

PART A

BID SUBMISSION

FORM A: BID
(See B7)

1. Project Title **SUPPLY & DELIVERY OF A NEW OR USED SEWER JET VEHICLE**

2. Bidder

Name of Bidder

Street

City

Province

Postal Code

(Mailing address if different)

Street or P.O. Box

City

Province

Postal Code

The Bidder is:

(Choose one)

a sole proprietor

a partnership

a corporation

carrying on business under the above name.

3. Contact Person

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

Contact Person

Title

Telephone Number

Facsimile Number

e-mail address

4. Definitions

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

5. Offer

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

6. Commencement of the Work

The Bidder agrees that no Work shall commence until he is in receipt of a Purchase Order authorizing the commencement of the Work.

Template Version: G320040301

7. Contract

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

8. Addenda

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

No.	_____	Dated	_____
	_____		_____
	_____		_____

9. Time

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

10. Signatures

In witness whereof the Bidder or the Bidder's authorized official or officials have signed this

_____ day of _____, 20_____ .

Signature of Bidder or
Bidder's Authorized Official or Officials

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

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

Form B: Prices

(See B8)

SUPPLY & DELIVERY OF A NEW OR USED SEWER JET VEHICLE

UNIT PRICES

ITEM NO.	DESCRIPTION	SPEC. REF.	UNIT	APPROX. QUANTITY	UNIT PRICE	AMOUNT
1	Supply & Delivery of a New or Used Sewer Jet Vehicle	07061	Each	(1)	\$ _____	\$ _____
2	Parts manuals, CD's preferred	07061	Each	1 Set	\$ _____	\$ _____
3	Technical service manuals, CD's preferred	07061	Each	1 Set	\$ _____	\$ _____
TOTAL BID PRICE (GST and PST extra) (in figures) \$ _____ (in words) _____ _____						

 Name of Bidder

FORM N: DETAILED SPECIFICATIONS 07061

SUPPLY & DELIVERY OF A NEW OR USED SEWER JET VEHICLE (Water & Waste Department)

1.0 INSTRUCTIONS FOR COMPLETION OF SPECIFICATIONS

- 1.1 The **Supply & Delivery of a New or Used Sewer Jet Vehicle shall be a 2005 to 2008 model year with no more than 2500 hours and 100,000 kilometres on the chassis and no more than 500 hours on the sewer jet pump.** The vehicle shall be furnished complete and ready for use by the Contractor. All parts not specifically mentioned but which are required to complete and place the vehicle into successful operation shall be furnished as though specifically mentioned in these specifications.
- 1.2 It will be the responsibility of the Bidder to inform the City of any errors or omissions in these specifications, for under this Contract the Contractor shall be held responsible for the satisfactory operational function of the vehicle.
- 1.3 All items in these specifications must be answered indicating compliance or non-compliance. **Bidders shall state "yes" for compliance or state deviation,** or give a reply where requested to do so. Deviations shall be clearly stated and fully detailed. Alternatives will be considered subject to evaluation.
- 1.4 Each bidder is required to fill in every blank. **Failure to do so may be used as a basis for rejection of bid.**
- 1.5 All applicable SAE standards form an integral part of these specifications and shall have precedence in any conflict concerning minimum acceptable standards.
- 1.6 The completed unit and all its components shall comply with all C.M.V.S.S. Canadian Motor Vehicle Safety Standards, M.H.T.A. Manitoba Highway Traffic Act, S.S.A Safety Standards Act, F.M.V.S.S Federal Motor Vehicle Safety Standards, D.O.T Department of Transportation, NVSM National Vehicle Safety Mark regulations and requirements as applicable, including but not limited to, a Manitoba Government Inspection with Safety Sticker on the driver's side window.

2.0 SERVICE FACILITY

- 2.1 For the purpose of warranty repairs, the supplier shall have an authorized service facility located within 10 kilometres of the boundaries of the City of Winnipeg. The facility, or a portion thereof, shall be dedicated to the service and maintenance of the type equipment being offered. Further to B9.1, Bidders shall provide a description of the service facility including, but not limited to, number of qualified service staff, years of service experience, and general service capabilities within three (3) Business Days upon request of the Contract Administrator.
- 2.2 If a suitable warranty facility is not available within 10 km of the boundaries of the City of Winnipeg, the Bidder may propose that the City of Winnipeg Repair Facility perform warranty work. Any Work performed by the City of Winnipeg Repair Facility shall be charged to the Contractor at the Facility's shop rate in effect at the time the work is performed (for example, shop rate for 2007: \$80.50/hour and \$ 105.50/hour for overtime and callout).

