

**PART A**

**BID SUBMISSION**

**FORM A: BID**  
(See B7)

1. Project Title **SUPPLY & DELIVERY OF SEWER JET VEHICLES**

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.

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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 SEWER JET VEHICLES**

**UNIT PRICES**

ITEM NO.	DESCRIPTION	SPEC. REF.	UNIT	APPROX. QUANTITY	UNIT PRICE	AMOUNT
1	Supply & Delivery of Sewer Jet vehicles	06054	Each	(2)	\$ _____	\$ _____
2	Parts manuals, CD's preferred	06054	Each	1 Set	\$ _____	\$ _____
3	Technical service manuals, CD's preferred	06054	Each	1 Set	\$ _____	\$ _____
TOTAL BID PRICE (GST and PST extra) (in figures) \$ _____ (in words) _____ _____						

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

## FORM N: DETAILED SPECIFICATIONS 06054

### SUPPLY & DELIVERY OF SEWER JET VEHICLES (Water & Waste Department)

#### 1.0 INSTRUCTIONS FOR COMPLETION OF SPECIFICATIONS

- 1.1 The **Supply & Delivery of Sewer Jet Vehicles shall be a 2007 or 2008 model year**. The vehicles 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, 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 2006: \$73.50/hour and \$ 103.50/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.

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

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**3.0 ELIGIBLE MODEL- 800 HPR SEWER EQUIPMENT OF AMERICA OR EQUIVALENT ACCORDING TO B.5 SUBSTITES STATED HEREIN.**

3.1 It is the intent of these specifications to describe the minimum requirements for a new 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.

**4.0 WATER TANK:**

4.1 Tank capacity shall be 1500 gallons of water. \_\_\_\_\_

4.2 Tank shall be welded/repairable construction of .500", U.V. stabilized Duraprolene. \_\_\_\_\_

4.3 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. \_\_\_\_\_

4.4 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. \_\_\_\_\_

4.5 Tank will be equipped with a strainer at tank top for elimination of foreign objects into tank. \_\_\_\_\_

4.6 Entire tank top shall be completely removable for safe access of personnel entry during maintenance. \_\_\_\_\_

4.7 Duraprolene to be ultraviolet stabilized to prevent material breakdown. \_\_\_\_\_

4.8 Tanks constructed of steel will not be acceptable due to the potential of water pump damage by rust and corrosion particles. \_\_\_\_\_

4.9 Tanks constructed of polypropylene will not be acceptable due to inadequate UV protection and lack of repair ability. \_\_\_\_\_

**5.0 FILL SYSTEM:**

5.1 Tank filling shall be possible from both curbside and street side. \_\_\_\_\_

5.2 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. \_\_\_\_\_

5.3 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. \_\_\_\_\_

5.4 A water level sight gauge will be located on street side and on curb side. \_\_\_\_\_

5.5 A four-inch air gap will be utilized between fill pipe and tank fill opening to eliminate siphoning potential. \_\_\_\_\_

5.6 There will be a shut-off valve between tank and 20-mesh "Y" strainer. \_\_\_\_\_

5.7 2" drain valves will be located at both curbside and street side. \_\_\_\_\_

5.8 Air gap shall have an integral float valve assembly to eliminate water discharge due to movement of the vehicle. \_\_\_\_\_

**6.0 ROTATING SAFETY REEL:**

6.1 Unit shall be equipped with a single hose reel. The hose reel shall be constructed of 1/4" steel, designed to withstand maximum working pressure without distortion. \_\_\_\_\_

