TOWNSHIP OF STIRLING-RAWDON
CONTRACT 2019-01-SA

TENDER SUMMARY FORM

We/I hereby agree to supply the Township of Stirling-Rawdon a tender for ONE SIX TON TRUCK with attachments in full conformity with the specifications attached hereto, as described below.

These prices must not include H.S.T. as it should be shown separately.

Tenders will be accepted until July 26th, 2019 at 4 p.m. and must be submitted to:

Roxanne Hearns, AMCT
CAO-Treasurer
Township of Stirling-Rawdon
cao-treasurer@stirling-rawdon.com

For Clarification on Specifications Only please contact:

George Burkitt, Public Works Manager
613-395-3380 ext. 2227
Township of Stirling-Rawdon
superintendent@stirling-rawdon.com

SPECIFICATIONS FOR A NEW 2019 OR 2020, DIESEL POWERED SINGLE AXLE TRUCK COMPLETE WITH SNOWPLOW HARNESS, TWO WAY PLOW, WING AND ALL SEASON DUMP BODY/SPREADER.

A- SPECIFICATIONS FOR SINGLE AXLE TRUCK

GENERAL:
It is the intent of these specifications to describe one diesel powered single axle truck in sufficient detail to secure bids on comparable equipment. This unit will be used by the Municipality for hauling sand and gravel in the summer and snow plowing and sanding in the winter. Vehicle must be supplied with suitable components to comply in all aspects with the following specifications. Where minimums are called for, the unit must meet, or exceed the capacity, size of performance specified. These specifications list 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.

SPECIFICATIONS:
The vehicle shall be supplied with all standard equipment plus all other equipment outlined in these specifications, if selected by the Municipality.

The vehicle shall meet or surpass the mandatory requirements of the “Canadian Motor Vehicle Safety Regulations (S.O.R. 70-487) amended” and bear the National Safety Mark outlined in those regulations.

Truck and all equipment are to be Krown Rust proofed before delivery.

Vendor to supply diagnostic software/cables and interface between truck and laptop for engine transmission, abs, cab and chassis and sand/salt spreader controls.

Vendor to supply adequate information for their recommendation on truck rear axle gear ratio.

Vendor to supply the Municipality with copy of the truck build sheet for review prior to the truck being built.
## TOWNSHIP OF STIRLING-RAWDON
## CONTRACT 2019-01-SA
## MOTOR VEHICLE SPECIFICATION

**ALL APPROPRIATE BLANKS MUST BE FILLED IN**

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<td><strong>1. TRUCK:</strong></td>
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<td>MAKE: _____________________________</td>
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### 2. VEHICLE WEIGHT:

#### 2.1 G.V.W. 43,000 lb. min.
| SPECIFY LBS: | ☐ |

#### 2.2 The allowable G.V.W. as supplied shall be shown on a metal tag attached to the truck.
| ☐ |

#### 2.3 Chassis weight 12,000 lbs. min.
| SPECIFY LBS: | ☐ |

### 3. AXLES:

#### 3.1 Set back front axle shall be 20,000 lbs. min.
| MAKE AND MODEL: _____________________________ | ☐ |
| CAPACITY: _____________________________ | ☐ |

#### 3.2 Rear axle shall be 23,000 lbs. cap. Min.
| SPECIFY: | ☐ |

#### 3.3 Rear axle shall have full locking differential with in cab driver controlled switch or valve.
| SPECIFY: | ☐ |

#### 3.4 Rear axle shall be single speed.
| ☐ |

#### 3.5 Following is a list of approved axles: Eaton, International, Rockwell.
| SPECIFY: | ☐ |

#### 3.6 Road speed at rated RPM in top gear shall be 105 kms per hour approximately.
| SPECIFY: | ☐ |

#### 3.7 Rear axle Ratio matched to engine and transmission to give adequate Off road Power and top highway speed of 100 km/hr. minimum.
| SPECIFY: | ☐ |

#### 3.8 Road speed in low gear at max. Torque RPM.
| SPECIFY: | ☐ |

### 4. BRAKES:

#### 4.1 Service brakes-full air brakes Rockwell Q Plus.
| ☐ |

#### 4.2 Front brakes – size 16x6 min. “S” Cam.
| ☐ |

#### 4.3 Rear brakes – size 16-1/2 x 7 min. “S” Cam.
| ☐ |
4.4 Positive spring loaded parking brake on rear axle with air reservoir and inst. Panel control switch.

4.5 Low pressure indicator shall be supplied.

4.6 A separate petcock type manual drain shall be provided on all air tanks.

4.7 Air compressor, 13 cfm. Cap. Min. intake connected to the engine air cleaner system.

SPECIFY: ______________________________________

4.8 Air dryer shall be supplied.

4.9 Maxi brake or equivalent to lock all two (2) rear wheels when vehicle is stopped shall be supplied.

4.10 Truck is to have a tractor package installed to be able to pull a tag along trailer with air brakes. Glad hands to be attached to the rear of the truck in a location where they will not be damaged.

5. FRAME:

5.1 Resisting bending moment (section modulus x yield strength) Shall be 2,178,000 lb in. min.

5.2 Section modulus shall be 19.9 min. (see M.T.O. SPEC).

SPECIFY SEC. MODULUS: ____________________________

FRAME YIELD: ______________________________________

STRENGTH: _________________________________________

5.3 Truck with trunnion type motor mounts require frame reinforcing.

SPECIFY: _____________________________________________

5.4 Mounting of snow plow cheek plates shall be possible.

6. SUSPENSION:

6.1 CA: Approximately 2,743 mm (108”) CA to be confirmed prior to placement of order based on options selected for snow plow equipment.

6.2 Wheel Base: Approximately 4,572 mm (180”) to match required CA

6.3 Front spring capacity at the ground 10,000 lbs. each min.

SPECIFY: ____________________________________________

6.4 Rear axle capacities to be 23,000 lbs. min. and incorporate helper springs.

SPECIFY: ____________________________________________

7. WHEELS AND TIRES:

7.1 Dual rear wheels.

Wheels to be hub piloted steel disc with load rating and pressure ratings equal or greater than those of the tires.