2.3 Location of the service facility located within 10 km of the boundaries of the City of Winnipeg.

The Bidder shall choose and fill in **one of** the Clauses listed below. --- **2.3.1) OR 2.3.2)**

2.3.1 Bidder's own facility location. State the location of the service facility below.

2.3.2 Bidder elects to have warranty work be performed by the City of Winnipeg Repair Facility.

3.0 SPECIFICATIONS-

3.1 It is the intent of these specifications to describe the minimum requirements for a New or Used High Pressure Water Jet designed for the removal of sand, dirt, grease, detergents, and materials normally found in storm drain and sanitary pipes. The machine described will be designed to deliver high performance capabilities and provide maximum operator safety and convenience. All parts not specifically mentioned which are required for a complete unit shall conform in design, strength, quality of material, and workmanship to the highest standards of engineering practice. Unit to also have a water jet propelled camera system.

4.0 WATER TANK-

4.1 Tank capacity shall be 1500 gallons of water. Tank shall be welded / repairable construction of .500", U.V. stabilized Duraprolene. The baffles in the tank will be constructed of .375" Duraprolene. These baffles will reduce sloshing and distortion and will form no less than sixteen interconnected compartments.

4.2 Tank bottom will be flat bottom type; pump intake will be located to allow sediment to settle at tank bottom rather than entering and damaging pump. Tank will be equipped with a strainer at tank top for elimination of foreign objects into tank.

4.3 Entire tank top shall be completely removable for safe access of personnel entry during maintenance. Duraprolene to be ultraviolet stabilized to prevent material breakdown. Tanks constructed of steel will not be acceptable due to the potential of water_pump damage by rust and corrosion particles.

4.4 Tanks constructed of polypropylene will not be acceptable due to inadequate UV protection and lack of repairability.

5.0 FILL SYSTEM-

5.1 Tank filling shall be possible from both curbside and street side. Tank filling system and fill hose will be located between the cab and water tank of the unit with a fill point on both sides of the truck. Tank fill system shall utilize a quick disconnect cam lock fitting for 2-1/2" fill hose. A water level indicator will be located at operator's station.

5.2 A water level sight gauge will be located on street side and on curbside. A

four-inch air gap will be utilized between fill pipe and tank fill opening to eliminate siphoning potential. There will be a shut-off valve between tank and 20-mesh "Y" strainer. Two inch drain valves will be located at both curbside and street side.

- 5.3 Air gap shall have an integral float valve assembly to eliminate water discharge due to movement of the vehicle.
-

6.0 CAMERA CONTROL SYSTEM-

- 6.1 The camera monitor shall be a 7" minimum LED screen mounted on the left side of the hose reel assembly. The camera monitor shall be enclosed in a lockable sealed enclosure that allows for optimum security. Said enclosure shall be of aluminium construction with a removable front panel.
-

- 6.2 The above camera monitor enclosure shall also include the necessary controls for operating the camera functions. These controls shall be mounted in a NEMA 4 enclosure. The camera controls shall be located in a weather tight enclosure, shock mounted for optimum durability. Said enclosure shall be of aluminum construction.
-

- 6.3 Camera controls shall consist of a VCR, CAMERA CONTROL CENTER and storage tray. These controls shall be of a slide in rack mount design for ease of maintenance and durability. The VCR shall operate on 12 VDC power and be rated for mobile operation. Recording shall be able to be controlled through a remote control infrared sensor.
-

- 6.4 The camera control shall operate off 12 VDC power and rated for mobile operation. This control center shall incorporate all camera controls. Said controls shall consist of camera head light intensity, camera power control, microphone jack, footage counter display reset and individual circuit breakers for various accessories. In addition, this control center shall have the ability to change control locations from the control center to the remote controller at the hose reel.
-

- 6.5 Unit must be upgradeable to DVD burner or data collection software system via computer.
-

7.0 CAMERA-

- 7.1 The camera shall be self righting/self leveling and of a high resolution (400 lines minimum) color camera. The camera shall also have high sensitivity, 0.2-LUX minimum. The camera shall have an Electronic Iris to compensate for light intensity. The camera shall have a Shatterproof Sapphire Window, Stainless Steel Housing and be Internally Potted for Shock Protection and Water Resistance.
-

- 7.2 The camera shall have an LED Light head consisting of 48 Low Power, Long Life LEDs. The LED light head shall be designed for illumination for up to 24" diameter pipes. Camera skid shall be propelled through the sewer via a water jet skid complete with replaceable inserts. Said inserts shall be available in hardened steel or ceramic materials of construction.
-

8.0 360° ROTATING CAMERA-

8.1 The camera system shall include an additional rotating head camera assembly. Said assembly shall have the ability to rotate through a 360-degree arc allowing the operator to inspect lateral pipe connections and the like. The camera shall be of a high-resolution (400 lines minimum) color camera. The camera shall also have high sensitivity, 0.2-LUX minimum.