6.2 The narrow designed reels shall be self-leveling type for operator safety. \_\_\_\_\_

6.3 The reel of the unit shall have a capacity of 750' of 1" sewer hose. \_\_\_\_\_

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- 6.4 Reel flanges shall be a minimum of 1-1/2" wide and designed to prevent hose damage. \_\_\_\_\_
- 6.5 The hose reel sides will be reinforced with heavy-duty side supports to eliminate damage. \_\_\_\_\_
- 6.6 The sewer hose will be attached to the reel on the inside to facilitate replacement of hose. \_\_\_\_\_
- 6.7 The hose reel assembly shall be mounted in the rear/center of the rear compartment. \_\_\_\_\_
- 6.8 The hose reel shall have the ability to extend out from the rear compartment via a hydraulically powered cylinder. \_\_\_\_\_
- 6.9 The cylinder shall extend the hose reel 48" from the fully retracted position in the heated rear compartment after the rear roll-up door has been completely opened. \_\_\_\_\_
- 6.10 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. \_\_\_\_\_
- 6.11 The hose reel mount assembly shall be supported by ball bearings allowing for smooth trouble free operation. \_\_\_\_\_
- 6.12 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. \_\_\_\_\_
- 6.13 The hose reel shall rotate on a heavy-duty vertical thrust bearing. Hose reels relying on sliding contact or other wear surfaces are not acceptable. \_\_\_\_\_
- 6.14 The hose reels will lock into position using a spring-loaded safety pin at 2" intervals. \_\_\_\_\_
- 6.15 The Sewer Hose reel 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. \_\_\_\_\_
- 6.16 The automatic level wind system will incorporate a drive system, which scrolls a pivoting "4" roller head back and forth across hose reel for proper winding of sewer hose onto reel. \_\_\_\_\_



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6.17 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. \_\_\_\_\_

6.18 The "4" roller head will open to allow use of hose guide, fin extension, and nozzle without need to thread hose into guide. \_\_\_\_\_

6.19 A Master pendant control with 25' cord will be supplied for ease of operator use with the automatic level wind. The pendant control will include controls for hose reel "Forward/Neutral/Reverse", engine throttle "up/down", water "on/off and a kill switch. \_\_\_\_\_

6.20 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. \_\_\_\_\_

6.21 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. Digital Footage Counter must be able to operate in Winnipeg Manitoba seasonal weather conditions. \_\_\_\_\_

**7.0 HOSE REEL DRIVE SYSTEM:**

7.1 The hose reel 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. \_\_\_\_\_

7.2 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. \_\_\_\_\_

7.3 The hydraulic drive for the reel will be furnished with an overload relief valve. \_\_\_\_\_

**8.0 SEWER HOSE:**

8.1 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. \_\_\_\_\_

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8.2 Hose will be 1" ID by 600' with an operating pressure of 2,500 PSI and a minimum burst pressure of 7,500 PSI.

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8.3 Hose outer cover will contain an integral belting of high tensile polymer reinforcement for cut and abrasion resistance.

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**9.0 WATER SYSTEM PIPING:**

9.1 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.

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9.2 A strainer with a minimum of 40-mesh screen shall be installed in the suction line at a location accessible for cleaning.

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9.3 All piping shall be installed to drain by gravity through suitable openings equipped with plugs, drain cocks, or ball valves.

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9.4 Pressure to the cleaning nozzle, shall be regulated by an overload relief valve.

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9.5 To control water flow from water pump, a single lever control shall regulate direction. This single lever control shall control a 3-way valve.

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9.6 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.

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**10.0 WATER PUMP:**

10.1 A positive displacement pump, rated at and powered to produce 75 GPM at 2,500 PSI shall be supplied. Proprietary design pumps such as single piston style are not acceptable.

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10.2 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.

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10.3 Pump to be fitted with drain cocks for complete draining of pump.

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10.4 Pump shall be fitted with a factory set overload relief valve.

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**11.0 HYDRAULIC DRIVE SYSTEM:**

11.1 Accessory hydraulic power shall be provided via an auxiliary engine mounted hydraulic pump, which is responsible for relaying power to a hydraulic motor that drives the hose reel.

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11.2 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.

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**12.0 REAR BODY, TOOLBOXES, AND SKIRTING:**

12.1 Rear body will be constructed of steel to protect 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.

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12.2 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.

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12.3 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.

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12.4 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.

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12.5 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.

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12.6 The rear compartment will utilize a deluxe roll-up door on the rear of unit that will measure 73" wide x 70" high.

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12.7 This door will protect components when closed and allow telescoping extension of hose reel when opened.