7.2 Trucks shall be supplied with Michelin XDS2 tires, four size 11.00R x 22.5; 16 ply rating on the rear; and two Michelin XZY3 Size 425 65R x 22.5; 16 ply rating, on the front.

7.3 A total of six rims per truck to be supplied, four 22.5 x 8.5 and Two 12.25 x 22.5.
TOWNSHIP OF STIRLING-RAWDON  
CONTRACT 2019-01-SA  
MOTOR VEHICLE SPECIFICATION

7.4 Tires other than those specified in the tender must be approved by The Municipality.  
SPECIFY: ______________________________  
☐

8. ENGINE:  
8.1 Diesel.  
☐

8.2 Engine net HP. 350 min. at 2000 RPM. (SAE J816b and J270).  
SPECIFY: ______________________________  
☐

8.3 Engine net torque 1150 lb.ft. Min. at 1200 RPM.  
SPECIFY: ______________________________  
TORQUE: ______________________________  
☐

9. TRANSMISSION:  
9.1 Allison 3000RDSP 6-speed automatic  
☐

10. ENGINE EQUIPMENT:  
10.1 Alternator shall be 150 am cap. min. with built-in diode, rectifiers and shielded slip rings and brushes.  
SPECIFY MAKE: ________________________  
SPECIFY MODEL: ________________________  
☐

10.2 50 AMP capacity at idle min.  
SPECIFY: ______________________________  
☐

10.3 Three 12 volt-maintenance free batteries min 3000 cca total shall be supplied. If the batteries are behind the cab, they must be on the right hand side. Batteries shall be easily accessible for service.  
SPECIFY: ______________________________  
☐

10.4 Governor – engine governor built-in type.  
☐

10.5 High engine temperature and low oil pressure shall be bell or buzzer device (automatic engine shutdown not acceptable).  
☐

10.6 Air cleaner – a heavy duty, dual dry type air cleaner shall be supplied with some means of drawing air supply from under the hood while performing winter operations.  
☐

10.7 Oil filter-fill flow spin-on type filter to be supplied.  
☐

10.8 A heavy duty fuel oil water separator shall be supplied, Conmet CM-99-217B or CM-99-327 or approved equivalent.  
SPECIFY: ______________________________  
☐

10.9 1500 watt in block engine coolant heater shall be supplied.  
☐

10.10 Engine hood shall have side access doors, shall be easily tilted forward and shall have rubber extensions at the wheel wells to cover the wider front tires. Engine oil dipstick, engine oil fill spout and transmission dipstick must be within six inches of access doors.  
☐

10.11 Engine to be equipped with an Engine brake.  
☐
10.12 For snow plowing purposes, a min. 3-1/2” dia. Opening through the radiator shall be provided centered with the engine crankshaft to allow adequate clearance of the PTO Shaft. The crankshaft shall be provided with adaptor for the PTO crankshaft.

10.13 Where crankshaft is located low enough to allow the front mounted pump to operate with sufficient clearance below the radiator, the 3-1/2” opening in the radiator is not required.

10.14 Exhaust system shall consist of a horizontal muffler and a vertical stack, secured to the right rear corner of the cab.

11. CAB:

11.1 Deluxe air ride cab with extra insulation.

11.2 Seats – Driver’s seat shall be deluxe high back individual adjustable fore and aft as well as up and down with air operated provision for adjusting the action to suit the driver’s weight and come equipped with arm rest on the left and right side of the seat.

11.3 Single passenger seat shall be adjustable fore and aft.

11.4 Both seats shall be fully padded and of heavy duty construction, covered with a cloth type material on foam cushions.

11.5 Sun visors-driver and passenger sun visors as well as an exterior cab sun visor.

11.6 Fully tinted and heated windshield to be supplied. Windshield heater must run along bottom and to the top of the passenger and driver’s side of windshield.

11.7 Dash must be of ergonomic design as to wrap back around to driver’s position. Providing ease of use of controls in dash without leaning out of driving position to perform functions.

11.8 Heavy duty electric, intermittent wipers/washer to be supplied.

11.9 Heavy duty fresh air heater and defroster shall be supplied capable of keeping the windshield clear under the most severe snowplowing conditions.

11.10 Air conditioning to be supplied.

11.11 Cruise Control to be supplied.

11.12 Tachometer shall be supplied.

11.13 Hour Meter shall be supplied.

11.14 Two seatbelts to be supplied.

11.15 Floor mats – rubber shall be supplied as well as individual removable rubber mat to ease removal of mud and dirt from the floor.

11.16 Mirrors – bright finish two outside 8” x 16” power adjustable, c/w built in lights and heaters as well as two 8” convex mirrors shall be supplied. Heated front fender mounted convex mirrors (factory install preferred).
11.17 One grab bar on each side of the cab to provide easy entry and exit from the cab.

11.18 Air horns with covers shall be supplied.

11.19 Doors for hood to check fluids.

11.20 Rain gutters or drip moldings shall be supplied.

11.21 Radio – Factory option AM/FM radio c/w CD player and weather channel. Radio must be BLUE TOOTH compatible antenna to be mounted on left of cab roof if possible.

11.22 Both door windows shall be electrically operated with switch in easy reach of the operator.

11.23 Noise level in cab with engine under full load shall not exceed 90 decibels.

12. FUEL TANK:
12.1 A 100 imperial gallon min. step tank to be supplied and mounted on the left side of the frame, far enough ahead as not to interfere with the operation of the spinner. Steps shall be mounted on the tank to allow easy access to the cab.

SPECIFY CAP: ________________________________
SPECIFY TYPE: ________________________________

12.2 Fuel gauge shall be supplied.

13. LIGHTS:
13.1 The following lights shall be supplied, two fender mounted 4” dia. Amber directional lights, facing front.