8.2 The camera shall have an Electronic Iris to compensate for light intensity. The camera shall have a shatterproof Sapphire Window, Stainless Steel Housing, and be Internally Potted for Shock Protection and Water Resistance.

8.3 The camera shall have an LED Light head consisting of 48 Low Power, Long Life LEDs. The LED light head shall be designed for illumination for up to 24" diameter pipes. The camera control center shall control the transfer of control between cameras as well as the rotating camera lens location.

9.0 ROTATING SAFETY DUAL REEL-

9.1 Unit shall be equipped with two (2) hose reels. The hose reels shall be constructed of 1/4" steel, designed to withstand maximum working pressure without distortion. The narrow designed reels shall be self-leveling type for operator safety.

9.2 The left side reel of the unit has a minimum capacity of 500' of Umbilical Hose/Cable to propel the high definition camera through the sewer line. The right side jetting hose reel shall have a capacity of 800' of 1" sewer hose. Reel flanges shall be a minimum of 1-1/2" wide and designed to prevent hose damage.

9.3 The hose reel sides will be reinforced with heavy-duty side supports to eliminate damage. The sewer hose will be attached to the reel on the inside to facilitate replacement of hose.

9.4 The dual hose reel assembly shall be mounted in the rear/center of the rear compartment. The hose reels shall have the ability to extend out from the rear compartment via a hydraulically powered cylinder.

9.5 The cylinder shall extend the hose reels 48" from the fully retracted position in the heated rear compartment after the rear roll-up door has been completely opened.

9.6 To provide direct alignment to manholes, the hose reel shall rotate 190- degrees when fully extended in the operating position. Direct alignment minimizes hose wear and damage.

9.7 The hose reel mount assembly shall be supported by ball bearings allowing for smooth trouble free operation. Said assembly shall be capable of being extended or retracted by hand in the event of the loss of hydraulic power. Mount assemblies utilizing sliding contacts shall not be acceptable.

9.8 The hose reels shall rotate on a heavy-duty vertical thrust bearing. Hose reels relying on sliding contact or other wear surfaces are not acceptable. The hose

- reels will lock into position using a spring-loaded safety pin at 2" intervals. _____
- 9.9 The Sewer Hose reel (right reel only) shall be equipped with an automatic level wind, which allows for "hands-free" winding of sewer hose onto the hose reel without operator touching sewer hose. _____
- 9.10 The automatic level wind system (sewer hose reel/right reel only) will incorporate a drive system, which scrolls a pivoting "V" roller head back and forth across hose reel for proper winding of sewer hose onto reel. _____
- 9.11 The automatic level wind system is equipped with a hydraulic controlled elevation system, which incorporates dual cylinders and pivot arms to raise and lower the level wind guide depending on location of manhole. Level wind raises/lowers minimum 45 degrees. _____
- 9.12 The "V" roller head will open to allow use of hose guide, fin extension, and nozzle without need to thread hose into guide. A pendant control with 25' cord will be supplied for ease of operator use with the automatic level wind. _____
- 9.13 The pendant control will include controls for hose reel "Forward/Neutral/Reverse", engine throttle "up/down" and a kill switch. The reel design shall be such that either a rotating or fixed position reel will be interchangeable with regards to the method of attaching to the truck. _____
- 9.14 Digital Footage Counter to be included with the capability of footage accuracy of plus or minus one percent that is displayed on a digital screen with 2" red LED number display. The Digital Footage Counter measures the rotation of the hose reel and takes into account the diameter of the hose, the length of the hose, and the diameter of the hose reel drum. Based on that information the Digital Footage Counter delivers footage accuracy of plus or minus one percent. The Digital Footage Counter to be run off 12 volts. User can store up to 10 distance counts for review at later time. The Digital Footage counter includes an A/B switch so user can view footage of either hose reels on unit from the single display. Footage of the B reel can also be viewed on the monitor of the TV system. This footage can be recorded through the VCR in the TV system. _____

