

PART A

BID SUBMISSION

FORM A: BID
(See B7)

1. Project Title SUPPLY & DELIVERY OF TREE TRIMMING AERIAL DEVICE
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 D3.1 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 TREE TRIMMING AERIAL DEVICE VEHICLES

| ITEM NO. | DESCRIPTION | SPEC. REF. | UNIT | APPROX QTY | UNIT PRICE | AMOUNT |
|---|---|----------------|------|------------|------------|----------|
| 1 | Aerial Device | 07009 | Each | 3 | \$ _____ | \$ _____ |
| 1a | Operator's Manuals for Item 1 | 07009 (19.3) | Set | 4 | \$ _____ | \$ _____ |
| 1b | Parts, Repair, Service Manuals for Item 1 | 07009 (19.3.1) | Set | 2 | \$ _____ | \$ _____ |
| 2 | 29,000 lbs. GVWR Conv. Cab & Chassis | 07010 | Each | 3 | \$ _____ | \$ _____ |
| 2a | Operator's Manuals for Item 2 | 07010 (28.1) | Set | 4 | \$ _____ | \$ _____ |
| 2b | Parts, Repair, Service Manuals for Item 2 | 07010 (28.2) | Set | 2 | \$ _____ | \$ _____ |
| TOTAL BID PRICE (GST and PST extra) (in figures) \$ _____ (in words) _____ _____ _____ | | | | | | |

 Name of Bidder

FORM N: DETAILED SPECIFICATIONS 07009

AERIAL DEVICE (Forestry)

1.0 SCOPE

- 1.1 These specifications describe a tree trimming aerial device vehicle complete with a hydraulically operated, articulating aerial device and a steel flat deck. The aerial device and flat deck shall be installed on a single axle cab and chassis to be supplied complete by the Contractor. (See attached Detailed Specifications 07010 for chassis description).
- 1.2 The aerial device shall be the manufacturer's latest model, as may be modified by these specifications. The aerial device, including auxiliary equipment, shall be furnished complete and ready for use. All parts not specifically mentioned, but which are required for the complete unit, shall conform in strength, quality of material and workmanship to the best standards and engineering practice of the industry.
- 1.3 It will be the responsibility of the Bidder to inform the City of any deficiencies in these specifications, for under this Contract the Contractor shall be held responsible for the design, performance, reliability and satisfactory operational function of the unit.
- 1.4 The ratings specified herein merely state the minimum values acceptable to the City. There is no intent of implying that these values are sufficient for the design of the particular equipment being bid.

2.0 STANDARDS

- 2.1 Canadian Standards Association Standard CAN/CSA-C225-M88 Vehicle Mounted Aerial Devices forms an integral part of these specifications and shall have precedence in any conflict concerning minimum acceptable standards.
- 2.2 The completed aerial device vehicle shall comply with all C.M.V.S.S. and Manitoba Highway Traffic Act regulations and requirements including, but not limited to, a Manitoba Government Inspection with Safety Sticker.
- 2.3 All welding and welding designs of the load supporting elements shall conform to the requirements of Canadian Standards Association Standard W47.1 and W59.

3.0 QUALIFICATIONS OF MANUFACTURER

- 3.1 The manufacturer of the aerial device shall have a minimum of five (5) years continuous experience manufacturing and installing aerial devices of the type being offered. The manufacturer shall have in effect a complete and documented quality control program ensuring compliance with all applicable Standards.

4.0 QUALIFICATIONS OF CONTRACTOR

- 4.1 The Contractor shall be a manufacturer or authorized distributor/supplier of the aerial device equipment.
- 4.2 The Contractor shall have an authorized service facility located within 10 km of the boundaries of the City of Winnipeg. The facility, or a portion thereof, shall be dedicated to the service and maintenance of the 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 on aerial device equipment, and general service capabilities. A description of the service facility shall be provided within 3-Calendar Days upon request of the Contract Administrator.

4.2.1 If a suitable warranty facility is not available within 10 km of the boundaries of the City of Winnipeg, the Bidder may propose that warranty work be performed by the City of Winnipeg Repair Facilities. Any work performed by City of Winnipeg Repair Facilities 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: \$80.00/hr regular time, \$105.00/hr overtime and callout).

4.3 The Contractor shall furnish a letter, stamped by a registered professional engineer, indicating that the completed aerial device vehicle complies with CSA Standard CAN/CSA-C225-M88.

5.0 INSTRUCTIONS FOR COMPLETION OF SPECIFICATIONS

5.1 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.

5.2 Each bidder is required to fill in every blank. **Failure to do so may be used as a basis for rejection of bid.**

6.0 PERFORMANCE

6.1 The aerial device vehicle shall be capable of operating safely and efficiently in any working position and in confined areas, and shall be suitable for use in a tree trimming vocation, during summer and winter conditions normal to the City of Winnipeg.

7.0 MAKE AND MODEL

7.1 **State make and model of aerial device unit being bid.** _____

Note: Bidders shall complete Detailed Specifications 07010 for the supply & delivery of a 29,000 lbs. GVWR Cab & Chassis in accordance with the instructions given.