13.2 Rear red directional lights shall be supplied. All rear lights to be LED type.

13.3 Stop lights shall be supplied.

13.4 Five identification streamlined cab lights shall be supplied.

13.5 Four way flasher shall be supplied.

13.6 Two backup lights shall be supplied as well as a back-up alarm.

13.7 One LED light on rear of pintle plate wired to back up circuit. Back up light must be 1500 lumens or greater.

13.8 Headlights and Plow harness lighting to be LED type. Body control module must be programmed to operate LED headlights on truck and plow harness.

13.9 Truck must have six aux switches for installation of plow related equipment.

14. PAINT:
14.1 The exterior paint shall be Commercial Red over a prime coat of good bonding paint. Paint on cab and dump box MUST match.

15. STEERING:
15.1 Power and tilt steering shall be supplied.
16. ATTACHMENTS:
16.1 Anti-freeze to -32 deg F. shall be supplied.
16.2 Flare kit as per MTO spec. to be supplied.
16.3 Shop, engine and parts manual or CD’s to be supplied.
16.4 Rear tow hooks shall be supplied.
16.5 2 ½ lb. fire extinguisher to be included.
16.6 First Aid Kit and road triangles to be supplied.
16.7 Auto grease system for chassis, sander and dump box. (Lubecore brand preferred)

17. WARRANTY:
17.1 Signed manufacturer’s warranty to be supplied.
17.2 Vehicle shall meet or surpass the mandatory requirements of the C.M.V. safety regs (SOR 70/487) amended and must bear the National Safety Mark outline in those regs.
17.3 State warranty of the following: (if warranty is of a declining basis depending on mileage or time, give completed details)
   a) Engine Components:
   b) All Power Train Components, trans, diffs, etc.

18. DELIVERY:
18.1 Delivery of the complete unit can be expected in _______ days after placing of the order.

19. PAYMENT:
19.1 Payment for the complete unit will be made within 30 days after delivery to the Township of Stirling-Rawdon’s Public Works Yard and after inspection by our Equipment Supervisor.

B – SPECIFICATION FOR TRUCK FRAME
ALL APPROPRIATE BLANKS MUST BE FILLED IN

Frame shall be of a standard manufacturer’s design, with reinforcing offered as “Standard Options”. The following are minimum requirements:

Material Yield Strength must be equal or greater than 110,000
Section Modulus must be equal or greater than 19.9
Resistance Bending Moment must be equal or greater than 2,178,000

C – REPORT GENERATING SOFTWARE

If report generating software is different than flex 4, the flex 4 pro generating software must be provided.

D – SPECIFICATIONS FOR DICKEY-John Flex Four Pro Ice Control System
Specifications Model (or equivalent system approved by the Municipality).
E – SPECIFICATIONS FOR CHASSIS REQUIREMENTS AND RECOMMENDATIONS FOR EQUIPMENT INSTALLATION FOR CHASSIS SUPPLIER

1.0 Front axle, single axle chassis 20,000 lbs.

2.0 Chassis must be suitable for installation of front mount snow plow harness; Frame extensions may be required on some models.

3.0 Front mount pump installations require chassis provisions, including Crankshaft adapter and clearance for drive shaft.

4.0 Transmission mount pump installations require automatic transmission with P.T.O. opening and sufficient physical space to accommodate selected pump and P.T.O.

5.0 Horizontal muffler with vertical exhaust stock routed to avoid interference with wing harness installation.

6.0 Fuel tank protrusion behind cab must avoid interference with sander spinner and wing harness if applicable.

7.0 Frame section modules and yield strength must be sufficient for equipment selected.

8.0 Wing installations require a cross member complying with MTO specifications or an equivalent O.E.M. cross member.

9.0 Wing installations require a front right side rubber or air helper spring.

10.0 Recommended batteries box location under cab, if other must avoid interference with sander and wing harness.

11.0 Air dryer, air tanks, etc., must be located in a position so as to avoid interference with sander spinner and/or wing harness.

12.0 Stationary grill recommended with power tilt front harness.

13.0 Butterfly hood option with power tilt front harness.

14.0 Interior cab space and seat configuration must provide sufficient space for pedestal-mounted controls and additional selected options.

15.0 If required, air glad hands can be located on pintle plate only if air supply is provided to rear of chassis.

16.0 Cab to axle dimension must be suitable for equipment specified, consult to ensure.

17.0 Air powered options require chassis air supply.

18.0 Other requirements and recommendations may be applicable to equipment specified; a review of specifications with a qualified factory representative prior to tendering or placing of order is suggested.

19.0 All welded and fabricated parts at time of build that are meant to be painted black Must be painted DuPont Imron Elite medium glass Black paint no substitute.

20.0 Speed sensor for Dickey John Flex Four Pro must be installed in the Main conveyor hydraulic drive motor.
These specifications describe a 11’ snow plow wing, with rear side completely enclosed and smooth paneled. The moldboard contour is designed to provide a superior cast over traditional wings.

Viking model VCL 132AHW or approved equivalent.

SPECIFY MAKE: __________________
MODEL: ___________________________

Overall length 11 feet.
Inside intake height 28"
Outside discharge height 34"
Moldboard thickness 3/16” minimum.
The rear of the wing will be completely enclosed and smooth paneled.

Rear of wing enclosure two piece assembly consisting of moldboard channel 3/16” plate 12 5/8” x 131 5/16” top angle 3/16” plate 9 7/16” at intake end 18 1/16” at discharge end 131 5/16” overall length.
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.
Lower backer angle 5/8” x 4” x 4”.
Backer angle reinforced with 4 gussets ½” x 3” x 3” and 8 angle stiffeners 3/16” x 4”.
Moldboard will be reinforced without the use of vertical ribs, horizontal internal reinforcement supplied.
One knuckle weldment for connecting the single push arm.
The wing will be fitted with the following:
One plow blade as per M.T.O. spec. ES-504.
One wing shoe as per M.T.O. spec. ES-509.
Turn buckle assembly to be permanently mounted on the rear of the wing.
The turnbuckle will pivot out and attach to the wing brace, in order to support the brace during the disconnecting and reconnecting.
All steel will be shotblasted, epoxy primed and top quality black finish paint electrostatically applied.

