

FORM A: BID
(See B8)

1. Contract Title TELESCOPIC MATERIAL HANDLING AERIAL DEVICE VEHICLES

2. Bidder

Name of Bidder

Usual Business Name of Bidder as it appears on Invoice (if different from above)

Street

City

Province

Postal Code

(Mailing address if different)

Email Address of Bidder

Facsimile Number

Street or P.O. Box

City

Province

Postal Code

(Choose one)

GST Registration Number (if applicable)

The Bidder is:

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

Email Address

4. Definitions

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

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/she is in receipt of a notice of award from the Award Authority authorizing the commencement of the Work.

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.

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 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 B9)

TELESCOPIC MATERIAL HANDLING AERIAL DEVICE VEHICLES

UNIT PRICES

ITEM NO.	DESCRIPTION	SPEC. REF.	UNIT	QUANTITY	UNIT PRICE
1.	Telescopic, Material Handling Aerial Device	14030	Each	2	
2.	Option 1: Hydraulic Impact Wrench	14030	Each	2	
3.	37,000 lbs. GVWR Crew Cab & Chassis Vehicle	14031	Each	2	

Name of Bidder

FORM N: DETAILED SPECIFICATIONS 14030

TELESCOPIC, MATERIAL HANDLING AERIAL DEVICE

(Traffic Signals)

1. INTENT

- 1.1 It is the intent of these specifications to describe a rear corner mounted, telescopic, material handling aerial device vehicle complete with a hydraulically operated, three stage, telescopic boom having hydraulically operated second and third stages, a fibreglass service body and other equipment as described herein. The aerial device and equipment shall be installed on a crew cab and chassis to be supplied by the Contractor (see Detailed Specifications 14031 attached).
- 1.2 The aerial device shall be the manufacturer's latest model, as may be modified by these specifications. The aerial device, including all 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 in the industry.
- 1.3 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 to ensure that the manufacturer will be 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, not implying that those values are sufficient for the design of the particular equipment being bid.

2. OTHER SPECIFICATIONS AND STANDARDS

- 2.1 Canadian Standards Association Standard CAN/CSA-C225-M00 Vehicle Mounted Aerial Devices, ANSI A10.31 (Latest Edition) Digger Derricks – Safety Requirements, Definitions and Specifications, and Canadian Standards Association Standard Z150-1974 – Safety Code for Mobile Cranes, form an integral part of these specifications and shall have precedence in any conflict concerning minimum acceptable standards.
- 2.2 All applicable SAE Standards form an integral part of the chassis specifications and shall have precedence in any conflict concerning minimum acceptable standards.
- 2.3 The completed aerial device shall comply with the Canadian Motor Vehicle Safety Act (CMVSS) and the Manitoba Highway Traffic Act and all regulations thereunder.
- 2.4 All welding and welding designs of the load supporting elements shall conform to the requirements of the Canadian Standards Association Standard W47.1-03 and W59-03.
- 2.5 The completed vehicle shall be complete with a National Safety Mark, NSM.
- 2.5.1 **State NSM Number:** _____

3. 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 the compliance with all applicable standards.

3.2 The manufacturer of the aerial device shall be ISO 9002 Certified.

4. QUALIFICATIONS OF THE BIDDER

4.1 The Bidder shall be a manufacturer or authorized distributor/supplier of aerial device equipment.

4.2.1 For the purposes 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 major portion thereof, shall be dedicated to the installation, service, and maintenance of aerial device vehicles and derrick equipment being offered.

4.2.2 Further to B10.1, Bidders shall include a description of the facility within including, but not limited to, number of qualified staff, years of service experience on aerial and digger derrick equipment, and general service capabilities within three (3) days of the request of the Contract Administrator.

4.2.3 The Contractor shall furnish a letter, stamped by a registered professional engineer, indicating that the completed aerial device vehicle complies with CAN/CSA Standard C225-M00.

5. 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 shall 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. PERFORMANCE

6.1 The aerial device vehicle shall be capable of operating safely and efficiently in any working position and in confined areas while performing traffic signal construction and maintenance functions, during summer and winter conditions normal to the City of Winnipeg.

7. CAB AND CHASSIS

7.1 The cab and chassis shall be a new, 2015 crew cab and chassis complying with Detailed Specifications 14031 in accordance with the instructions given.