8.0 AERIAL DEVICE

8.1 Type – rear, centre-mounted, two boom articulated aerial device with a minimum raised platform height of 55 ft., and a side reach of approx. 38 ft.. _____

8.2 Working height – 60 ft. minimum. _____

8.3 Overall travel height (completed unit) – 145 in. maximum at any point. _____

8.4 Rotation – continuous with shear ball type rotation bearing. _____

8.5 Upper boom – fibreglass, insulated. _____

8.5.1 Upper boom articulation (above horizontal) – minimum range of 68°. _____

- 8.5.2 Upper boom compensation required. _____
- 8.6 Upper boom storage support – saddle type support extending past the outer edges of the upper boom. _____
- 8.6.1 The boom storage support shall include a ratchet securing strap or equivalent to fully secure the boom when travelling. A storage hook shall be provided on the support for storage of the unsecured strap. _____
- 8.7 Lower boom – steel with fibreglass insert, insulated. _____
- 8.7.1 Lower boom articulation – minimum range of 100° from stored position. _____
- 8.7.2 Lower boom protection system – to prevent excessive down pressure when stowing lower boom. _____
- 8.7.3 Lower boom storage provision – mechanical securing device, rod actuated from lower control station. _____
- 8.8 Boom lift cylinders shall have externally adjustable counterbalance holding valves. _____
- 8.9 Safety belt attachments – two (2) located at end of boom. _____
- 8.10 Personnel platform – one (1) side-hung, 2-man fibreglass platform. Front mounted interior to exterior long formed step 12"L x 5"W approx. with abrasive non-slip surface required on one (1) side of bucket. The bucket shall have toe space on three (3) sides. _____
- 8.10.1 Nominal platform dimensions – 24" x 48" x 42", state. _____
- 8.10.2 Platform capacity – 650 lbs. minimum, state. _____
- 8.10.3 Personnel platform shall hydraulically swivel minimum 90°. _____
- 8.10.4 Chain saw holder – fibreglass, required on platform. _____
- 8.11 Platform levelling system – automatic, mechanical type. _____
- 8.12 Platform dump system – platform to hydraulically tilt (pivot) minimum 100°. _____
- 8.13 Aerial device shall be certifiable below 46 KVAC. A factory document to certify that the equipment is designed to withstand 100 KVDC (wet and dry) during testing is to be supplied prior to the delivery of the aerial device. The leakage during the test shall not exceed 1.5 micro amps per KV/ft.. _____

Note: The completed unit shall be dielectrically tested by the Contractor prior to delivery. Testing costs shall be paid for by the Contractor.

9.0 OUTRIGGERS AND SUBFRAME

- 9.1 Outrigger stabilizer supports – two (2) sets required with a capacity to support all rated loads. _____

- 9.2 Base set – A-frame type, welded to rear face of aerial device pedestal and to sub-frame. _____
- 9.3 Auxiliary set – modified A-frame, mounted behind chassis cab on top of chassis frame, welded to sub-frame. _____
- 9.4 All outrigger supports shall be designed to form an integral part of the subframe. _____
- 9.5 Outrigger hydraulic cylinders shall be equipped with pilot operated holding valves, fully protected from damage. _____
- 9.6 Outrigger shoes – rigid type, minimum 12" x 12". State dimensions. _____
- 9.7 Subframe – plated type, full length, fastened to top of chassis frame. _____
- 9.7.1 Upon request of the Contract Administrator, the Bidder shall supply the method of attaching subframe and subframe mounting plans. The information shall be supplied within three (3) Business Days of request from the Contract Administrator. _____
- 9.8 Stability requirements – to meet CSA Standard CAN/CSA-C225-M88. The use of a ballast is not acceptable. _____
- 9.9 The Contractor shall perform a stability test of the completed unit in accordance with CSA Standard CAN/CSA-C225-M88 and shall provide a stability certificate showing the date and results of the test prior to final inspection. _____
- 10.0 HYDRAULIC CONTROLS**
- 10.1 Platform controls – one (1) single lever control with double interlock, located at platform end of boom. Control must be full metering. _____
- 10.1.1 Control lever shall permit multiple simultaneous boom movements. _____
- 10.1.2 Platform control valves and control lever to be enclosed in a fibreglass cover accessible from top. _____
- 10.1.3 Emergency stop button – red palm button, instantaneously stops all motion (engine shutdown not acceptable). _____
- 10.2 Master control group – located at lower main frame with controls for all bucket functions and emergency stop button. _____
- 10.2.1 Lower controls capable of positively overriding the platform controls. _____
- 10.3 Outrigger control levers – located at rear of unit, fully protected from damage and accidental actuation. Each control set to operate the outriggers on its respective side only. _____
- 10.3.1 Outrigger functions to be isolated from all other functions by a selector valve located with the left outrigger controls. _____

10.3.2 Outrigger down interlock – required on each outrigger, to prevent aerial device operation if any outrigger is not in down position. _____

10.4 All controls must be clearly identified with permanent, engraved type labels. Glued labels will not be acceptable. _____

11.0 HYDRAULICS

11.1 PTO – constant mesh, Muncie Powerclutch or Chelsea equivalent. _____

11.1.1 Hydraulic shift with in-cab controls, operable from a normal driving position. _____

11.1.2 PTO hourmeter – non-resettable type, installed to record PTO operating hours. _____

11.2 Pump – supplied as per aerial device manufacturer’s recommendation to meet aerial device requirements and sized to eliminate the need for a two (2) speed throttle system. State make and model being bid. _____

11.3 Hydraulic oil reservoir – steel construction, baffled as required, complete with breather type filler cap with filter, filler strainer and sight gauge. _____

11.3.1 Suction strainer – 100 micron, replaceable, in tank mounted. _____

11.4 Return line filter – 10 micron spin-on type, serviceable without oil loss. _____

11.5 Shut-off valve – ball type, located between reservoir and pump, secured in open position with a bracket and bolt. _____