2) Optional
Height adjustable parking stand permanently attached to front rear of wing.
GENERAL

These specifications describe an all hydraulic, single push arm towerless wing harness, with the ability to perform a high shelving operation and hydraulic extend and / or retract the wing to increase or decrease the cleared path.

Viking model AHW001 or approved equivalent.

SPECIFY: __________
MAKE: __________
MODEL: __________

The wing operation shall be fully hydraulic, without the use of any sheaves, pulleys or cables.

With the wing raised to the high working position the distance from the bottom of the cutting edge to ground level will be 24 to 30 inches. SPECIFY: __________ inches

PUSH ARM

The rear harness will incorporate one only single push arm assembly.

The push arm will be of telescopic design, outer tube 4” x 38 ½” extra heavy pipe, inner tube 3 ½” O.D. x 2 ½” I.D. 38 ½” tubing.

The operator will be able to change the cleared path instantly from inside the cab from 8’ to 11’.

The push arm lift cylinder will be 3 ½” x 26” double acting.

The telescopic push arm and lift cylinder shall disconnect from the rear brace via a single quick disconnect bracket. The quick disconnect bracket shall be attached via a single 1” x 15.5” pin.

When the wing is in the normal carrying position the push arm extension cylinder will be in the collapsed position, extending the extension cylinder will push the wing forward allowing it to be carried in a position that will provide improved visibility from the right side chassis window.

The push arm will incorporate a hydraulic cushion valve plumbed into the extension cylinder circuit to act as an impact shock absorber.

Safety prop to be provided, to secure wing in transport position, permanently attached to pusharm outer tube, 24” Long. 4.1 lb. Ft. channel.

Extension cylinder oscillation will be achieved via a free floating grease able steel collar.
REAR HARNESS

The rear harness, when installed, shall not use up any cab to axle space and will allow the dump/sander body to be mounted directly behind the chassis cab, with minimum clearance.

A rigid load carrying enclosure shall be provided to support the single wing brace and hydraulic lift cylinder.

The rear supporting structure shall extend across both chassis side rails and along the right side to provide a distribution of the wing load under heavy duty operation.

The portion of the rear supporting structure that extends across the chassis side rails will be 1” thick steel plate.

Further support will be provided by a diagonal pipe brace running back and attaching to the chassis side rails.

FRONT POST ASSEMBLY

The front post shall be fabricated of 8” I beam 18.4 lbs./ft. minimum.

SPECIFY: _________ lbs./ft.

The front post will be a minimum of 48” in height.

Guide bars will be provided for the slide assembly running, for the full height of the wing post.

To lift the front of the wing a 3” x 48” double acting hydraulic cylinder will be mounted in the rear inside of the front post.

The main supporting member for the front post will be a 4” O.D. x 2 ¾” I.D. x 5/8” wall tube crossmember running through both cheekplates, reinforced with a ½” steel plate between the cheekplate and front post.

TRIP HINGE AND SLIDE ASSEMBLY

Front slide to be provided, with a safety trip hinge assembly, the wing will return to the normal position after it has tripped.

The safety trip block will be vertically mounted on the trip hinge above the inner and outer trip blocks connected by a .75” x 24.5” stud bolt.

The hinge is designed to lift the wing as it trips through a trapezoidal design.

Trip block will be rubber with a triple convolution and a 55 density rating composition.

Wing slide ¾” thick steel plate, 72” overall length by 6 ¾” wide.

Slide travel 60” minimum with provision for 14” minimum float.
HYDRAULICS AND CONTROLS

Hydraulic valves will be sectional stackable type with Working sections, inlet outlet sections and built-in relief.

Working sections as follows:
- 1 double acting plow lift
- 1 double acting tilt harness
- 1 double acting front of wing
- 1 single acting rear of wing
- 1 double acting wing extension
- 1 single acting body hoist

To prevent corrosion the air shifters will have a bronze sleeve.

In-cab proportional featherable joystick air controls, function labeled.

An air dryer / lubricator and protection valve will be installed in the control system.

The air control mounting stand will be pedestal type, fully adjustable, located between the driver and passenger seat within easy view and reach of either occupant.

Back of cab oil reservoir 30 gal. Capacity, 3/16” pickled and oiled steel welded oil tight.

Weather proof screw down filler / breather cap with fine mesh screen and hand clean out.

A removable magnetic trap shall be supplied.

The oil return port will be fitted with a diffuser to prevent turbulence and foaming of oil on the inside of the reservoir.

Oil filter with 25 micron spin on element rated at 50 G.P.M. nominal capacity installed in the return line ahead of the reservoir, complete with oil condition indicator gauge.

Low level indicator with in cab warning light only.

Oil shut off valve.

Hydraulic hoses 2 ply braided steel SAE 100R16, swivels, both ends, tied supported to eliminate sag, properly routed and protected to eliminate abrasion.