8. AERIAL DEVICE

8.1 Type – 47 ft. Hydraulic Derrick, rear corner mount, three (3) stage, hydraulic aerial device with two (2) pin-on personnel platforms with a nominal raised platform height of 40 ft. _____

8.1.1 **State** make and model being bid. _____

8.2 Overall travel height not to exceed 145 in. at any point.
State height. _____

8.3 Boom – three (3) stage telescopic with full capacity, hydraulically extendable, fiberglass, third stage. _____

8.4 State length of each boom stage:

a) Second stage (intermediate). _____

- b) Third stage (upper). _____
- 8.5 Horizontal reach form centreline of rotation – 37 ft. **State** reach. _____
- 8.6 Fiberglass boom – rated to 46 KvAC, dielectrically tested to 100 KvAC. A factory test document shall be supplied prior to the delivery of the derrick stating that the boom has been dielectrically tested to 100 KvAC. _____
- 8.6.1 The completed unit, shall be tested by the Contractor, at their expense. _____
- 8.7 Boom elevation shall have a range of -20° to +80° from horizontal. _____
- 8.8 Bare boom capacity, booms retracted – 18,000 lbs. _____
- 8.9 Bare boom capacity, 2nd & 3rd stages extended – 10,500 lbs. _____
- 8.10 Rotation – continuous with shear-ball type rotation bearing and spring applied, hydraulically released rotation brake. _____
- 8.11 Boom stow protection system required to prevent excessive down force being applied to the boom rest. _____
- 8.11.1 Boom side-load protection system required. _____
- 8.11.2 Boom overload protection system – required to prevent excessive loading of boom when using winch up, 2nd & 3rd stages extended, and boom lower functions. _____
- 9. AERIAL DEVICE EQUIPMENT**
- 9.1 Hydraulic winch – mounted at end of 2nd stage boom tip. _____
- 9.1.1 Winch – **state** make and model. _____
- 9.1.2 Winch lifting capacity, bare, drum – 15,000 lbs. **State** capacity. _____
- 9.1.3 Winch brake – oil cooled. _____
- 9.1.4 Winch rope – synthetic type 2 in 1 stable braid, 7/8" diameter X 80' long, 28,000 lbs. breaking capacity. _____
- 9.1.4.1 Shackle – 5/8 in. diameter, 6,500 lbs. working load limit with 5:1 safety factor. _____
- 9.1.4.2 Lifting hook with safety latch – 5,600 lbs. working load limit, with 5:1 safety factor. _____
- 9.2 Personnel platforms – two (2) only, side-hung, pin-on, fibreglass platforms, each with one (1) interior to exterior long formed step, approx. 12" x 5" each with abrasive, non-slip surfaces. The platforms shall have toe space on three (3) sides. _____
- 9.2.1 Nominal, platform dimensions – 24" x 24" x 42". _____
- 9.2.2 Platform capacity – minimum 350 lbs. each. _____
- 9.2.3 Platform levelling system – gravity type with disc style brake. _____
- 9.2.4 Platform dump system – bucket to manually tilt minimum 100°. _____

9.3 Safety lanyard attachments – two (2) anchor points required. _____

10. OUTRIGGERS AND SUBFRAME

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

10.2 Base set – welded to aerial device pedestal and to sub-frame. **State** type of outriggers being supplied. _____

10.3 Auxiliary set – mounted behind chassis cab on top of chassis frame, welded to sub-frame. _____

10.4 Outrigger hydraulic cylinders shall be equipped with pilot operated check valves, fully protected from damage. _____

10.5 Outrigger shoes – rigid type, 12" x 12" approx. **State**. _____

10.6 All outrigger supports shall be designed to form an integral part of the sub-frame. _____

10.7 Sub-frame – plated type, full length, fastened to top of chassis frame. _____

10.7.1 Within forty-eight (48) hours of the request of the Contract Administrator, the Contractor shall supply their method and mounting plans of attaching the sub-frame to the chassis. _____

10.8 Outrigger pads – four (4) required, polymer type (wooden style outrigger pads not acceptable), state material and dimensions. _____

10.9 Stability requirements – to meet CSA Standard CAN/CSA-C225-M00. The use of ballast is not acceptable. _____

11. CONTROLS

11.1 Controls – separate levers for each function. Control levers shall be protected to prevent accidental actuation of any boom or winch functions. _____

11.1.1 Controls shall permit the multiple simultaneous boom movements, and shall be fully featherable and meterable. _____

11.2 Platform controls – complete controls for all functions shall be transferable from end of 2nd to end of 3rd stage booms or to the end of the personnel jib when it is installed. _____

11.2.1 Must be accomplished by means of an easy and simple re-pinning method. _____

11.3 Automatic engine throttle control activated when platform controls are utilized. _____

11.4 Emergency stop button – red palm button, designed to instantaneously stop all motion (engine shutdown not acceptable). _____