11.6 Relief valve – located prior to aerial device functions, set at system pressure. Relief in outrigger isolation valve to be set 200 psi above aerial device system pressure. _____

11.7 Pressure gauge – glycerine filled, located at lower operating station. _____

11.8 Flashover protection system – required in hydraulic lines to boom tip. _____

11.9 Hydraulic oil – Esso J13 with certified rating of 30KV. _____

11.10 Emergency operating system – 12 Volt auxiliary power pack, must provide hydraulic power to all functions including elevation and rotation. _____

11.10.1 System on/off switches – three (3) toggle type, spring loaded in off position, located at master control group and each set of outrigger controls. One (1) captive air operated switch located at platform control station. _____

11.11 Steel hydraulic tubing – plated type, required where practical except where flexibility is required. Tubing shall be guarded as required. _____

- 11.11.1 Hydraulic hoses – burst rated at 4 times working pressure, protected at all wear and scuff locations. _____
- 11.12 Hydraulic tool outlet – required at boom tip, set to operate at 8 gpm @ 2000 psi., suitable for use with open and closed centre tools. Control handle shall be spring centred with a detent in one (1) direction. _____
- 11.12.1 Tool outlet shall be fitted with Bruning dripless quick couplers. Bruning outlet covers required for all fittings. _____
- 12.0 DECK**
- 12.1 Deck surface – $\frac{3}{16}$ in. checker plate steel construction. _____
- 12.1.1 Dimensions – 14' L x 96" W. _____
- 12.1.2 Upon request of the Contract Administrator, the Bidder shall supply detailed drawings of the deck construction. The drawings shall be supplied within three (3) working days upon request. _____
- 12.2 Deck underside to incorporate a full depth storage compartment (possum belly) complete with a hinged tailgate. _____
- 12.3 Storage compartments – one (1) each side, fibreglass construction, approx. 30"L x 48"H x 18"D mounted at front of deck. _____
- 12.3.1 Transverse compartment – approx 30"L x 30"H x 56"D, aluminum construction, located between storage compartments, equipped with fixed, full depth (56 in.) mid-height shelf, accessible from each end and lined with Dry-Deck matting. _____
- 12.3.2 Door handles – Trimark stainless steel paddle type, flush mounted, lockable with all locks keyed alike w/3-sets of keys. _____
- 12.3.3 Door hinges and latches – chrome or stainless steel with adjustable striker plates. _____
- 12.3.4 Drip moulding – required above door openings. _____
- 12.3.5 Rigid door springs – one (1) per door. _____
- 12.3.6 Material hooks – four (4) per compartment, fixed type, mounted on side walls, two (2) each wall. _____
- 12.3.7 Compartment door openings shall be sealed using automotive, bulb type rubber gaskets. _____
- 12.4 Compartment top and sides covered with $\frac{1}{8}$ " aluminum checker plate. _____
- 12.5 Underslung compartments – two (2) total, one (1) per side ahead of rear wheels, nominal dimensions 30"W x 18"H x 18"D, $\frac{3}{16}$ in. checker plate aluminum construction, lockable paddle style chrome or stainless steel handles, keyed alike w/3-sets of keys, gas shock opening device. _____

12.6 Tire/deck clearance – minimum 2 in. clearance with air bag suspension fully lowered.

13.0 BOOM SUPPORT & CAB GUARD

13.1 Boom support – “A” frame, anchored directly to subframe and located immediately behind cab.

13.2 Lower boom support saddle must extend a minimum distance of 4 in. longitudinally and provide support to the side walls of the lower boom. Saddle to be padded to prevent chaffing of the lower boom.

13.3 Boom storage assembly to include ratchet securing strap with boom mounted storage hooks for storage of unsecured strap, or over-centre latch.

13.4 Bucket support – deck mounted, approx. 2 in. steel tubing construction with rubber bumper pad, suitable for keeping the bucket stationary in transport mode.

13.5 Cab guard – full width, extending from front bumper to back of cab, constructed of 2" x 2" x 1/8" steel tubing covered with 3/4-G9 standard expanded metal.

13.6 Front of cab guard supported by two (2) supports bolted to front bumper.

14.0 REAR BUMPER

14.1 Rear bumper – heavy duty step bumper, approx. 12 in. wide with grip strut step surface and tapered ends.

14.1.1 Bumper shall have a heavy duty tubular steel frame, designed and constructed to withstand severe use.

14.2 Rear kick plate – 3/16 in. aluminum checker plate, full width between bumper and deck surface.

14.3 Mid-height step – mounted between bumper and deck surface, approx. 7" x 30" with grip strut step surface and tapered ends, reinforced as required.