ADDITIONAL
- Aeon rubber helper spring installed right hand front.
- M.T.O. crossmember located approximately 10” behind cab, braced and gusseted fore and aft.
- Revolving beacon cab shield mounted with interchangeable blue and amber lens.
- Wing light supplied and installed.
- All steel will be shot blasted, epoxy primed and top quality black finish paint electro statically applied.
VIKING 500T or Equivalent approved by the municipality
Specify: __________________________
Make: ___________________________
Model: __________________________
The design and construction of the truck harness shall be in compliance with
M.T.O. standard ES-401, or be equivalent design approved by M.T.O.
YES: ☐ NO: ☐
The harness shall be mounted at the front end of the frame, and shall be bolted
to the cheekplate.
YES: ☐ NO: ☐
The lifting frame shall be bolted to the push plate and shall be braced to
conform with M.T.O. standards
YES: ☐ NO: ☐
Lifting Ram Diameter – 4” D.A. minimum
SPECIFY: ___________
Lifting Ram Stroke – shall be 10” min.
SPECIFY: ___________
The cylinder rod shall be fully chrome plated.
YES: ☐ NO: ☐
Lift of grab link for nose chain shall be 18” minimum.
YES: ☐ NO: ☐
Drive ears shall be 30 ½” centre to centre.
YES: ☐ NO: ☐
Height to lower drive connection shall be 19” when mounted, truck empty.
YES: ☐ NO: ☐
Cheekplates to match truck frame shall be supplied and shall be compatible
for plow.
YES: ☐ NO: ☐
Three grab links shall be supplied.
YES: ☐ NO: ☐
Two sealed beams Halogen type headlamps, with high and low beam shall be
supplied.
YES: ☐ NO: ☐
Spacing and height of headlamps shall be in compliance with ES-401.
YES: ☐ NO: ☐
Right front helper spring shall be provided. 16,000 lb. Capacity Aeon ES-401
and the wires from the truck turn signal shall be connected to these lights.
These wires shall be well protected in looms.
YES: ☐ NO: ☐
The plow lights and signals shall be equipped with “Quick-Tack” ends.
YES: ☐ NO: ☐
All hydraulic hoses and wiring shall be adequately supported to ensure that
wear and sag is completely eliminated.
YES: ☐ NO: ☐
The front plow harness shall tilt forward to allow the hood to tilt over centre of
its pivots and stay open without the need of any additional supports.
YES: ☐ NO: ☐
The harness will be supplied with two double acting hydraulic cylinders, one
cylinder to perform the plow lift function and a second separate cylinder used
to perform the tilt function exclusively.
YES: ☐ NO: ☐
The tilt cylinder will be 2 ½” with a 6” stroke and the cylinder rod shall be
fully chromed.
YES: ☐ NO: ☐
Hydraulic power tilt function controlled by in cab feather joystick air control.
YES: ☐ NO: ☐
Front plate to be complete with quick-tack hitch pockets.
YES: ☐ NO: ☐
The truck harness shall be painted industrial black.
A parts manual shall be supplied with each unit.
YES: ☐ NO: ☐
Warranty one year parts and labour.

I – DUAL AUGER SPINNER SPECIFICATIONS

The cross conveyor assembly will draw material to the right side, left side or both sides simultaneously via twin augers.

Each of the two augers will have a shaft diameter of 2 3/8” machined to 1 1/4” on each end, and equipped with flange bearings to suite.

Overall length of the auger will be 58” with 3/8” thick auger flights.

Outside diameter of the auger will be 6” with a 6” pitch.

The augers will be directly driven by two hydraulic orbit motors with displacement of 11.9 cu. in.

For ease of maintenance connection of the orbit motors to the auger shaft will be via split couplers.

Conveyor trough will be fabricated from 1/4” Cor-Ten steel.

Conveyor trough fitted with 1/4” minimum U.H. M. polymer abrasion linear.

For protection during operation the front and top side’s of the cross conveyor will be fitted with safety guards.

In the dual spinner operation mode both augers will run in opposite directions carrying material to the right and left side spinner assemblies.

Division of material flow front the main conveyor will be a 50/50 split 50% carried to the right side spinner and 50% carried to the left side spinner.

In either the right of the left side operation made both of the augers will run in the same direction and carry 100% of the material from the main conveyor discharge to the selected right or left side spinner assembly.

Auger direction will be controlled via two, 4 way 2 position solenoid valves with in cab control.

Spinner assemblies will be removable from the cross conveyor for summer storage.

The cross conveyor will also be removable from the chassis frame rails.

The spinner assemblies will also be flip up style providing the ability to carry them in a stored position horizontal to the chassis frame rails.

Spinner discs manufactured from polyurethane 18” in diameter.

Spinner shaft will run on a flange bearing equipped with grease fittings.

Spinner drive will be direct via hydraulic orbit motors.

Removable spinner chute right and left side to guide material to the spinner discs.

Spinner spot light right and left side.

Spinner height shall be adjusted to accommodate various chassis heights and capable of a discharge rate from 100 lbs./lane mile to 2,500 lbs./lane mile.
J – FRK3911TE HDP SPECIFICATIONS

1. GENERAL

These specifications describe a hydraulic reversible snow plow with a low friction, polymer moldboard and safety trip edge with torsion style trip springs. This equipment should be built from new material and suited to continuous use under snow removal conditions.

VIKING MODEL VCL3911FRK OR APPROVED EQUIVALENT

Specify: __________________________
Make: ______________________________
Model: __________________________

2. CUTTING PATH

In the straight ahead bulldozing position it shall be possible to clear a 11’ wide path.

The plow will be hydraulic ram reversible from 37 degrees right to 37 degrees left allowing the plow to perform at all angles in between.

Set at a 37 degree angle the plow will clear a path of 8’9” wide.

3. MOLDBOARD

The moldboard shall not be less than 42” high overall with a discharge height of 39” and not be less than 11” long.

The poly moldboard sheet shall be formed from one piece, unspliced sheet of 3/8” thick ultra high molecular weight polyethylene material. Moldboard shall be fabricated of 3/8” ultra high molecular. The polyethylene sheet shall have a minimum tensile strength of 7000 PSI.

The sheet shall be made of new resin (recycled material is not acceptable) and shall be color impregnated and ultra violet stabilized to a “safety orange”.

The moldboard sheet shall be attached to a framework assembly of welded steel angle and plate which shall include not less than ten (10) reinforcing ribs at least 3/8” thick and 3 ½” wide, a lower moldboard reinforcement of not less 4 x 3 x 3/8” steel angle and an upper moldboard reinforcement for not less than 3 x 2 ½ x 3/8” steel angle all welded together to form an integral shell.

The upper portion of the moldboard shall project over the cutting edge so as to form a continuous solid snow shield.

The bottom cutting edge reinforcement shall be 4 x 4 x ¾” steel angle.

Each of the vertical ribs will be 100% welded to the 10 gauge steel backup plate for the full vertical length of the rib.

The upper part of the moldboard will be reinforced with a 3” x 3” x ½” steel angle 100% welded to the 10 gauge steel backup plate and attached to each reinforcing rib by a 3/8” gusset.
The moldboard height shall be a constant 42” over the entire length of the plow.