10.0 HOSE REEL DRIVE SYSTEM-

- 10.1 The hose reels shall be chain driven by hydraulic power in both directions, either with or without the water pump in operation. The hydraulic drive shall have sufficient power to retract the hose and umbilical cable when fully extended into the sewer with the cleaning nozzles in operation. _____
- 10.2 A hydraulic pump rated at 0-8 GPM at 2,000 PSI will power the hose reel drive. A hydraulic motor with chain drive and sprocket capable of operating in both directions will be furnished. The hydraulic motor and chain must be adjustable. _____
- 10.3 The hydraulic drive for the reels will be furnished with an overload relief valve. The hydraulic drive for the reels shall select left or right reel control through use of a single diverter valve mounted on the hose reel assembly. _____

11.0 UMBILICAL HOSE/CABLE-

11.1 The camera propulsion left side mounted reel on this unit shall be equipped with a Umbilical Hose/Cable which encases 500' of 5/8" high-pressure polyurethane sewer hose of specially formulated thermoplastic construction expressly designed for sewer cleaning use and an 11-conductor .410" diameter video cable. The Umbilical Hose/Cable shall have an abrasion, and scuff resistant cover.

11.2 The Umbilical Hose/Cable that encases 500' of sewer jet hose and 500' of video cable is of single flat profile cord. The Umbilical Hose/Cable is of "single construction". Two (2) piece systems that call for difficult "synchronization" of hose and cable during use are not acceptable.

12.0 SEWER HOSE-

12.1 The unit will be supplied with an abrasion resistant plastic (Armor Belt) sewer cleaner hose capable of cleaning sanitary service lines, storm lines, culverts, drainage tiles and other open conducts. Hose will be 1" ID by 600' with an operating pressure of 3,000 PSI and a minimum burst pressure of 7,500 PSI. Hose outer cover will contain an integral belting of high tensile polymer reinforcement for cut and abrasion resistance.

13.0 WATER SYSTEM PIPING-

13.1 All piping systems subjected to high pressure shall use zinc chromate plated steel fittings with minimum burst pressure of 4 times the system pressure. Hoses working pressure ratings shall exceed the maximum system pressure.

13.2 A strainer with a minimum of 40-mesh screen shall be installed in the suction line at a location accessible for cleaning. All piping shall be installed to drain by gravity through suitable openings equipped with plugs, drain cocks, or ball valves.

13.3 Pressure to the cleaning nozzle, shall be regulated by an overload relief valve. To control water flow from water pump, a single lever control shall regulate direction of water either to hose reel or back to tank utilizing a high-pressure valve assembly. This single lever control shall control a 3-way valve. The recirculation ability of this system allows for use of unit in sub-freezing temperatures. Water delivery to hose reel shall pass through a single 90-degree swivel rotary coupling.

14.0 WATER PUMP-

14.1 Triplex positive displacement pump rated at and powered to produce 75 GPM at 2,500 PSI. Water pump will be located in the rear compartment, which is shrouded and heated to protect the pump from the dangers of any damage caused by freezing. Pump to be fitted with drain cocks for complete draining of pump.

14.2 Pump shall be fitted with a factory set overload relief valve. The water pump shall be direct coupled to a hydraulic motor. Drive systems incorporating any

type of flexible coupling or belt drive system are not deemed acceptable due to maintenance related issues.

15.0 HYDROSTATIC DRIVE SYSTEM-

15.1 The water pump will be driven by a hydrostatic system, which is powered by the truck engine via a PTO mounted to the transmission. The PTO drives a shaft, which powers a hydrostatic transmission pump. This hydrostatic transmission pump is responsible for driving a rear mounted hydraulic motor, which drives the water pump. Also mounted to the hydrostatic pump is a hydraulic pump, which is responsible for relaying power to a rear mounted hydraulic motor that drives the hose reel.

15.2 The hydraulic oil reserve capacity will be at least 24 US gallons with oil temperature indicator. This unit will also be equipped with low hydraulic oil indicator lights located in cab as well as at operator's station to signal loss of hydraulic oil. A hydraulic oil cooler will be provided with hydraulic oil filter. Hydraulic filter shall be cartridge style and integral to the reservoir.

15.3 The hydraulic oil reservoir, water pump, and rear hydraulic motor are to be mounted above the chassis frame rails in the enclosed, heated pump compartment located at the rear of the water tank.