11.5 Master control group – fixed controls located on the rear of the pedestal with controls for all boom functions, winch and emergency stop button. Control height to be approx. 48 in. from operator platform. _____

- 11.5.1 Lower controls shall be capable of overriding the platform controls. _____
- 11.5.2 Master control group area shall include the following:
 - a) Winch circuit pressure gauge. _____
 - b) Aerial pressure gauge. _____
 - c) Hydraulic overload protection gauge _____
 - d) Engine start/stop switch. _____
 - e) Lower/upper control selector switch. _____
- 11.6 Throttle control – foot operated, rod style, full width of step. _____
- 11.7 Wireless controls – wireless remote controls located on the rear of the pedestal with controls for all boom functions, winch and emergency stop button. _____
- 11.8 Operator platform – fold-down type with grip strut surface, incorporated into rear lower step surface, located at rear of unit on right side, designed to provide a comfortable standing position. _____
- 11.9 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. _____
- 11.9.1 Outrigger functions to be isolated from all other functions by a selector valve located with the right outrigger controls. _____
- 11.9.2 Outrigger down interlock – required on each outrigger, to prevent derrick operation if any outrigger is not in the down position. _____
- 11.10 Interlock override switch – toggle switch with flip-up protective cover and red indicator light when activated, located near the master control group. _____
- 11.11 All controls must be clearly identified with permanent, engraved type labels. Glued labels will not be accepted. _____
- 12. HYDRAULICS**
- 12.1 PTO – Constant mesh, Muncie Powerclutch or Chelsea equivalent. **State** make and model. _____
- 12.1.1 Electric shift with in-cab controls, operable from a normal driving position. _____
- 12.2 Pump – to meet aerial device requirements. **State** make and model. _____
- 12.3 Hydraulic oil reservoir – bulkhead type, steel construction, baffled as required, complete with breather type filler cap with filter, filler strainer, sight gauge (or dipstick) and drain plug. _____
- 12.3.1 Drain plug valve – ball-type shut-off valve required on drain plug. _____
- 12.3.2 The hydraulic tank shall be mounted as low as practicable for visibility through rear of cab window. If tank is mounted into front of deck area, the tank shall be protected with $\frac{3}{16}$ in. aluminum checkerplate to prevent objects from the deck area striking the tank. _____

- 12.4 Suction strainer – 100 micron with magnetic suction separator, in-tank mounted, flow capacity of 2-times pump capacity. _____
- 12.5 Shut-off valve – ball-type, located between reservoir and pump, secured in open position with bracket and bolt. _____
- 12.6 Return line filter – 10 micron, spin-on type, serviceable without oil loss. _____
- 12.7 Relief valve(s) – provided to adequately protect the system and provide hydraulic, overload protection to all functions of the aerial device. _____
- 12.8 Hydraulic oil – Esso, J-13, with certified rating of 25 kV. _____
- 12.9 Steel hydraulic tubing – plated type, required where practical except where flexibility is required. _____
- 12.9.1 Hydraulic tubing shall be guarded as required. _____
- 12.10 Hydraulic hoses – burst rated at 4 times working pressure, protected at all wear and scuff locations. _____
- 12.11 Hydraulic cylinders, aerial device – double acting type, equipped with integral holding valves. _____
- 12.12 Hydraulic tool outlets – required at tailshelf, set to operate at 8 gpm @ 2000 psi, suitable for use with open centre tools. _____
- 12.12.1 Tailshelf circuit – separate from all other functions, connected to hose reel (see 12.12.2). Control handle shall be spring centred with a detent in one (1) direction. _____
- 12.12.2 Hose reel – spring rewind, under deck mounted at the rear of unit on the left (street) side, complete with two (2) 45 ft. lengths of hose with quick couplers installed. _____
- 12.13 All hydraulic tool outlets shall be fitted with Bruning dripless quick couplers. Bruning outlet covers required for all fittings. _____
- 13. JIBS – MATERIAL HANDLING**
- 13.1 Material handling jib – fibreglass, 4 ft. long, with manual articulation, utilizing multiple pinning positions. _____
- 13.2 Jib bracket – shall have three (3) pinning positions providing 24° of manual articulation. The bracket shall accommodate two (2) jibs. _____
- 14. FIBREGLASS SERVICE BODY**
- 14.1 Compartment layout, general – two (2) front vertical compartments and one horizontal compartment over wheel well, each side of body. _____
- 14.1.1 State make and model of service body components being bid. _____
- 14.2 For the purpose of this specification:
L – Length, along or parallel to chassis frame rails.
H – Height or vertical.
D – Depth on horizontal plane across chassis.

