO detachable light trees of aluminum construction w/stops/turn/tail and upper sealed beam RED lights. L.E.D. blue on driver's side and amber on passenger side. One tree each side of body w/separate 7 wire trailer plug in. Grote 6" #64491 rubber encased spot light aimed at ground up on L.H./R.H. tree-hooked in to O.E.M. reverse switch. Lights shall be mounted as low as possible in the mounting bracket.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(c) For improved rear visibility, Grote L.E.D 6" rectangular stops, tail and directionals w/2 standard Grote in-candescent back-	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>

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	ups to be mounted in rear corner posts within 3" of the outside of the tailgate.		
	(d) Grote rubber grommet 2 1/2" L.E.D. corner body clearance marker lights.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(e) Grote 'Ultra' Blue Seal wiring harness only to be supplied and installed. Betts sealed electrical junction box mounted B.C. above frame on drivers' side for all body lighting. 9 electrical back lit body light rocker switches / 12 function – integrated circuits in aluminum control panel mounted on swivel pedestal between seats.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(f) Grote 4" AMBER and BLUE L.E.D. strobes mounted in stainless steel boxes at rear frame rails below body with in cab switch.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(g) Whelen Responder LP light (Model # RDLPPAB) mounted at back of cab on adjustable light pole/pedestal with separate marked cab 3-way switch on pedestal for amber or blue.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(h) Grote L.E.D. Amber and Blue strobes up at top corners of body, one each side of gate, marked switch in cab. Spare amber lens, 3 lights in total.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(i) Grote 5" B.O.C. L.E.D. conveyor light back of cab on separate switch.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(j) All auxiliary lighting will plug directly into chassis O.E.M. connection: cutting, splicing, soldering or shrink tubing of connection is not acceptable.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(k) Headlight selection between plow headlights and OEM will be provided by the means of an auxiliary O.E.M. switch in the cab.	Specify: _____	
	(l) License plate provision c/w light on rear of body c/w light. Original OEM truck tail lights to remain operational on the truck.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
37	Hydraulic Front Tilt Harness		
	(a) Viking Model VCL 500T with the following specifications and approved by the Township of Howick.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
		Specify: _____	
	(b) The front plow harness will tilt forward to allow the chassis hood to tilt forward over centre of its pivots and stay open without the need of any additional supports.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(c) The harness tilt and return function will be performed by the operator from inside the chassis cab via feather air over hydraulic control.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(d) One single non-load bearing locking shaft will be manually removed prior to performing the tilt function.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(e) The single lock shaft will have an outside diameter of 1 1/2" and overall length will be a minimum of 30".	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(f) A handle will be provided on one end of the lock shaft 4" square, 3/8" tube by 3/4", the other end will be chamfered at 30 degrees.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(g) The lock shaft will when installed be located inside the full-length connecting tube.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(h) The connecting tube and lock shaft assembly will together form the upper connection point of the cheek plate weldment to the front plate assembly.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(i) The connecting tube overall length will be 23 3/8", inside 1.612", outside diameter of 1.90".	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(j) The hydraulic power tilt hardened chrome cylinder will be double acting 2 1/2" with a 6" stroke.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>

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	(k) Two lower pivot tubes will be provided, the outer pivot tube will be connected to the right and left side cheek plates, the inner pivot tube will be permanently attached to the front plate assembly.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(l) The inner pivot tube will rotate forward inside the outer pivot tube allowing the front plate assembly to travel forward into the tilted position and will rotate rearward to return the front plate assembly to the normal working position.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>