16.0 REAR BODY, TOOLBOXES, AND SKIRTING-

16.1 Rear body will be constructed of aluminum for corrosion resistance and to protect all components located at the rear of the tank. Rear body shall be designed for total enclosure of major components including the water pump, hydrostatic motor, hose reel and associated plumbing and sewer hose.

16.2 Rear housing must be of a one-piece construction including sides and top to allow for easy removal and eliminate any corrosion as the result of bolt together joints and seams.

16.3 Floor decking of rear body will be constructed of 11-gauge steel. Said flooring shall also be treated with a non-skid coating for maximum protection from slipping.

16.4 Rear compartment shall utilize three (3) "upward acting" compartment doors which incorporate a header/counter balance design. Made of anodized aluminum panels, which maximize maneuverability, minimize vehicle width and eliminate the safety hazard of open-hinged doors. Panels will have no rollers or cables, will resist rust and will be virtually maintenance free. Doors will include stainless steel, lockable and keyed alike heavy duty handles. Top and side seals will prevent dust, dirt and moisture from entry compartment. Hinged doors that protrude into work area, invite accident or personal injury, and could result in severe structural damage if vehicle is moved with hinged doors open, cannot be accepted.

16.5 The rear compartment will utilize two deluxe roll-up doors on either side. These doors will measure 48" wide x 52" high. These doors allow for complete access to rear compartment. The rear compartment will utilize a deluxe roll-up door on the rear of unit that will measure 91" wide x 70" high. This door will protect components when closed and allow telescoping extension of hose reel

when opened. The rear roll-up door will be equipped with an automatic safety switch, which will not allow hydraulic extension of hose reel unless roll-up door is opened completely.

16.6 Unit will include 5 aluminum underbody toolboxes; 2 toolboxes 18" x 18" x 30", 2 toolboxes 18" x 18" x 36", and 1 toolbox 10" x 19" x 54". Toolbox will be protected from the effects of water and road dust by a thick, automotive "bulb type" neoprene door seal. A heavy-duty handle (locking style) will be provided on toolboxes.

16.7 Skirting will be made of 11-gauge steel extending full height of toolboxes with cutouts for rear wheels.

16.8 Stop, running, and directional lights will comply with ICC regulations.

16.9 Two (2) 4" PVC storage tubes for long handled tool storage shall be provided.

17.0 ALL-WEATHER SAFETY SYSTEM-

17.1 The rear compartment shall be totally enclosed and heated to prevent accidents and mechanical damage caused by ice build-up in hose (which can lead to hose bursts) and freezing of the high-pressure piping and/or water pump.

17.2 The rear compartment shall be equipped with an 80,000 BTU heater to protect components from freezing and to enhance overall ease of operations. The rear compartment shall utilize three (3) deluxe roll-up doors which, when closed, completely enclose and protect the rear compartment. When not in the extended position, the hose reels shall be housed within the heated rear compartment. A recirculation fitting will be installed to allow for recirculation of water. Recirculation will be possible at all times, including instances when truck is in motion.

17.3 An air purge system will be installed which allows high-pressure air to force water from system. The entire rear compartment must be fully insulated and sealed to prevent freezing.

18.0 HIGH PRESSURE HAND GUN SYSTEM-

18.1 The high-pressure handgun piping shall be provided as standard with quick-disconnect fitting located at the control panel and 25' of 1/2" HP hose with fittings. High-pressure handgun circuit shall utilize an adjustable relief valve capable of 500-PSI capacity. The high-pressure handgun will be adjustable and repairable.

19.0 CONTROL PANEL-

19.1 The jetter control panel will be located at rear of truck on the curbside of the hose reel. All controls shall be mounted in a weather tight NEMA 4 control panel.

Control panel will include:

- Throttle
- Low oil warning light (in cab as well)
- Variable reel speed control
- Forward/reverse hose reel control

- Control panel light
- Water level indicator (4 light)
- Tachometer
- Hour meter

Other controls contained in the rear compartment of the unit

- Water pressure gauge (glycerin filled)
 - Pump power control
 - Quick disconnect fitting for wash down gun
-

20.0 MOUNTING-

20.1 Unit will be mounted on a base frame consisting of 2"x6" tubing. Deck assembly will be bolted solid at rear and spring mounted under the tank to allow the jetter deck to fully support the tanks while allowing the truck chassis rails to flex.