There will be two (2) moldboard braces that are fixed place design.

Moldboard will be complete with standard ½” x 8” SEA 90 cutting edge, two wear shoes and two scuff shoes.

### 4. DRIVE FRAME

Drive frame will consist of an “A” frame, a truss frame and two (2) single acting hydraulic cylinders with 3 ½” x 16” stroke.

The A frame shall be a triangular weldment with 3/8” thick steel plates, top and ½” thick bottom, a rear member from not less than 1” thick steel plate and two (2) center 3/8” reinforcements to form a boxed center section.

Drive frame to be complete with one single parking leg stand which must be height adjustable.

The truss frame shall include a main drive member from a minimum of 4 x 4 x 3/8” HSS structural square tubing fitted with gusseted top and bottom semi-circles from not less than 5/8” thick steel plate.

The truss frame shall pin to the moldboard with no less than four (4) pin points over a span of not less than 100”.

The moldboard and truss frame shall pivot about the “A” frame on a lubricated pin, not less than 3” in diameter, up to 37 degrees either side of the chassis center line.

Integral heavy duty three-point lift chain self-leveling device capable of keeping the cutting edge parallel to the road surface while in the carrying position regardless of the degree of angle.

Pushpoint spacing will be 30 ½” center to center to suit standard push frame.

### 5. TRIP EDGE

A safety trip edge will provide protection from road hazards. This mechanism will provide a pivoting movement of the blade when hitting an obstacle.

The trip edge will be designed and manufactured as a three section trip assembly.

The trip edge will incorporate 6 horizontally mounted torsion springs.

Torsion springs will be ¾” wire with 15 active coils and 3 ¾” outside diameter.

Each torsion spring will be a minimum of 15” in length, pinned in position between lower moldboard and to cutting edge reinforcement.

### 6. HYDRAULICS

Hydraulic cylinder piston rods will be hard chrome plated.

A crossover relief valve will provide cushion impact protection.

Hydraulic hoses will have S70 hydraulic quick disconnects.
7. GENERAL

Warranty minimum one-year parts and labour.

All steel to be shot blasted, epoxy primed and finished paint to be acrylic urethane black.

YES: ☐ NO: ☐

8. OPTIONAL

Drive frame to be complete with bolt on quick attach swivel.

YES: ☐ NO: ☐

Moldboard shall be a full 10 Ga steel moldboard skin 100% welded to the backer ribs.

YES: ☐ NO: ☐

K – ALL SEASON COMBINATION DUMP BODY/SPREADER

PROLINE 1011 HW11 SPECIFICATIONS

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 chassis frame mounted with spreader discharge on the front, left side (driver’s) of dump box.

Viking model PL1011HW or equivalent approved by the end user.

YES: ☐ NO: ☐

SPECIFY: ____________

MAKE: ____________

MODEL: ____________

Body shall be oval shaped, permitting materials to unload by gravity flow into spreading position.

YES: ☐ NO: ☐

Water level capacity will be 8 cu. yd.

YES: ☐ NO: ☐

SPECIFY: ____________

Yd³ ____________

Provisions for 2” x 10” sideboards.

YES: ☐ NO: ☐

Outside length 11’.

YES: ☐ NO: ☐

Inside length 10’.

YES: ☐ NO: ☐

Overall width 8’ maximum.

YES: ☐ NO: ☐

Height of sides 45’.

YES: ☐ NO: ☐

Height of tailgate 54’.

YES: ☐ NO: ☐

Height of front panel approx. 55’.

YES: ☐ NO: ☐

Top rail of body will be 6” x 4” x 1/4” rectangular tubing.

YES: ☐ NO: ☐

All body welds will be 100% continuous inside and outside.

YES: ☐ NO: ☐

Body floor sides, front panel and tailgate will be constructed of 3/16” Cor-Ten “A” corrosion resistant steel.

YES: ☐ NO: ☐

Dump box access ladder shall be 16” wide and recessed to be flush with dump body rail and fender, located on drivers side at front of box sloping inward from bottom to top.

YES: ☐ NO: ☐
Hoist shall be a front mounted, three (3) stage telescopic with 5.0” bore.

Cylinder stroke shall be 213 cm (84”) minimum.

Dump box tipping angle shall be 50 degrees.

Hinge Dia. shall be 2.5”.

Hoist control valve shall be air operated.

Body safety prop be supplied.

Tailgate

Tailgate height shall be 54”.

Construction shall be of 3/16” Cor-Ten “A” steel with 3/16” formed cross bracing.

Latch mechanism for the tailgate shall be air trip and latch using two air pot boosters.

Spreader chains and brackets shall be supplied on tailgate and rear post. Chain shall be grade 70 coil proof 3/8” minimum.

Conveyor

The main conveyor shall be recessed along the length of dump box floor.

The conveyor chain shall be a minimum of 30,000 lbs., tensile strength self cleaning pintle chain with 3/8” x 1 ¼” crosses welded to every 4th link (approx. 9”).

The main conveyor shall be hydraulic direct drive providing a minimum of 38,000 lbs., torque capacity, or equivalent.

The flow control gate between main and cross conveyor shall be screw adjustable by hand crank from drivers side of dump body.

The cross conveyor shall be hydraulic direct drive.

The cross conveyor chain shall be pintle chain with 3/16” x 1” crossers every 4” with a minimum tensile of 17,000 lbs.

Fenders shall be continuous along length of dump body to provide cover for rear wheels and protect body.

Fender width shall be sufficient to accommodate calcium tank (optional).

Mud flaps shall be provided fore and aft of rear wheels frame mounted via full width steel flat bar.

Optional Paint

The dump body shall be shot blasted and epoxy primed.

Finish paint shall be Dupont Imron 5000 one colour of choice.
Optional Load Cover

An air tarp shall be standard equipment with fabricated tarp arms dimensions of 1 ½” x 2 ½” steel tubing, 1/8” mesh tarp and two 14” stroke air cylinders mounted on left and right hand side box fenders.  

YES:  NO:  

Optional Lights and Wiring

Light and wiring shall be completely sealed with corrosion and vapour proof lamps and junction box.  