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- 12.8 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. \_\_\_\_\_
  
- 12.9 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". \_\_\_\_\_
  
- 12.10 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. \_\_\_\_\_
  
- 12.11 Located in an underbody toolbox is an open hydro-root cutter oil storage reservoir mounted in a rollout assembly. The tank will be equipped with a hydraulic hand pump, which will be utilized to service hydraulic root cutter. The tank will include a hinged lid which when closed will provide an airtight closure for the compartment. \_\_\_\_\_
  
- 12.12 The tank will include a drain for draining of water and changing of hydraulic oil. An expanded metal basket will be included inside tank. \_\_\_\_\_
  
- 12.13 Skirting will be made of 11-gauge steel extending full height of toolboxes with cutouts for rear wheels. \_\_\_\_\_
  
- 12.14 Stop, running, and directional lights will comply with ICC regulations. Two (2) 4" PVC storage tubes for long handled tool storage shall be provided. \_\_\_\_\_
  
- 12.15 Fill hose storage rack mounted inside rear compartment. \_\_\_\_\_
  
- 12.16 Nozzle rack mounted inside rear compartment. \_\_\_\_\_
  
- 13.0 ALL-WEATHER SAFETY SYSTEM:**
  
- 13.1 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. \_\_\_\_\_
  
- 13.2 The rear compartment shall be equipped with an 80,000 BTU heater to protect components from freezing and to enhance overall ease of operations. \_\_\_\_\_
  
- 13.3 The rear compartment shall utilize three (3) deluxe roll-up doors which, when closed, completely enclose and protect the rear compartment. \_\_\_\_\_

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13.4 When not in the extended position, the hose reels shall be housed within the heated rear compartment. \_\_\_\_\_

13.5 A re-circulation fitting will be installed to allow for re-circulation of water. Re-circulation will be possible at all times, including instances when truck is in motion. \_\_\_\_\_

13.6 An air purge system will be installed which allows high-pressure air to force water from system. \_\_\_\_\_

**14.0 HIGH PRESSURE HAND GUN SYSTEM:**

14.1 The high pressure hand gun piping shall be provided as standard with quick-disconnect fitting located at the control panel and 50' of ½" HP hose with retractable reel and fittings. \_\_\_\_\_

14.2 High-pressure handgun capable of 500-PSI capacity. \_\_\_\_\_

14.3 The high-pressure handgun will be adjustable and repairable. \_\_\_\_\_

**15.0 CONTROL PANEL:**

15.1 Control panel will be located right side of the front mounted hose reel

Control panel will include:

- Throttle
  - Pump power control
  - Low oil warning light (in cab as well)
  - Hydraulic pressure gauge (glycerin filled)
    - Water pressure gauge (glycerin filled)
    - Variable reel speed control
  - Forward/reverse hose reel control located on both sides of the hose reel to allow for operation of unit from both sides of reel
    - Control panel light
    - Water level indicator (4 light)
  - Quick disconnect fitting for wash down gun
- \_\_\_\_\_

**16.0 MOUNTING:**

16.1 Unit will be mounted on a base frame consisting of 2"x 6" tubing. \_\_\_\_\_

16.2 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. \_\_\_\_\_

**17.0 PAINT:**

17.1 Before painting, all metal shall be cleaned and etched with a phosphoric material to insure permanent bond of primer and paint. The entire unit will be painted per customer specification with Endura Black. Contractor must advise the Winnipeg Fleet Management Agency prior to paint the as they may choose to fly an City of Winnipeg Inspector for a pre-paint inspection.

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17.2 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.

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

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17.4 Accessories- 25' fill hose, Nozzle extension, 15-degree nozzle, 35-degree nozzle  
Hose guide with rope, Upstream pulley, guide Wash down gun with 25' x 1/2" hose with quick disconnect Operator's and parts manuals, Touch up paint.

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**18.0 LIGHTING:**

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

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

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

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18.4 Compartment light mounted inside rear body compartment.

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**19.0 OPTIONS:**

19.1 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.

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

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19.3 Work light with 50' retraceable cord.

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**20.0 CHASSIS MINIMUM REQUIREMENTS:**

20.1 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

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be held responsible for the satisfactory operational function and weight distribution of the chassis and associated sewer equipment.