21.0 ACCESSORIES-

21.1 (25') fill hose, Nozzle extension, Hose guide with rope, Upstream pulley Guide, Wash down gun with 25' x 1/2" hose with quick disconnect, Heavy-duty rear bumper with hitch, Floodlight at operator's station, Spotlight with 25' cord, Rotating beacon mounted on top of rear Compartment, Mud flaps, Arrow board, rear mounted, Rear pump compartment light, Operator's and parts manuals, Touch up paint

22.0 PAINT-

22.1 Before painting, all metal shall be cleaned and etched with a phosphoric material to insure permanent bond of primer and paint.

22.2 All components of the unit whether purchased or manufactured shall be both primed and painted prior to assembly in order to assure maximum resistance to corrosion. Painting after the assembly process is NOT acceptable.

22.3 The unit shall have the frame painted black and the hose reel and shroud assemblies to be painted per the customers color specification.

23.0 LIGHTING-

23.1 Strobe light mounted in front of the water tank centered.

23.2 Arrow stick directional light mounted on rear of shroud at highest possible point. LED lighting preferred. State-

23.3 Two work lights mounted on reel to provide optimum visibility.

23.4 Compartment light mounted inside rear body compartment.

24.0 OPTIONS-

24.1 Aluminum Shroud one-piece construction for corrosion resistance and Must be fully lined with insulation to maintain heat. Type of insulation used

Shall be determined during a pre-production meet.

24.2 Auto fill shut off to avoid over filling water tank.

24.3 Work light with 50' retraceable cord.

25.0 CHASSIS MINIMUM REQUIREMENTS-

25.1 It will be the responsibility of the Bidder to inform the City of any errors or omissions in these Chassis specifications, for under this Contract the Contractor shall be held responsible for the satisfactory operational function and weight distribution of the chassis and associated sewer equipment.

25.2 Total GVWR 33,000 lbs.

25.3 Front 12,000 lbs. minimum

25.4 Rear 21,000 lbs. minimum

26.0 DIMENSIONS-

26.1 Wheelbase As required for Sewer Jet Tank Body Installation

26.2 Cab to Axle As required for Sewer Jet Tank Body Installation

26.3 Turning radius State-

27.0 ENGINE-

27.1 Type Diesel, inline 6-cylinder

27.2 Horsepower 230 HP gross minimum

27.3 Torque 660 lb-ft minimum

27.4 Engine shut down Low oil pressure / high water temperature

27.5 Anti-idling Programmable to shut engine off after 15-minutes

27.6 Air intake warmer Required

27.7 Fuel Shut-off Electric solenoid type

27.8 Air intake Air intake located grill or side of hood

27.9 Air cleaner Dry type, suitable for application

27.10 Oil drain plug Magnetic type

27.11 Oil filter Full flow, spin-on type

27.12 Fuel filter Spin-on type

27.13 Block heater Immersion type, 1000 Watt minimum with covered recessed male plug, located under driver's side door

27.14 Coolant Extended Life coolant, antifreeze to -34°F3 (-37°C)

27.15	Coolant filter	Required	_____
27.16	Coolant hoses	Silicone type or Gates Blue Stripe	_____
27.17	Fan Drive	Thermostatically controlled, automatic type	_____
27.18	Air compressor	Water-cooled, pressure lubricated, and minimum 13 cfm	_____

28.0 ELECTRICAL SYSTEM-

28.1	Electrical connectors	Plug-in, sealed type	_____
28.2	Electrical System	State type-	_____
28.3	Alternator	Delco Remy 145 amp	_____
28.4	Starter	Delco Remy 38-MT	_____
28.5	Circuit breakers	Auto-reset, readily accessible	_____
28.6	Batteries	Twp (2), 12-volt, group 31, 1900 CCA combined capacity minimum	_____
28.7	Battery Box	Under cab or frame mounted c/w enclosure	_____
28.8	Battery disconnect	In-cab mounted outboard of driver's seat	_____
28.9	Remote boost terminal	Remote battery boost terminal(s), protected from road spray, covered, state location	_____
28.10	Trailer plug wiring	Routed to end of frame plus 3 extra feet of wiring, c/w 6-pole plastic socket. Wiring shall be circuit breaker protected, wired separately from main truck lighting	_____
28.11	2-way radio circuit	Independent 20 Amp circuit, ignition powered, wired under dash loose, labelled	_____