14.3.1 Grab handles – mounted on deck, approx. 30 in. high, tubular steel or steel round-bar construction.

15.0 ELECTRICAL AND LIGHTING

15.1 All vehicle lighting shall conform to CMVSS and Manitoba Highway Traffic Act requirements.

15.2 Supplier installed lighting and lighting equipment shall be LED Truck-Lite (except where otherwise noted) and shall include the following components:

- 15.2.1 Combination stop, turn and taillights – two (2) P/N 44302R, flush or recessed mounted in rear kick plate with P/N 40700 mounting grommets, flash rate 70-90 fpm. _____
- 15.2.2 Back-up lights – two (2) P/N 44206C, flush or recessed mounted in rear kick plate with 40700 mounting grommets. _____
- 15.2.3 Light cluster – three (3) P/N 10250R with P/N 10700 mounting grommets, protected to avoid damage. _____
- 15.2.4 Clearance lights – P/N 10250R and 10250Y with P/N 10700 mounting grommets, flush or recessed mounted. _____
- 15.2.5 Clearance lamp mounting locations:
- i) Front – two (2), located one on each side of fibreglass compartment, mid-height. _____
 - ii) Sides – two (2) per side, one (1) front-top corner mounted in fibreglass compartment, one (1) rearmost section of deck. _____
 - iii) Rear – two (2), located one on each outermost corner. _____
- 15.2.6 License plate lamp – P/N 15040, complete with license plate bracket. _____
- 15.2.7 Lighting harnesses – Truck-Lite 50 Series harness system, properly routed and secured. _____
- 15.2.8 All harnesses shall be internally grounded, no exceptions. _____
- 15.3 Junction box – P/N 50400, complete with necessary compression fittings, required for all vehicle lighting harness connections, located inside rear of truck frame. _____
- 15.4 All plug-in connectors shall be coated with Truck-Lite NYK Compound prior to assemble. _____
- 15.5 Back-up alarm – STAR 62-097, 97 dB(A), installed near rear of flat-deck, located to be protected from damage. _____
- 15.6 Warning beacons – two (2) Preco 7611A, mounted to cab guard at front corners, shock/rubber mounted. _____
- 15.6.1 Beacon guards – $\frac{5}{8}$ in. steel round bar construction on each side with a steel plate welded on top for protection. _____
- 15.6.2 Strobe lights – four (4) Grote P/N 77363, two (2) rear facing on outer most edges of cab guard, two (2) rear facing in rear kick plate. _____
- 15.6.3 Warning beacons and strobe lights shall be actuated by one switch located on the truck dash (see chassis spec.). _____
- 15.7 Compartment lighting – LED rope style lighting located in all body

- compartments. All lights actuated by one switch located on the truck dash (see chassis spec.).
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- 15.7.1 All wiring located interior of compartments for clearance lights and rope lighting shall be fully secured and protected from damage.
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- 15.8 Power take-off warning light – chassis manufacturer’s OEM backlit switch located on the truck dash (see chassis spec.).
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- 15.9 Boom warning light – 1 in. diameter red lens mounted on instrument panel, normally “on” when boom is not in fully stored position. Grote 44421, DAP52-4000 or Preco equivalent micro switch is required.
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- 15.10 Outrigger warning light – 1 in. minimum diameter red lens mounted on on instrument panel, normally “on” when any outrigger is not in fully stored position. Grote 44421, DAP52-4000 or Preco equivalent micro switches are required, enclosed to prevent damage.
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- 15.10.1 All warning lights shall be Cole Hersee #PL-86-RC double contact, wired so that switch is on the ground side of the lamp.
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- 15.10.2 All dash mounted warning lights to be identified with permanent, engraved type labels. No labels allowed on upper surface of dash.
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- 15.11 Inverter – 110 Volt, Xantrex R5200, supplied and installed in accordance with Manitoba Department of Labour Standards. Mounting location to be determined at pre-production meeting.
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- 15.11.1 Duplex receptacle – one (1) required in passenger side fibreglass compartment. The receptacle shall be GFI, CSA approved, weatherproof type, with hinged cover.
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- 15.11.2 The complete 110 V electrical system installation shall be certified by the Manitoba Department of Labour and the necessary approval sticker shall be supplied.
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- 15.12 All wiring for locally installed accessories shall be colour coded, loomed and properly secured.
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- 15.13 All electrical connectors shall be crimped and soldered, then sealed using heat shrink tubing.
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- 15.14 All joining of wires shall be soldered and sealed using heat shrink tubing (crimp-on electrical connectors for joining of wires are not acceptable).
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- 15.15 Any holes required to run wires through shall be drilled (not punched), grommeted and sealed as necessary.
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- 16.0 INSTALLATION**
- 16.1 The Contractor shall supply and install the aerial device and steel deck on the chassis specified in Detailed Specifications 07010 (appended hereto).
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- 16.2 Aerial device shall be installed in accordance with CSA Standard CAN/CSA-C225-M88 and in accordance with the aerial device manufacturer's guidelines. _____
- 16.3 Mounting of the steel deck shall be in accordance with the chassis manufacturer's guidelines for body mounting, including, but not limited to, guidelines for tire and suspension clearance. _____
- 16.3.1 Upon request of the Contract Administrator, Bidders shall supply a diagram and description showing the body manufacturer's recommended body and deck to chassis mount. Diagrams shall be supplied within three (3) working days upon request. _____
- 16.4 Welding to the truck chassis frame is not permitted. _____
- 16.5 Mounting brackets shall be bolted to chassis frame using Grade 8 fasteners. _____
- 16.6 Any holes required in chassis frame web must be drilled and reamed to fit bolts. _____
- 16.7 All non-continuous body seams (joints) shall be calked with an automotive grade sealant. _____
- 16.8 Departure angle of completed unit – state angle. _____
- 17.0 MISCELLANEOUS**
- 17.1 Safety belt – two (2) required. _____
- 17.2 Mudflaps – no-name, fabric reinforced, black rubber mudflaps installed fore and aft of rear tires, Buyers Products steel bar anti-sail brackets or equal required. _____
- 17.3 Outrigger pads – four (4), plywood construction with rope handles. Nominal pad dimensions of 24" x 24" x 3". _____
- 17.3.1 Outrigger pad storage compartments – fibreglass construction, for two (2) pads each side. Compartments shall have a raised front lip and shall be located beneath deck ahead of rear axle. _____
- 17.4 Wheel chocks – two (2), rubber approx. 10"L x 9"W x 6"H. _____
- 17.5 Bucket access steps from deck – three (3), evenly spaced, mounted on pedestal, grip strut step construction, approx. 7" x 14". _____
- 17.5.1 Grab handles – required to ergonomically access bucket. _____
- 17.6 Bucket cover – one (1) required. _____
- 17.7 Traffic cone storage – required at driver's side rear corner of deck. _____
- 17.8 Automatic greasing system – complete aerial device vehicle shall be _____