YES:  NO:  

All lights and wiring shall be supplied.  

YES:  NO:  

Taillights shall be mounted in rear side posts.  

YES:  NO:  

Rear blue and amber flashers mounted on rear body sill.  

YES:  NO:  

Optional Hydraulics

The body operation shall be powered by the existing hydraulics of the snowplow truck harness.  

YES:  NO:  

All fittings, valves hoses and drive shaft shall be supplied and installed. All hoses shall be equipped with swivels on both ends.  

YES:  NO:  

The hydraulic reservoir shall be of sufficient capacity to supply necessary oil supply. Reservoir must not interfere with the box installation.  

YES:  NO:  

A sight gauge to allow easy checking of the hydraulic oil level in the reservoir shall be supplied.  

YES:  NO:  

Miscellaneous

Two inch thick hardwood sub-frame to be installed on chassis frame rails.  

YES:  NO:  

When the body is in the down position the body long members will rest directly on the hardwood sub-frame and will not directly contact the chassis frame rails.  

YES:  NO:  

Warranty one year minimum parts and labour.  

YES:  NO:  

Optional Coal Door

A coal gate shall be located at bottom centre of tailgate with dimensions 26” wide and 17” high with a lever type operating handle.  

YES:  NO:  

page 19
FRK Poly Rev Plows & Options

* FRK3911TE Frink Poly Reversible Plow, 11’ trip edge moldboard, 39” high, 9’ clearing path @35°.

Standard Features:
1. Power ram reversing moldboard can discharge snow left or right side.
2. Trip edge design: torsion springs allow the blade to trip when hitting immovable objects, protecting the road and the plow.
3. Levelling system reduces plow list.

Grade 70 Chain.
* 1/2 x 8 x 132” Standard cutting edge (3 pcs 1/2 x8x 44”)
* 3/4 x 6 x 132” carbide cutting edge (3 pcs of 3/4 x 6 x 44”), bull nose
* Curb Shoe Standard (each)
* Qty (2) of Moldboard Shoe Kit Poly Plow (each)
* Standard cast steel mushroom shoe install kit (pair)
* Quick attach plate and bar
* Qty (2) of 24” Plow marker whip, orange
* Rubber snow deflector 1/2”x12” includes mounting hardware
* Baril DCC-181 Finish w/ corrosion protection : Medium Gloss Black (moldboard and push frame)

Plow Harness & Options
* VCL500T Hydraulic Tilt Harness includes 1/2” 44w tailplates to suit chassis, plow lift yolk and 4x10 plow lift cylinder:Heavy duty inner & outer rotation tubes with grease fittings.Single non load bearing lock pin design2-1/2” x 6” tilt cylinder
* Cut O.E.M. front bumper and re-install ends to chassis.
* Quick attach pockets and pins
* 5/8” tail plates in lieu of standard 1/2”
* ABL heated LED plowlights
* Qty (2) of Plow harness mounted heated 4” square, 3000 lumen, LED floodlight c/w mounting bracket and wiring harness
* 10” Convex mirror with stainless steel protective backer plate
* Front drivers side foot step attached to tail plate
* Medium gloss black (wing towers, harness)

Wing Harness & Options
* VCL275 AHW All hydraulic lift and extension wing tower. Does not include back of cab hydraulic oil tank. In cab controlled wing extension. Includes frame mount, front post, and rear wing tower. Does not include pusharms or moldboard.
* Viking tube style frame cross member
* Aeon rubber helper spring assembly.
* Dual adjustable needle valves for Rear Wing rate control of UP/DN
* Rear wing harness mounted heated 4” Square, 3000 Lumen, LED floodlight c/w mounting bracket and wiring harness
* Front post mounted heated 4” Square, 3000 Lumen, LED spotlight c/w mounting bracket and wiring harness
* Baril DCC-181 Finish w/ corrosion protection : Medium gloss black (wing towers, harness)

Wing Moldboards & Options
* VCL144AHW moldboard c/w pusharms. Ultra heavy duty panel construction for extreme conditions. Pre-Punched cutting edge holes for easy blade installation. Moldboard curvature excels at casting snow farther from road.
* 5/8” x 6 x 132” high wear wing blade ( one piece blade )
* VCL steel curb shoe (each)
* Baril DCC-181 Finish w/ corrosion protection: Medium gloss black (wing moldboard)
* Parking leg for AHW wing
* 36" Plow marker whip, fluorescent orange
* Conspicuity safety reflective tape on wing arms and on rear edge of wing.
* Grade 70 Chain Upgrade

Proline Bodies

* PL1011HW-II 7.7cu yd water level capacity (9.8 cu yd w/ 10" sideboards)
* 6.1 m3 water level capacity (7.6 m3 w/ 10" sideboards).

Standard Features:
1. U-Style Design - Continuous roll formed sides with no brakes for optimal material flow to main conveyor. Specifically designed for sand, salt and aggregate material spreading.
2. Self tensioning chain ensures that the chain is functioning properly, regardless of wear.
3. Front discharge.
4. Double acting tailgate for carrying large items.
5. Air tailgate release for easy material dumping.
7. Durable 3/16" cortex sides resist material wear & corrosion.
8. Left front inspection ladder.