20.2	Total GVWR	37,000 lbs.	_____
20.3	Front	14,000 lbs. minimum	_____
20.4	Rear	23,000 lbs. minimum	_____

**21.0 DIMENSIONS:**

21.1	Wheelbase	As required for Sewer Jet Tank Body Installation	_____
21.2	Cab to Axle	As required for Sewer Jet Tank Body Installation	_____
21.3	Turning radius	State-	_____

**22.0 ENGINE: ELIGIBLE MODEL MBE 900, 466DT, CAT C7**

22.1	Type	Diesel, inline 6-cylinder	_____
22.2	Horsepower	275 HP gross minimum	_____
22.3	Torque	800 lb-ft minimum	_____
22.4	Engine shut down	Low oil pressure / high water temperature	_____
22.5	Anti-idling	Programmable to shut engine off after 15-minutes	_____
22.6	Air intake warmer	Required	_____
22.7	Fuel Shut-off	Electric solenoid type	_____
22.8	Air intake	Air intake located grill or side of hood	_____
22.9	Air cleaner	Dry type, suitable for application	_____
22.10	Air intake restriction ind.	Dash mounted restriction indicator	_____
22.11	Oil drain plug	Magnetic type	_____
22.12	Oil filter	Full flow, spin-on type	_____
22.13	Fuel filter	Spin-on type	_____
22.14	Fuel/water separator	Heated, drainable, mounted under hood, located to be protected from road spray	_____
22.15	Fuel line primer pump	Required	_____
22.16	Block heater	Immersion type, 1000 Watt minimum with covered recessed male plug, located under driver's side door	_____
22.17	Coolant	Extended Life coolant, antifreeze to -35°F3 (-37°C)	_____
22.18	Coolant filter	Required	_____

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22.19	Coolant hoses	Silicone type or Gates Blue Stripe	_____
22.20	Fan Drive	Thermostatically controlled, automatic type	_____
22.21	Air compressor	Water-cooled, pressure lubricated, and minimum 13 cfm	_____

**23.0 ELECTRICAL SYSTEM:**

23.1	Electrical connectors	Plug-in, sealed type	_____
23.2	Electrical System	Multiplexed Electrical System	_____
23.3	Alternator	Delco Remy 33-SI, or 34 SI 135 Amp	_____
23.4	Starter	Delco Remy 41-MT/OCP 450 Series with thermal protection	_____
23.5	Circuit breakers	Auto-reset, readily accessible	_____
23.6	Batteries	Three (3), 12-volt, group 31, 2250 CCA combined capacity minimum	_____
23.7	Battery Box	Under cab or frame mounted c/w enclosure	_____
23.8	Battery disconnect	In-cab mounted outboard of driver's seat	_____
23.9	Remote boost terminal	Remote battery boost terminal(s), protected from road spray, covered, state location	_____
23.10	Cab marker lights	LED	_____
23.11	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	_____
23.12	2-way radio circuit	Independent 20 Amp circuit, ignition powered, wired under dash loose, labelled	_____
23.13	Accessory switches	Three (3) required, dash mtd. additional switches labelled "Aux". All switches complete and wired for body installation, labeled and backlit	_____

**24.0 EXHAUST SYSTEM:**

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



**25.0 TRANSMISSION:**

25.1	Model	Allison 3500 RDS with 5-speed programming	_____
25.2	Shift selector	Digital push-button type, dash-mounted	_____
25.3	Cooling capacity	Air to Oil	_____
25.4	Oil level dipstick	Bayonet type with high and low level markings	_____
25.5	Trans. drain plug	Magnetic type	_____
25.6	PTO Provision	PTO Mount Left Side Transmission	_____
25.7	Ratio	Manufacturer recommended for City of Winnipeg usage.	_____

**26.0 FRONT AXLE:**

26.1	Type	Meritor, 14,000 lbs. capacity minimum	_____
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**27.0 REAR AXLE:**

27.1	Type	Meritor, 23,000 lbs. capacity minimum	_____
27.2	Ratio	For 110 km/hr top speed, state ratio	_____
27.3	Differential lock	Required for rear drive axle w/dash mtd. switch	_____

**28.0 HUB SEALS:**

28.1	Type	Oil lubricated front and rear	_____
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**29.0 FRONT SUSPENSION:**

29.1	Type	Taper spring suspension, 14,000 lbs. capacity minimum	_____
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**30.0 REAR SUSPENSION:**

30.1	Type	Air ride suspension, 23,000 lbs. capacity minimum with lateral air bag support beam, state make and model of suspension being bid	_____
30.2	Susp. control valve	Manual dump valve for air suspension c/w dash mtd. switch, indicator light, gauge and buzzer	_____