supplied with a Groeneveld/CPL Systems Inc. automatic greasing system including all required grease points on aerial device (where applicable), and approx. twenty-six (26) points on cab & chassis. The greasing system shall be equipped with an automatic low level shut-off and an in-cab red light indicator.

17.9 Isolators – all interfaces between aluminum and steel shall be separated by a minimum of $\frac{1}{16}$ in. thick rubber or neoprene sheet and are to be bolted through with stainless steel bolts and non-conductive bushings.

18.0 PAINT AND FINISH

18.1 Aerial device steel sections – all steel components shall be powder coated, white or yellow, inside and out, then high temperature cured prior to assembly.

18.1.1 Fibreglass upper boom and lower boom insert – white Gel-Coat.

18.2 Fibreglass storage compartments – colour impregnated Gel-Coat to match chassis cab colour.

18.3 Cab guard, kick plates, bumper, boom rests, outriggers, etc. – sand-blasted, properly cleaned, primed and finished with Endura EP32 Intermix Epoxy Primer and 3-5 mils of Endura EX-2C Topcoat, black.

18.4 Deck top surface painted with grey Morgan NS-100 or Safetex Ferrox non-skid coating.

19.0 TECHNICAL DOCUMENTS AND MANUALS

19.1 Bidders shall supply the following within three (3) working days of request of the Contract Administrator:

19.1.1 Two (2) sets of three view drawings showing complete unit including chassis, aerial device, deck, cab guard, toolboxes, etc..

19.1.2 Front and rear axle weights of the complete unit (chassis, aerial device, deck, etc.) full hydraulic oil tank, fully fuelled and two operators.

19.1.3 Service facility description (see 4.2).

19.1.4 Subframe mounting plans (see 9.7.1).

19.1.5 Deck construction details (see 12.1.2).

19.1.6 Body and deck mounting plans (see 16.3.1).

19.2 Prior to final inspection of the unit, the Contractor shall provide the following:

19.2.1 Certified weigh scale ticket of completed unit, fully fuelled.

19.2.2 Certification letter (see 4.3).

- 19.2.3 Stability certificate (see 9.9).

- 19.2.4 Dielectric certificate (See 8.13).

- 19.3 Operator's manuals for aerial device – quantity as per Form B: Prices.

- 19.3.1 Parts and maintenance manuals – quantity as per Form B: Prices, CD format preferred, required with the following comprising a set:
 - i) Aerial unit lubrication chart;
 - ii) Maintenance manual;
 - iii) Unit parts book;
 - iv) Electric wiring diagram; and
 - v) Hydraulic circuit diagram.

Note: The manuals supplied with this contract must be in English and shall be specifically for the unit supplied. General purpose manuals will not be acceptable. The Contract will not be considered complete until these have been delivered. Manuals must be supplied at the time the unit is delivered.

20.0 DELIVERY

- 20.1 The unit shall be serviced, ready for operation and delivered F.O.B. with the freight prepaid to the City of Winnipeg, Winnipeg Fleet Management Agency, 185 Tecumseh Street, Winnipeg, Manitoba within **forty-five (45) 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. Equipment shall be delivered within 8:00 am and 3:00 pm on Business Days.

- 20.2 The Contractor shall fax all equipment serial numbers and hour-meter readings to the Contract Administrator one (1) calendar week prior to delivery.

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

21.0 TRAINING

- 21.1 Operator training – the Contractor shall be required to provide **two (2) Business Days** of training, in Winnipeg by qualified staff, for City of Winnipeg operating personnel. All costs associated with the training shall be at the Contractor's expense. The training sessions shall be sufficient in duration and shall provide adequate familiarization and orientation of the equipment to the satisfaction of the Contract Administrator. All particulars surrounding the specified time required to perform the training shall be provided to the Contract Administrator by the Contractor one (1) week prior to the delivery of the completed equipment. The training shall be coordinated through the Contract Administrator.

- 21.2 Mechanical training – the Contractor shall be required to provide **two (2) Business Days** of training, in Winnipeg by qualified staff, for City of Winnipeg mechanical personnel. All costs associated with the training

shall be at the Contractor's expense. The training sessions shall be sufficient in duration and shall provide adequate familiarization and orientation of the equipment to the satisfaction of the Contract Administrator. All particulars surrounding the specified time required to perform the training shall be provided to the Contract Administrator by the Contractor one (1) week prior to the delivery of the completed equipment. The training shall be coordinated through the Contract Administrator.