14.3 General dimensions:

14.3.1 Body height – 48 in. approx. _____

14.3.2 Body length – 110 in. approx. _____

14.4 Compartment layout, right (curb) side:

14.4.1 Front vertical compartment (C1) – 27"L x 48"H x 18"D approx. with four (4) height adjustable shelves. _____

14.4.2 Front vertical compartment (C2) – 27"L x 48"H x 18"D approx., with two (2) fixed hooks per side (4 total) and one material rail with five (5) hooks on the back wall. _____

14.4.3 Horizontal compartment (C3) – 56"L x 24"H X 18"D approx., bottom hinged with three (3) full width, small parts trays. Trays shall be 2 in. high with nine (9) removable dividers per tray. The upper two trays shall be slide-out type. Lower tray shall be fixed, fastened to compartment bottom. _____

14.5 Compartment layout left (street) side:

14.5.1 Front vertical compartment (S1) – 27"L x 48"H x 18"D approx. with three (3) height adjustable shelves located below one (1) full length through shelf. _____

14.5.2 Front vertical compartment (S2) – 27"L x 48"H x 18"D approx. with three (3) height adjustable shelves located below through shelf. _____

14.5.3 Horizontal compartment (S3) – 56"L x 24"H x 18"D approx., bottom hinged with two (2) full width small parts trays. Trays shall be 2 in. high with nine (9) removable dividers per tray. The upper two (2) trays, shall be slide-out type. Lower tray shall be fixed, fastened to bottom of compartment. _____

14.6 Compartment door handles – Tri-Mark or Eberhard stainless steel paddle type, with locks that are keyed alike. _____

14.7 Door hinges and latches – stainless steel with adjustable striker plates. _____

14.8 Locks – auto locking system with in-cab control. _____

14.9 Shelving – fibreglass with a 2 in. front face lip. Dividers shall be fibreglass. All edges shall be finished. Adjustable shelving shall be adjustable in 2-3 in. increments. _____

14.10 Shelf and compartment lining – bottom of all service body compartments and shelving shall be lined with interlocking matting, Dri-deck or equal. _____

14.11 All hooks shall be located approximately 2 in. from the top of the compartment. _____

14.12 All compartment door openings shall be sealed using automotive, bulb type, rubber gaskets. _____

14.13 Vertical doors shall have rigid type door springs. Horizontal doors, do not require door springs, or check chains. _____

14.14 Rubber bumpers – installed on the body below the horizontal compartments, _____

- to prevent contact between the compartment door and the body. Two (2) bumpers per door. _____
- 14.15 Wheel well area shall incorporate a fibreglass or rubber fender flare. _____
- 14.16 Wheel chock openings – two (2) per side, required in fender skirt panels. _____
- 14.17 Drip moulding – installed along the full length of the body above the door openings. _____
- 14.18 All body seams shall be caulked with an automotive grade elastomeric sealant. _____
- 14.19 Kick plate – 1/8 in. aluminium smooth or checker-plate, required below deck floor level. _____
- 15. MAIN DECK ASSEMBLY**
- 15.1 Deck – 3/16 in. steel plate, full width, full length, between fibreglass side packs. _____
- 15.2 Deck sides – 1/8 in. aluminum checker-plate, designed to provide additional support to the fibreglass side packs. Deck sides to extend up the full height of fibreglass body sides. _____
- 15.3 Tire/deck clearance – minimum 3 in. clearance with air bag suspension fully lowered. _____
- 15.4 D-rings – four (4), heavy duty D-rings evenly spaced between side packs, vertically mounted at rear of deck, exact location to be discussed at time of installation. _____
- 16. BOOM SUPPORT & CAB GUARD**
- 16.1 Boom support – “A” frame type, padded, anchored directly to the subframe and located immediately behind the cab. _____
- 16.2 Cab guard – full width, extending from rear of cab to front bumper, (approx. 95"W x 14'L) frame constructed of 2" x 2" x 1/4" wall HSS tubing. Walking surface to be 3/4 in. G9 standard, expanded metal, reinforced as required. _____
- 16.2.1 Rubber mats – heavy duty, installed on cab guard to protect platforms from damage during transport. _____
- 16.2.2 Front of cab-guard supported by two (2) supports bolted to front bumper. _____
- 17. REAR BUMPER & HITCH**
- 17.1 Rear bumper – heavy duty step bumper, approx. 12 in. depth with grip-strut step surface, full width, approx. 19 in. step height. _____
- 17.1.1 Bumper shall incorporate a fold-down operator platform on the right side (see Section 11.7). _____
- 17.1.2 Rear bumper insert – quick removable (without the use of tools), grip-strut surface, designed to fill area recessed for pintle hitch clearance (when hitch not in use). _____