	(m) The inner pivot tube will be 4" outside diameter 2 3/4" inside diameter, 52" long seamless mechanical tubing.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(n) There will be two inner pivot tube gussets 1/2" plate, 18 13/16" long, 5" wide tapered to 2 1/4".	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(o) End plate located on inner tube 1/2" material 12" x 6" to provide lower mounting location for wing front post.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(p) The outer pivot tube will be 5 9/16" outside diameter, 4 1/16" inside diameter, 25 3/8" long extra heavy pipe.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(q) There will be two outer pivot tube gussets 1/2" plate, 8" x 8" triangular.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(r) Outer pivot tube fitted with three 1/8" NPT Grease fittings for lubrication, one each located approximately 2" in from the end of the tube and one located in the centre.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(s) The front plate will be one solid piece of 3/8" steel plate with cut out of sufficient size to allow cooling of the chassis radiator.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(t) Overall height of the front plate will be 49" with a 5 1/4" 90° bend at the top and a 2" 90° bend at the bottom.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(u) Overall width of the front plate will be 57 1/2" at the top and 40" at the bottom.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(v) Right and left side plates, 15 3/4" maximum width by 49 1/4" high 3/8" plate welded to the front plate.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(w) Upper cross channel 6" by 52" 13 lbs. /ft. welded to the right and left side plate.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(x) End plate located on upper cross channel 1/2" material 12" x 6" to provide upper mounting location for wing front post.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(y) 1/2" steel plate pump and tilt cylinder-mounting bracket welded to the cheek plate assembly, 24 1/4" wide by 18 1/2".	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(z) Cheek plates will be specified to suite chassis frame rails, 1/2" steel plate and will extend back along the chassis frame rails as far as possible.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(aa) Fasteners attaching cheek plates to the chassis frame rails will be minimum grade 8 N.C. hex head bolts.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(bb) Two pairs of drive ears 100% welded to the front plate spaced at standard 30 1/2" centers.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(cc) Three sets of plow drive bar connection holes located in drive ears height to lower drive connection 19" mounted with truck empty.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(dd) Plow attachment to plow harness by means of bolt up to 3-hole drive ears welded on to face of plow harness plate. Hydraulic plow lift cylinder, double acting 4" diameter with 10" stroke, cylinder rod chrome plated. Plow lift yoke 3/4" steel plate, braced with two 1/4" x 2" flat bar diagonal braces.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>

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	(ee) Two mounting locations in lift yoke to provide location for mounting of plow hydraulic lift cylinder in winter operating position and stored summer position.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(ff) Mounting plates for plow lift cylinder, lift yoke and lift yoke braces all 1/2" steel plate 100% welded to front plate.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(gg) Lift yoke brace mounting plates positioned to provide minimum 23.5" span.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(hh) Two sealed beam halogen plow lights with high and low beam and built in integral directional with switch in cab.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(ii) Right and left side plow light mounting brackets extending 7" up from top of front plate with light mounting positions on 55" centers. *License plate provision at the top driver's corner of harness.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(jj) Vapour proof wiring for plow lights with universal harness and plug in assembly.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(kk) Two independent double acting valve sections will be incorporated in the valve stack, one section will provide hydraulic power for the plow lift function and the second valve section will provide hydraulic power for the hydraulic power tilt function.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(ll) Two independent in cab feather joystick air controls will be pedestal mounted inside the chassis cab, one control will operate exclusively the plow lift function and the second control will operate exclusively the hydraulic power tilt function.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(mm) All structural steel plate used in the plow harness will be 44W complying with CSA G40.21.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(nn) Tensile strength will be 65-90 KSI and the minimum yield strength will be 44 KSI.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
		Specify Tensile: _____	
		Yield: _____	
	(oo) All steel prepped and painted BARIL 181 Medium Black as per section 34 of this quotation.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
38	Hydraulics		
	(a) The body operation shall be powered by the existing hydraulics of the snow plow truck harness.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(b) All fittings, valves, hoses and drive shaft shall be supplied and installed. All hoses shall be equipped with swivels on both ends.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(c) All hydraulic hose shall be 100R16 with 3 1/2" radius bend, -50 / + 260-degree temperature rated, 4500 > 5400 PSI rated. Specify: _____	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(d) A combination sight / temperature gauge to allow easy checking of the hydraulic oil in the reservoir shall be supplied.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
	(e) Prototype units will not be acceptable.		
	(f) The bidder must be able to demonstrate a solid history of use of the combination U-body/spreader offered in this quotation by Ontario Municipalities, for a minimum period of one year, and references must be supplied as specified below.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
39	Tow Hook / Loop		
	(a) A mounting plate shall be supplied and installed between the rear frame rails to hook a towing recovery loop. One heavy	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>