- 21.3 Additional training aides – state if additional VHS, CD, or computer based training aides are available.
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22.0 PERFORMANCE RELIABILITY

- 22.1 The responsibility for the design of the complete aerial device vehicle, it's performance and reliability shall rest upon the Contractor.
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- 22.2 The term "*repeated failures*" as used herein is defined to mean that the same component, assembly, or sub-assembly develops repeated defects, breakdowns and/or malfunctions rendering the unit inoperative, or requiring repeated shop correction, service and/or replacement during the warranty period applicable for said component, assembly, or sub-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 schedules.
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- 22.3 Where the unit develops "repeated failures" in service, the Contractor shall make any necessary engineering changes, repairs, alterations or modifications in order to guarantee reliability of performance.
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23.0 WARRANTY

- 23.1 The warranty on the aerial device shall include 100% replacement parts and labour at no cost to the City and shall cover the complete equipment and all parts thereof against defects of workmanship, construction and materials for **two (2) years** from the date the equipment is put into service by the City of Winnipeg.
-

Note: See Cab & Chassis Specifications and Supplemental Conditions for additional Warranties.

- 23.2 A new two (2) year warranty period shall be provided for any article that is repaired or replaced under the terms of the "repeated failures" clause (22.0 Performance Reliability). The new warranty period shall be effective from the date of acceptance of the repaired or replaced article.
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DETAILED SPECIFICATIONS 07010

29,000 LBS. GVWR CAB & CHASSIS VEHICLE

1.0 TYPE

1.1 Shall be a minimum 29,000 lbs. GVWR Conventional Cab & Chassis suitable for use as a tree trimming aerial device vehicle with a 14 ft. flat deck. The vehicle shall be furnished complete and ready for use with all features and equipment as described herein.

1.2 **STATE MAKE AND MODEL BEING BID:** _____

2.0 OTHER SPECIFICATIONS AND STANDARDS

2.1 All applicable SAE standards form an integral part of these specifications and shall have precedence in any conflict concerning minimum acceptable standards.

2.2 The completed unit and all its components shall comply with all C.M.V.S.S. and Manitoba Highway Traffic Act regulations and requirements including, but not limited to, a Manitoba Government Inspection with Safety Sticker on the driver's side window.

3.0 SERVICE FACILITY

3.1 For the purpose of warranty repairs, the Bidder shall have an authorized service facility located within 10 km of the boundaries of the City of Winnipeg. The facility, or a portion thereof, shall be dedicated to the service and maintenance of the type equipment being offered. Further to B9.1, Bidders shall provide a description of the service facility including, but not limited to, number of qualified service staff, years of service experience, and general service capabilities within three (3) Business Days upon request of the Contract Administrator.

3.2 If a suitable warranty facility is not available within 10 km of the boundaries of the City of Winnipeg, the Bidder may propose that warranty work be performed by the City of Winnipeg Repair Facility. 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: \$80.00/hr regular time, \$105.00/hr overtime and callout).

4.0 INSTRUCTIONS FOR COMPLETION OF SPECIFICATIONS

4.1 All items in these specifications must be answered indicating compliance or non-compliance. **Bidders shall state "yes" for compliance or state deviation**, or give reply where requested to do so. Deviations shall be clearly stated and fully detailed. Alternatives will be considered subject to evaluation.

4.2 Each bidder is required to fill in every blank. **Failure to do so may be used as a basis for rejection of bid.**

| ITEM | SPECIFICATION | BIDDER TO STATE "YES" OR STATE DEVIATION |
|------|---------------|--|
|------|---------------|--|

5.0 GVWR

| | | | |
|-----|-------|---------------------|-------|
| 5.1 | Total | 29,000 lbs. | _____ |
| 5.2 | Front | 10,000 lbs. minimum | _____ |

DETAILED SPECIFICATIONS 07010 – ITEM 2 (continued)

| | | | |
|------------|-----------------------------|--|-------|
| 5.3 | Rear | 19,000 lbs. minimum | _____ |
| 6.0 | Chassis Dimensions | | |
| 6.1 | Cab-to-axle | 120 in. | _____ |
| 6.2 | Wheelbase | 187 in. approx., state | _____ |
| 7.0 | Engine | | |
| 7.1 | Eligible models | DT 466, MBE 900 or CAT C7, state make, model and displacement | _____ |
| 7.2 | Horsepower | 210 HP gross minimum | _____ |
| 7.3 | Torque | 520 lb-ft minimum | _____ |
| 7.4 | Engine shut down | Low oil pressure / high water temperature | _____ |
| 7.5 | Anti-idling programming | Required to shut engine off after 15-minutes | _____ |
| 7.6 | Air intake warmer | Required | _____ |
| 7.7 | Fuel shut-off | Electric solenoid type | _____ |
| 7.8 | Air cleaner | Dry type | _____ |
| 7.9 | Air intake restriction ind. | Dash mounted restriction indicator | _____ |
| 7.10 | Oil drain plug | Magnetic type | _____ |
| 7.11 | Oil filter | Full flow, spin-on or cartridge type | _____ |
| 7.12 | Fuel filter | Spin-on or cartridge type | _____ |
| 7.13 | Fuel/water separator | Heated, drainable, mounted under hood, located to be protected from road spray | _____ |
| 7.14 | Block heater | Immersion type, 750 Watt minimum with plastic, covered recessed male plug, located under driver's side door | _____ |
| 7.15 | Coolant | Extended life coolant, antifreeze to -35°F (-37°C) | _____ |
| 7.16 | Coolant hoses | Silicone type, Gates Blue Stripe or Premium type hoses | _____ |
| 7.17 | Fan Drive | Thermostatically controlled, automatic type | _____ |
| 7.18 | Air compressor | Water cooled, pressure lubricated, minimum 13 cfm | _____ |
| 8.0 | Electrical system | | |
| 8.1 | Chassis wiring | Multiplexed wiring | _____ |
| 8.1.1 | PTO protection | Transmission shall not engage into gear with PTO "on" | _____ |
| 8.1.2 | Diff. lock protection | Shall disengage differential lock over 7 km/hr approx. | _____ |
| 8.1.3 | Outrigger protection | Transmission shall not engage with outriggers down | _____ |
| 8.1.4 | Pre-trip lighting insp. | Required to automatically inspect all vehicle lighting systems and circuits and inform driver of malfunction | _____ |