Proline Options

* Qty (10) of body ft, Hardox 450 high tensile body construction. (HW, HW-II, LW-II) (conveyor cover remains standard rubber) Hardox 450 is an abrasion-resistant steel with a nominal hardness of 450 HBW. Hardox 450 combines good bendability and weldability with an option for guaranteed impact toughness. Provides better dent and abrasion resistance as well as longer wear life, so you can achieve even greater savings. Yield strength is around 175,000 psi, Tensile strength is around 203,000 psi.
* Asphalt door in tailgate (Hardox body)
* Stainless steel shovel holder installed on driver's side front
* Main conveyor sensor motor in lieu of standard 6 cu. in. w/o adapter cable
* Red/white 2" reflective tape along body fenders & across bottom tailgate
* Main Conveyor cover clean out screen to be 'PINNED', not bolt on
* Aluminium ladder in lieu of standard ladder
* Grote "Ultra Blue Seal" - LED body lighting kit c/w license plate lamp, LH and RH 2-1/2" round red LED rear clearance, 6" oval LED back-up, 2 x 6" oval red LED stop/tail, front side 2-1/2" marker lights.
* Star 200A strobe beacon light with cab shield mounting bracket - Blue Lens
* Star 200A strobe beacon light with cab shield mounting bracket - Amber Lens
* Spare lens for Star 200A strobe beacon: Amber Lens
* 4" Amber strobe (LED) for RH corner light post in lieu of blanket.
* 4" Blue strobe (LED) for RH corner light post in lieu of blanket.
* Grote blue self flashing LED 6" corner post strobe
* Grote amber self flashing LED 6" corner post strobe
* Dual spinner - dual auger cross conveyor for HW-II body
* Qty (2) of Spinner clean off/anti coning device
* Qty (2) of Poly lined chute
* Extended Cross Conveyor Poly Guards
* Qty (3) of Cross conveyor mounted heated 4" square, 3000 lumen, LED floodlight c/w mounting bracket and wiring harness

Mounting location: curb side, BOC, drivers side
* VCL manufactured air tarp kit for S/A Prolines (less tarp cover) c/w Aluminium tarp arms
* Mesh tarp cover 9 x 9 weave
* Black Hardwood sideboards - Pair
* Dupont Imron Elite Finish w/ chromate epoxy Dupont CR2580 primer:
  VCL labour to paint body requires accurate paint code Paint Code:
  * To be wired for future use of dual upper light sticks.

**Chassis Options (Add all items in red to tender with other specs)**
* Chassis mounted aluminum fenders S/A chassis
* Pintle plate and bracing for pintle hooks rated > 30,000# MGTW c/w Baril DCC-181 finish - medium gloss black
* Holland PH-30RP41 rigid mount pintle hook 30,000 # MGTW (replaces T60 rigid mount). xx inches ground level to the inside bottom of the pintle hook saddle.
* Tectran Traction Tec swing away glad hands (per set)
* Pedestal mount for beacon light: metro tower
* Re-install O.E.M. tail lights back onto rear of chassis frame
* Re-install OEM 7 pin trailer plug & pintle plate
* Re & RE Misc Chassis Components.
* Freight to ship wing to customers location
* Freight to ship plow to customers location

**Air Electric Hydraulic Controls**
* Dowty tandem 2PL1582PL220DVTP c/w dry valves and in-cab shifter control
* VCL Low oil level indicator w/ in cab warning light and buzzer
* Environment safe hydraulic oil
* Ikron high pressure filter ass’y w/10 micron absolute filter
* Qty (7) of VCL Standard 2 wire Hydraulic hose and hose ends by number of sections Aeroquip 100R16 2 Wire GH781 with brazen resistant cover
* Yellow Urethane sleeve on hydraulic hose not kevlar
* Sprage Road Watch RW-1 system c/w dash mounted read out
* Integrated control console assembly
  * Lift To Lock RMH Air Control: \RWING
  * Qty (4) of Standard RMH Air Control: PLIFT FWING WEXT REV PLOW
  * Lift To Lock RMH Air Control: HOIST
  * Standard RMH Air Control: TILT HIT
* Qty (4) of Air Switches: TAIL PTO1 PTO2 TARP
* Cab floor stiffener plate (specify chassis make, model & year)
L – TANDEM DRY MODE FRONT MOUNT HYDRAULIC PUMP SPECIFICATIONS

1) The hydraulic pump supplied shall be a Tyrone Model VDVTP16150180AFJ Tandem Dry Mode with air shift. YES:____ NO:_____
   Specify:____________________
   Model:_______________________
   Make:_____________________

2) The first stage shall produce 24.5 G.P.M. at 2,000 R.P.M. and 1,200 P.S.I. YES:____ NO:_____

3) The second stage shall produce 29.2 G.P.M. at 2,000 R.P.M. and 1,200 P.S.I. YES:____ NO:_____

4) Pump mounting plate and splined drive shaft shall be supplied. YES:____ NO:_____

5) The pump shall be driven from the crankshaft. YES:____ NO:_____

6) The pump shall have a manufacturer’s R.P.M. rating equivalent or higher than that of the truck engine at governed speed. YES:____ NO:_____

7) Hydraulic hoses to connect pump shall be supplied. Their size shall be adequate for quick operation of all hydraulic operations and shall be 2 ply braided steel SAE100RS, with swivels on both ends. YES:____ NO:_____

8) 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:____ NO:_____

9) The hydraulic system must be set up so all other hydraulic functions do not “rob” the sander equipment. YES:____ NO:_____

10) The first stage of the pump will be dedicated to the operation of the spinner and conveyor system. YES:____ NO:_____

11) The second stage of the pump will operate all plow / wing functions and the body hoist. YES:____ NO:_____

12) Single stage one section hydraulic pumps will not be acceptable. YES:____ NO:_____

13) There will be no flow divider valves used to split oil flows between spreader and plow / wing functions. YES:____ NO:_____

14) A parts manual shall be supplied with each unit. YES:____ NO:_____
TOWNSHIP OF STIRLING-RAWDON
CONTRACT 2019-01-SA
MOTOR VEHICLE SPECIFICATION

TENDER FOR ONE SIX TON SINGLE AXLE DUMP TRUCK EQUIPPED WITH DIESEL POWERED ENGINE

1. Price for one, CHASSIS AND CAB $ _____________
   Make ..........................................
   Model ..........................................
   G.V.W. ........................................
   Wheelbase ................................... 
   Engine .........................................

Total Price
(Chassis & Cab) $ _____________
Plus H.S.T. $ _____________
TOTAL TENDER AMOUNT $ _____________

Dealer: ____________________________
Address: ____________________________

Phone No.: ____________________________
Signature: ____________________________ Witness
Signed By: ____________________________
Please Print

Guaranteed time of delivery is ____________ calendar days after notification of award.