29.0 EXHAUST SYSTEM-

29.1	Configuration	Stationary extreme outboard single right hand, vertical discharge on passenger side, under-frame routing, vertical portion cab mounted. Discharge tip shall have a backslash type end	_____
29.2	Overall exhaust height	To be determined during pre-production meet	_____
29.3	Heat shield	Required over exhaust next to cab door	_____

30.0 TRANSMISSION-

30.1	Model	Allison 3000 RDS with 5-speed programming	_____
30.2	Shift selector	Digital push-button type, dash-mounted	_____
30.3	Cooling capacity	Water to Oil	_____

30.4	Oil level dipstick	Bayonet type with high and low level markings	_____
30.5	Trans. drain plug	Magnetic type	_____
30.6	PTO Provision	PTO Mount Left Side Transmission	_____
30.7	Ratio	State Ratio-	_____

31.0 FRONT AXLE-

31.1	Type	Meritor, 12,000 lbs. capacity minimum	_____
------	------	---------------------------------------	-------

32.0 REAR AXLE-

32.1	Type	Meritor, 22,000 lbs. capacity minimum	_____
32.2	Ratio	For 110 km/hr top speed, state ratio	_____

33.0 HUB SEALS-

33.1	Type	Oil lubricated front and rear	_____
------	------	-------------------------------	-------

34.0 FRONT SUSPENSION-

34.1	Type	Taper spring suspension, 12,000 lbs. capacity minimum	_____
------	------	---	-------

35.0 REAR SUSPENSION-

35.1	Type	Spring suspension, 21,000 lbs. capacity minimum , state make and model of suspension being bid	_____
------	------	--	-------

36.0 RIMS, WHEELS-

36.1	Front	22.5 x 8.25 aluminium, hub piloted, must meet requested front GVWR.	_____
------	-------	---	-------

36.2	Rear	22.5 x 8.25 aluminium, hub piloted, must meet requested rear GVWR.	_____
------	------	--	-------

37.0 TIRES, FRONT-

37.1	Make & Model	Michelin XZE or Goodyear G395, state tires Must meet requested front GVWR.	_____
------	--------------	--	-------

37.2	Size	11R X 22.5 14 ply	_____
------	------	-------------------	-------

38.0 TIRES, REAR-

38.1	Make & Model	Michelin XDE M/S or Goodyear G167, state	_____
------	--------------	--	-------

Template Version: G320040301

Must meet request rear GVWR.