DETAILED SPECIFICATIONS 07010 – ITEM 2 (continued)

| | | | |
|-------------|-----------------------|--|-------|
| 8.1.5 | Wipers override | Required to automatically engage delay wipers with wipers "on" in Park | _____ |
| 8.1.6 | Park brake alarm | Audible alarm to sound when transmission is shifted into gear with Park brake engaged | _____ |
| 8.1.7 | Automatic headlights | Headlights automatically "on" when wipers actuated | _____ |
| 8.1.8 | Door ajar lockout | Transmission shall not engage into gear when door(s) are ajar | _____ |
| 8.2 | Alternator | Delco Remy 34-SI, 135 Amp minimum | _____ |
| 8.3 | Starter | Delco Remy 41-MT/OCP 450 Series with thermal protection | _____ |
| 8.4 | Batteries | Three (3), 12-volt, group 31, 1800 CCA combined capacity minimum | _____ |
| 8.5 | Battery Box | Under cab or frame mounted c/w enclosure, readily accessible, state location | _____ |
| 8.6 | Battery disconnect | In-cab mounted, state location | _____ |
| 8.7 | Remote boost terminal | Remote battery boost terminal(s), protected from road spray, covered, state location | _____ |
| 8.8 | Cab marker lights | LED | _____ |
| 8.9 | Back-up alarm | STAR 62-097, 97dBA, located on inside-rear of frame rails | _____ |
| 8.10 | 2-way radio circuit | Independent 20 Amp circuit, ignition powered, wired under dash loose, labelled | _____ |
| 8.11 | Accessory switches | Three (3) required, dash mounted for "Beacon", "PTO", "Bin Lighting" and additional switch labelled "Aux". All switches wired through ignition, complete and wired for body installation, labelled and backlit | _____ |
| 9.0 | Exhaust system | | |
| 9.1 | Configuration | Single horizontal muffler and tailpipe | _____ |
| 10.0 | Transmission | | |
| 10.1 | Model | Allison 2500 RDS Series | _____ |
| 10.2 | Shift selector | Dash mounted digital push button or column shift preferred, floor mounted shifter acceptable, state type | _____ |
| 10.3 | Cooling | Water to oil transmission cooler | _____ |
| 10.4 | PTO provision | Required with maximum clearance from exhaust | _____ |
| 10.5 | Oil level dipstick | Bayonet type with high and low level markings | _____ |
| 10.6 | Trans. drain plug | Magnetic type | _____ |
| 11.0 | Front axle | | |
| 11.1 | Capacity | 10,000 lbs. capacity minimum | _____ |

DETAILED SPECIFICATIONS 07010 – ITEM 2 (continued)

12.0 Rear axle

- 12.1 Capacity 19,000 lbs. capacity minimum _____
- 12.2 Ratio For 110 km/hr top speed, state ratio _____
- 12.3 Differential lock Required for rear drive axle w/dash mtd. switch _____

13.0 Front suspension

- 13.1 Type Taper leaf spring suspension, 10,000 lbs. capacity minimum _____

14.0 Rear suspension

- 14.1 Type Air ride suspension, 19,000 lbs. capacity minimum with lateral air bag support beam, state make and model of suspension being bid _____
- 14.2 Susp. control valve Manual dump valve for air suspension c/w dash mtd. switch, indicator light, gauge and buzzer _____
- 14.3 Automatic dump Air bag shall automatically dump when PTO is engaged _____

15.0 Rims, wheels, hubs

- 15.1 Front 22.5 x 8.25 steel disk, 10-bolt, hub piloted _____
- 15.2 Rear 22.5 x 8.25 steel disk, 10-bolt, hub piloted _____
- 15.3 Hubs Steel or iron hubs, front and rear _____
- 15.4 Hub seals Oil lubricated front and rear _____
- 15.5 Wheel nut indicators Required on all wheel nuts, front and rear _____

16.0 Tires, front

- 16.1 Make & model Michelin XZE or Goodyear G149 RSA, 14-ply, state tires _____
- 16.2 Size 11R 22.5 _____

17.0 Tires, rear

- 17.1 Make & model Michelin XDE M/S or Goodyear G328, 14-ply, state tires _____
- 17.2 Size 11R 22.5 _____

18.0 Frame

- 18.1 Type To match GVWR, 900,000 in.-lbs. RBM minimum, outside frame clear _____
- 18.2 Application Suitable for use with an aerial device w/flat deck _____
- 18.3 Chassis fasteners Grade-8 threaded hex headed frame fasteners or huck-spin fasteners _____
- 18.4 Afterframe As required for aerial device and flat deck installation 60 in. minimum, state _____

DETAILED SPECIFICATIONS 07010 – ITEM 2 (continued)