**31.0 RIMS, WHEELS:**

31.1 Front 22.5 x 9.00 steel disk, hub piloted, must meet requested front GVWR. \_\_\_\_\_

31.2 Rear 22.5 x 8.25 steel disk, hub piloted, must meet requested rear GVWR. \_\_\_\_\_

**32.0 TIRES, FRONT:**

32.1 Make & Model Michelin XZY or Goodyear 286SS, state tires Must meet requested front GVWR. \_\_\_\_\_

32.2 Size 315/80R 22.5, 18-ply \_\_\_\_\_

**33.0 TIRES, REAR:**

33.1 Make & Model Michelin XDE M/S or Goodyear 164 RTD, state Must meet request rear GVWR. \_\_\_\_\_

33.2 Size 11R 22.5, 14-ply minimum \_\_\_\_\_

**34.0 FRAME:**

34.1 Type Single rail, to meet requested GVWR, outside frame clear \_\_\_\_\_

34.2 Application Suitable for sewer jet truck body installation \_\_\_\_\_

34.3 Chassis fasteners Grade-8 threaded hex headed frame fasteners \_\_\_\_\_

34.4 After frame As required for sewer jet body installation \_\_\_\_\_

**35.0 STEERING:**

35.1 Type Power \_\_\_\_\_

**36.0 BRAKES:**

36.1 Type Air, ABS, S-cam drum brakes, front & rear \_\_\_\_\_

36.2 Slack adjusters Meritor (clearance sensing), automatic type \_\_\_\_\_

36.3 Parking brake Spring set, four (4) chamber system \_\_\_\_\_

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36.4	Brake pots	Vented type	_____
36.5	Dust shields	Required, front and rear	_____
36.6	Moisture ejector	Bendix DV-2, heated, required in wet air tank	_____
36.7	Drain valves	Manual, chain or cable operated, required on each air tank	_____
36.8	Air dryer	Wabco System Saver 1200, heated	_____
<b>37.0</b>	<b>FUEL TANK:</b>		
37.1	Type	Dual 40 gallon aluminum fuel tanks minimum capacity, fully fuelled upon delivery	_____
37.2	Tank straps	Steel straps with minimum 1/16 in. rubber or neoprene isolators to prevent galvanic corrosion	_____
37.3	Fuel separator	Heated, drainable	_____
<b>38.0</b>	<b>CAB:</b>		
38.1	Type	Conventional w/corrosion inhibitor	_____
38.2	Construction	Aluminium or galvanized steel construction	_____
38.3	Front axle to BOC	64-66 in. state	_____
38.4	Cab mounts	Air suspension	_____
38.5	Front grille	Stationary type	_____
38.6	Cab interior / trim	Extreme climate insulation including cloth or vinyl headliner on roof, door panels and rear interior of cab	_____
38.7	Cab silencer package	Required for minimal decibel level	_____
38.8	Hood/Firewall/Engine	Insulated hood liner, engine cover and firewall	_____
38.9	Floor covering	Rubber mat with under-padding	_____
38.10	Floor mats	Two (2), rubber	_____
38.11	Driver's seat	High back, air suspension w/foldable armrests, heavy-duty cloth upholstery, Cordura or equal, state material	_____
38.12	Passenger seat	High back, air suspension w/foldable armrests, heavy-duty cloth upholstery, Cordura or equal, state material	_____
38.13	Sun visors	Dual flip-up type	_____
38.14	Steering wheel	Tilt and telescopic type	_____
38.15	12-Volt power outlet	Required	_____