Township of Howick

**Tender for one (1) – 68,000 G.V.W. Tandem Cab and Chassis With
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	duty loop shall be located in the centre of rear block mounted between the two frame rails. This hook shall be in close proximity of the heavy-duty hinge to prevent twisting in the event of pulling out trucks. (b) Pintle plate to be painted upgraded BARIL 181	Yes: <input type="checkbox"/>	No: <input type="checkbox"/>
40	Delivery The truck and fore mentioned equipment is to be installed / operational and ready for delivery on this truck by December 20th, 2019. After this date a \$300.00 per business day penalty will be deducted from the purchase price of the equipment. The cab and chassis will need to be at the Viking facility no later than August 30th, 2019.	Yes: <input type="checkbox"/>	No: <input type="checkbox"/> Specify: _____ Initial: _____

(40) – References

List two (2) Ontario Municipalities who have been using the combination U-body/spreader offered in this quotation for a minimum period of one year.

	Name of Municipality	Contact Name	Phone #
1.			
2.			

Equipment manufacturing facility located at: _____

Equipment to be installed at: _____

Equipment installers Transport Canada Safety Mark #: _____

Equipment manufacturer/installer ISO9001 – 2008 registered. YES: _____ NO: _____

Equipment manufacture/installer WHMIS compliant and clearance certificate #: _____

Copy of Viking Cives certificate of insurance information to be submitted with bid.

Township of Howick

Tender for one (1) – 68,000 G.V.W. Tandem Cab and Chassis With Combination Dump and Spreader Bodies, and Snow Plow Harness

(41) – Option List (see page 4 for pricing information)

Cab & Chassis Option List	Net Price (before HST)
I. Copper core radiator versus aluminum core radiator.	\$
II. 18-speed manual; with double overdrive and with air shift, including internal lube oil pump. (Fuller RTLO-18918B), complete with clutch brake and adjustment free 15.5 in. dia. Dual plate ceramic faced Spicer solo easy pedal clutch. Clutch pedal to be suspended grate type, not floor mount.	\$
III. One spare tire Michelin XZY 425/65R x 22.5 mounted on front aluminium hub piloted Accuride Accu-Flange™ rim as specified in 11-(a).	\$
IV. One spare tire Michelin XDE M/S 11R22.5 mounted on rear hub piloted rim as specified in 11-(g).	\$
Body Builder Option List	
V. Bruiser™ Ultra-abrasion resistant outer cover hydraulic hose versus hose specified in tender document. All hoses will still need to be wrapped with Parker Partec hose wrap if this option is selected.	\$
VI. Led Heated plow headlights (pair) part # 0650471 in lieu of standard non heated halogen.	\$
VII. 1 AMI Shoulder spreader.	\$
VIII. Mudflaps installed fore & aft of rear axles , mounted with aluminium fenders to suit 54" axle spread. Aluminium fenders will be mounted to chassis frame and remained on frame while body is raised.	\$
Bidder Option	
IX. Bidders may offer a firm Trade-in allowance for a 2008 International 7600 Tandem c/w Viking Combination Dump and Spreader Bodies, and Viking snow plow harness. The vehicle is currently in service with Approximately 130,000 km (01-mar-2019). The vehicle will remain in regular service until the vehicle in this tender (replacement) is delivered and put into service. The Bidder does not have to bid this option. The Township of Howick reserves the right not to trade the 2008 International 7600 Tandem c/w Viking Equipment. The equipment may be viewed by appointment.	\$

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**Tender for one (1) – 68,000 G.V.W. Tandem Cab and Chassis With
Combination Dump and Spreader Bodies, and Snow Plow Harness**

Tender Pricing

Net price for One (1) New Cab and Chasis as specified not including Optional Extras from section 41	\$
Net price for Proline II 1415HW-HT 'U' dump/sander body including all plow equipment as specified not including Optional Extras from section 41	\$
Subtotal For One (1) Complete Snowplow Unit as specified	\$
Add: Air Conditioning Tax	\$
Add: Tire Stewardship Tax	\$
Add: 13% HST	\$
Total Tender Price for One (1) complete unit equipped with snow plow equipment as per specifications (HST / A/C and Tire Stewardship Taxes included)	\$
Delivery Date of Completed Unit including any selected options:	

Tender 1-2019-PW \$ _____
Numerical

_____ Words

Dated this _____ day of _____, 2019.

Name of Company: _____

Address of Company: _____

Telephone Number: _____ Fax Number: _____

Email Information: _____

Signature of Authorized Person }

Print Name and Title of Person Signing }

Witness Signature