19.0 Steering

19.1 Type Power _____

20.0 Brakes

20.1 Type Hydraulic, ABS, power with optional air supply _____

20.2 Air drier Wabco System Saver 1200, heated _____

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

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

21.0 Fuel tank

21.1 Type Aluminium, 189 L minimum capacity, fully fuelled upon delivery _____

21.2 Tank straps Steel mounting straps with minimum ¹/₁₆ in. rubber or neoprene isolators _____

21.3 Fuel separator Heated, drainable _____

22.0 Cab

22.1 Type Conventional type, aluminum or steel w/corrosion inhibitor _____

22.2 Hood Fibreglass tilt _____

22.3 Cab mounts Air suspension _____

22.4 Cab interior/trim Extreme climate insulation including cloth or vinyl headliner on roof, door panels and rear interior of cab _____

22.5 Cab silencer package Required for minimal decibel level _____

22.6 Hood/Firewall/Engine Insulated hood liner, engine cover and firewall _____

22.7 Floor covering Rubber mat with under-padding _____

22.8 Floor mats Two (2), rubber _____

22.9 Driver's seat High back, air suspension w/foldable right hand armrest, seat belt, heavy-duty cloth upholstery, Cordura or equal, state material _____

22.10 Passenger seat 2-person bench with seat belts, heavy-duty cloth upholstery or vinyl knit, state material _____

22.11 Sun visors Dual flip-up type _____

22.12 Steering wheel Tilt type _____

22.13 12-Volt power outlet Required _____

22.14 Radio Factory installed AM/FM _____

22.15 Starter switch Key operated c/w three (3) sets of keys _____

22.16 Interior light Dome light with driver and passenger door switches _____

DETAILED SPECIFICATIONS 07010 – ITEM 2 (continued)

| | | | |
|-------------|--------------------------|---|-------|
| 22.17 | Heater / Defroster | High output, capable of keeping all windows clear at an outside temperature of -35°F (-37°C) | _____ |
| 22.18 | Air conditioning | Required | _____ |
| 22.19 | Brake & accel. pedals | Hanging type brake and accelerator pedals | _____ |
| 22.20 | Horn | Dual electric | _____ |
| 22.21 | Exterior mirrors | Dual West Coast, stainless steel or polycarbonate, 7" x 14½" min., | _____ |
| 22.22 | Convex mirrors | 6 in. aux., stainless steel, mtd. below West Coast mirrors, or integral type with polycarbonate mirrors, one (1) per side | _____ |
| 22.23 | Windows & windshield | Tinted | _____ |
| 22.24 | Windshield wipers | Electric, intermittent, arctic type blades | _____ |
| 22.25 | Windshield washers | Electric | _____ |
| 22.26 | Grab handles | Dual exterior | _____ |
| 22.27 | Entrance steps | Dual each side, open grate / grip type | _____ |
| 22.28 | Winter front | Heavy-duty vinyl w/twist lock or snap type fasteners | _____ |
| 23.0 | Instrumentation | | |
| 23.1 | Oil pressure | Gauge | _____ |
| 23.2 | Coolant temperature | Gauge | _____ |
| 23.3 | Transmission oil temp. | Gauge | _____ |
| 23.4 | LOP/HWT | Warning light and buzzer | _____ |
| 23.5 | Voltmeter | Gauge | _____ |
| 23.6 | Air reservoir pressure | Gauge with LAP warning light and buzzer | _____ |
| 23.7 | Engine hourmeter | Required, non-resetable type | _____ |
| 24.0 | Tow hooks | | |
| 24.1 | Location | Front mounted | _____ |
| 25.0 | Front bumper | | |
| 25.1 | Type | Steel, full width c/w license plate bracket | _____ |
| 26.0 | Colour and finish | | |
| 26.1 | Exterior | White | _____ |
| 26.2 | Interior | Blue or grey | _____ |
| 26.3 | Frame & suspension | Primed and finished with black Imron 5000 paint or equivalent | _____ |
| 26.4 | Front bumper | Argent | _____ |
| 26.5 | Wheels | Powder coated white | _____ |

DETAILED SPECIFICATIONS 07010 – ITEM 2 (continued)

27.0 Accessories

| | | | |
|------|-------------------|--|-------|
| 27.1 | Flare kit | Three (3) triangular reflectors, CVSA approved | _____ |
| 27.2 | Fire extinguisher | 10 lb. ABC type, required in cab with mounting bracket | _____ |

28.0 Manuals

| | | | |
|------|----------------------|--|-------|
| 28.1 | Operator's manual | Required, quantity as per Form B: Prices | _____ |
| 28.2 | Parts/Repair/Service | Required, including preventative maintenance schedules for life of unit, CD or online format preferred, quantity as per Form B: Prices | _____ |

29.0 Warranty

| | | | |
|-------|-------------------------|---|-------|
| 29.1 | Basic vehicle | Two (2) years, unlimited km | _____ |
| 29.2 | Batteries | One (1) year or 100 000 km | _____ |
| 29.3 | Drivetrain | Two (2) years, unlimited km | _____ |
| 29.4 | Cab structure/corrosion | Five (5) years, unlimited km | _____ |
| 29.5 | Frame & crossmembers | Five (5) years, unlimited km | _____ |
| 29.6 | Cab paint | One (1) year or 100 000 km | _____ |
| 29.7 | Engine | Four (4) years or 320 000 km including engine electronics and injectors | _____ |
| 29.8 | Towing coverage | Four (4) year or 320 000 km | _____ |
| 29.9 | Transmission | Two (2) years, unlimited km | _____ |
| 29.10 | Axles, front & rear | Two (2) years or 240 000 km | _____ |
| 29.11 | Exhaust system | Four (4) years or 160 000 km | _____ |