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38.16	Radio	Factory installed AM/FM	_____
38.17	Starter switch	Key operated c/w three (3) sets of keys	_____
38.18	Interior light	Dome light with driver and passenger door switches	_____
38.19	Heater / Defroster	High output, capable of keeping all windows clear at an outside temperature of -35°F (-37°C)	_____
38.20	Air conditioning	Required	_____
38.21	Brake and accel. pedals	Hanging type brake and accelerator pedals	_____
38.22	Horn	Dual electric	_____
38.23	Exterior mirrors	Dual polycarbonate unpainted aerodynamic mirrors with integral convex mirrors, heated, motorized adjustment, suitable for 102 in. equipment width	_____
38.24	Downview mirror	Required over passenger door, 5" x 4" approx.	_____
38.25	Windows & windshield	Tinted	_____
38.26	Power window	Required on driver and passenger side. Controls for both windows required on driver side	_____
38.27	Windshield wipers	Electric, intermittent	_____
38.28	Wiper blades	Winter Blades	_____
38.29	Windshield washers	Electric, required with spray nozzles on wiper blades	_____
38.30	Grab handles	Dual exterior	_____
38.31	Entrance steps	Dual each side, open grate / grip type	_____
38.32	Winter front	Heavy-duty vinyl w/twist lock or snap type fasteners	_____
<b>39.0</b>	<b>INSTRUMENTATION:</b>		
39.1	Oil pressure	Gauge	_____
39.2	Coolant temperature	Gauge	_____
39.3	Transmission oil temp.	Gauge	_____
39.4	LOP/HWT	Warning light and buzzer	_____
39.5	Voltmeter	Gauge	_____
39.6	Air reservoir pressure	Gauge with LAP warning light and buzzer	_____
39.7	Engine hourmeter	Required, non-resetable type	_____

**40.0 TOW HOOKS:**

40.1 Location Front mounted \_\_\_\_\_

**41.0 FRONT BUMPER:**

41.1 Type Front bumper steel \_\_\_\_\_

**42.0 COLOUR:**

42.1 Exterior White \_\_\_\_\_

42.2 Interior Blue or grey \_\_\_\_\_

42.3 Frame & suspension Primed and finished with black Imron 5000 paint \_\_\_\_\_

42.4 Wheels Powder coated white \_\_\_\_\_

**43.0 ACCESSORIES:**

43.1 Flare kit Three (3) triangular reflectors, CVSA approved \_\_\_\_\_

**44.0 CHASSIS WARRANTY:**

44.1 Basic Vehicle Two (2) years, unlimited km \_\_\_\_\_

44.2 Batteries One (1) year, unlimited km \_\_\_\_\_

44.3 Drivetrain Two (2) years, unlimited km \_\_\_\_\_

44.4 Cab structure/corrosion Five (5) years, unlimited km \_\_\_\_\_

44.5 Frame & crossmembers Five (5) years, unlimited km \_\_\_\_\_

44.6 Cab paint One (1) year or 100 000 km \_\_\_\_\_

44.7 Engine Three (3) years or 240 000 km \_\_\_\_\_

44.8 Transmission Two (2) years, unlimited km \_\_\_\_\_

44.9 Axles, front & rear Three (3) years or 240 000 km \_\_\_\_\_

**45.0 MANUALS & DIAGNOSTIC SOFTWARE:**

45.1 The Contractor shall supply the following manuals (in English) upon delivery of the vehicles:

45.1.1 Operator's manual – one (1) per vehicle. \_\_\_\_\_

45.1.2 Parts and Service manuals- one (1) set. \_\_\_\_\_

45.2 Data Collections Sheets- Data collections sheets to be completely fill out. See clause D.6 (PMDCS) \_\_\_\_\_

**46.0 WARRANTY:**

46.1 The Contractor shall warrant the vehicle and all parts thereof, against any defects of workmanship, construction and materials, and agrees to repair or replace without cost to the City any article that has become defective and not proven to have been caused by negligence on the part of the user for a period of **(2) years unlimited hours on chassis, (1) year unlimited hours on all sewer jet equipment, (5) years unlimited hours on water tanker, no deductibles.**

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46.2 In the event of a failure on the part of the Contractor to repair or replace any article during the warranty period within five (5) business days from the date of notification, the City may have the work performed by others and offset the cost against any money due, or that may become due to the Contractor, or if there is money due, the Contractor agrees to pay the City such cost.

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46.3 The responsibility for the design of the complete equipment, its performance and reliability shall rest upon the Contractor.

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

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46.5 Where the vehicle develops "repeated failures" in service, the Contractor shall make any necessary engineering changes, repairs, alterations or modifications in order to guarantee reliability of performance, at no cost to the City, including all incidental costs, with a reapplied, full warranty as described in Clause 46.4.

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**47.0 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.

47.1 Training Aides

47.2 Training aids to be included.

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

47.4 State if other training aides are available and state type

**48.0 DELIVERY:**

48.1 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 forty **(40) 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.

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

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