38.2 Size 11R 22.5, 14-ply minimum _____

39.0 FRAME-

39.1 Type Single rail, to meet requested GVWR, outside frame clear _____

39.2 Application Suitable for sewer jet truck body installation _____

39.3 Chassis fasteners Grade-8 threaded hex headed frame fasteners _____

39.4 After frame As required for sewer jet body installation _____

40.0 STEERING-

40.1 Type Power _____

41.0 BRAKES-

41.1 Type Air, ABS, S-cam drum brakes, front & rear _____

41.2 Slack adjusters Meritor (clearance sensing), automatic type _____

41.3 Parking brake Spring set, four (4) chamber system _____

41.4 Brake pots Vented type _____

41.5 Dust shields Required, front and rear _____

41.6 Moisture ejector Bendix DV-2, heated, required in wet air tank _____

41.7 Drain valves Manual, chain or cable operated, required on each air tank _____

41.8 Air dryer Wabco System Saver 1200, heated _____

42.0 FUEL TANK-

42.1 Type Dual 40 gallon aluminum fuel tanks minimum capacity, fully fuelled upon delivery _____

42.2 Tank straps Steel straps with minimum 1/16 in. rubber or neoprene isolators to prevent galvanic corrosion _____

42.3 Fuel separator Heated, drainable _____

43.0 CAB-

43.1 Type Conventional w/corrosion inhibitor _____

43.2 Construction Aluminium or galvanized steel construction _____

43.3 Front axle to BOC 64-66 in. state _____

Template Version: G320040301

43.4	Cab mounts	Rubber suspension	_____
43.5	Front grille	Stationary type	_____
43.6	Cab interior / trim	Extreme climate insulation including cloth or vinyl headliner on roof, door panels and rear interior of cab	_____
43.8	Hood/Firewall/Engine	Insulated hood liner, engine cover and firewall	_____
43.9	Floor covering	Rubber mat with under-padding	_____
43.10	Floor mats	Two (2), rubber	_____
43.11	Driver's seat	Mid back, air suspension w/foldable armrests, heavy-duty cloth upholstery, Cordura or equal, state material	_____
43.12	Passenger seat	Mid back, stationary seatw/foldable armrests, heavy-duty cloth upholstery, Cordura or equal, state material	_____
43.13	Sun visors	Dual flip-up type	_____
43.14	Steering	Power	_____
43.15	12-Volt power outlet	Required	_____
43.16	Radio	Factory installed AM/FM	_____
43.17	Starter switch	Key operated c/w three (3) sets of keys	_____
43.18	Interior light	Dome light with driver and passenger door switches	_____
43.19	Heater / Defroster	High output, capable of keeping all windows clear at an outside temperature of -35°F (-37°C)	_____
43.20	Air conditioning	Required	_____
43.21	Brake and accel. pedals	Hanging type brake and accelerator pedals	_____
43.22	Horn	Single electric	_____
43.23	Exterior mirrors	Stainless Steel West Cost mirrors, convex mirrors, suitable for 102 in. equipment width	_____
43.24	Downview mirror	Required over passenger door, 5" x 4" approx.	_____
43.25	Windows & windshield	Tinted	_____
43.26	Windshield wipers	Electric, intermittent	_____
43.27	Wiper blades	Winter Blades	_____
43.28	Windshield washers	Electric, required with spray nozzles on wiper blades	_____
43.29	Grab handles	Dual exterior	_____
43.30	Entrance steps	Dual each side, open grate / grip type	_____
43.31	Winter front	Heavy-duty vinyl w/twist lock or snap type fasteners	_____

44.0 INSTRUMENTATION-

44.1	Oil pressure	Gauge	_____
44.2	Coolant temperature	Gauge	_____
44.3	Transmission oil temp.	Gauge	_____
44.4	LOP/HWT	Warning light and buzzer	_____
44.5	Voltmeter	Gauge	_____
44.6	Air reservoir pressure	Gauge with LAP warning light and buzzer	_____
44.7	Engine hourmeter	Required, non-resetable type	_____

45.0 TOW HOOKS-

45.1	Location	Front mounted	_____
------	----------	---------------	-------

46.0 FRONT BUMPER-

46.1	Type	Front bumper steel	_____
------	------	--------------------	-------

47.0 COLOUR-

47.1	Exterior	State-	_____
47.2	Interior	State-	_____
47.3	Frame & suspension	Primed and finished with black Imron 5000 paint	_____
47.4	Wheels	Aluminium	_____

48.0 ACCESSORIES-

48.1	Flare kit	Three (3) triangular reflectors, CVSA approved	_____
------	-----------	--	-------

49.0 MANUALS & DIAGNOSTIC SOFTWARE-

49.1	The Contractor shall supply the following manuals (in English) upon delivery of the vehicles:		
49.1.1	Operator's manual – one (1) per vehicle.		_____
49.1.2	Parts and Service manuals- one (1) set.		_____
49.2	Data Collections Sheets- Data collections sheets to be completely fill out. See clause D.6 (PMDCS)		_____

50.0 TRAINING-

The Contractor shall be required to provide training (at the Contractor's expense) for the City of Winnipeg maintenance and operating personnel.

The training shall be divided into two separate sessions, one for maintenance personnel and one for operating personnel. The training shall be conducted in separate or combined sessions for each group of personnel.

The duration of the sessions shall be as long as required for adequate familiarization and orientation of the equipment to the satisfaction of the Contract Administrator.

The training shall be conducted within two (2) calendar weeks from the date of delivery and shall be coordinated through the Contract Administrator.

The training shall be conducted in Winnipeg at a time and location designated by the Contract Administrator.

Pricing should be based on two (2) business days for maintenance personnel and two (2) business days for operating personnel.

Note: The first payment of the contract on the equipment will not be issued until successful completion of training has been conducted to the satisfaction of the Contract Administrator.

50.1 Training Aides

50.2 Training aids to be included.

50.3 On the type of equipment being offered, state if VHS video tape or CD Rom training aides are available.

50.4 State if other training aides are available and state type

51.0 DELIVERY-

51.1 The equipment shall be serviced, ready for operation and delivered F.O.B. with the freight prepaid to the City of Winnipeg, Fleet Management Agency, 185 Tecumseh Street, Winnipeg, Manitoba within three (3) calendar weeks from the date of official notification of award of Contract. The Contractor shall contact the Contract Administrator prior to delivery of the equipment.

51.1 The Contractor shall fax all vehicle serial numbers, hours/mileage to the Contract Administrator one (1) calendar week prior to delivery.

51.1.1 A pre-delivery inspection shall be performed by the Contractor on all equipment.