- 17.1.3 Lower step – mounted below rear step bumper, grip strut surface, approx. 24 in. width, 9 in. below surface of rear step bumper. _____
- 17.2 Mid-height step – 1-piece, mounted between bumper and deck above pintle hitch, approximately 7" x 40", with grip-strut surface and tapered ends. _____
- 17.3 Hitch plate – ½ in. thick solid steel, (laminated plates unacceptable) installed to chassis frame. _____
- 17.4 Pintle hitch – Premier 130 or approved equal, mounted to hitch plate at a 26½ in. height from ground level. _____
- 17.4.1 "A" frame hitch reinforcement – min. 3" x 3" x ¼" angle iron, welded to back of hitch plate and bolted to chassis frame web. _____
- 17.4.2 Pintle hitch and "A" frame secured with Grade-8 bolts, washers on both sides and lock-nuts. _____
- 17.4.3 Lunette eyes – two (2) Buyers Products B56730 or equal, mounted 12 in. either side of hitch. _____
- 18. ELECTRICAL & LIGHTING**
- 18.1 All vehicle lighting shall conform to C.M.V.S.S. (latest revision) and Manitoba Highway Traffic Act requirements. _____
- 18.2 Supplier installed lighting shall be LED Truck-Lite (except where otherwise noted) and shall include the following components:
 - 18.2.1 Combination stop/turn/tail lights – P/N 44302R, one (1) per side with P/N 40700 mounting grommets, flush or recess mounted in rear kick plate. _____
 - 18.2.2 Turn signal flash rate – 70-90 flashes per minute. _____
 - 18.2.3 Back-up lights – P/N 44206C, one (1) per side with 40700 mounting grommets. _____
 - 18.2.4 3-light cluster – three (3) P/N 10250R with P/N 10700 mounting grommets. _____
 - 18.2.5 Clearance lights – P/N 10250R and 10250Y with P/N 10700 mounting grommets. _____
 - 18.2.6 Licence plate lamp – P/N 36140, c/w P/N 36710 license plate bracket. _____
 - 18.2.7 Lighting harnesses – Truck-Lite 50 Series Harness system, properly routed and secured, protected from damage. _____
 - 18.2.8 All harnesses shall be internally grounded, no exceptions. _____
- 18.3 Junction box – P/N 50400, complete with necessary compression fittings, required for all vehicle lighting harness connections, located inside rear of truck frame, protected from road debris including all harness connections. _____
- 18.4 All plug in connectors shall be coated with Truck-Lite NYK Compound prior to assembly. _____

- 18.5 Trailer plugs – two (2) required, one (1) 6-pole, and one (1) 7-pole, both wired through chassis manufacturer’s OEM trailer wiring circuit and installed in rea trailer hitch plate, wired to code. _____
- 18.6 Back-up alarm – STAR 99901, 97 dB(A) rating, installed at rear of body, located to be protected from damage. _____
- 18.7 Mini light bars – two (2), Whelen R2LPPA, front-corner mounted to the cab-guard, one (1) per side. _____
- 18.7.1 Branch guards – heavy duty branch guards constructed by 3/8 in. roundbar, one (1) per mini light bar. _____
- 18.7.2 Oval LED warning lights – twelve (12) Whelen 5GA00FAR lights, mounted in steel metal boxes locations as follows:
- i) Two (2) – front facing, low mounted on cab shield support, one (1) per side. _____
 - ii) Two (2) – front corners of cab guard, side facing, one (1) on each side, directly below support rail. _____
 - iii) Two (2) – rear corners of cab guard, side facing, one (1) on each side, directly below support rail. _____
 - iv) Two (2) – rear facing on back of cab shield, one (1) on each corner. _____
 - v) Two (2) – side facing, mid-mounted above service body side packs on racks/trays, one (1) per side. _____
 - vi) Two (2) – rear facing in back of body, one (1) on each side. _____
- 18.7.3 Mini light bars and oval LED warning lights shall be wired “hot” (i.e., able to use without the key on), wired through a single, chassis manufacturer’s OEM dash mounted switch, labelled “Beacon” with a permanent type label. _____
- 18.8 Traffic Advisor, front – LED amber signal stick, SHO-ME 11.2741, 8-segment stick, front mounted to front of cab guard c/w metal brush guard. _____
- 18.8.1 Traffic Advisor, rear – 2-section split type SHO-ME arrow sticks, P/N 11.2715, mounted at each end of the rear cross sills. _____
- 18.8.2 Controllers – two (2) required, one for front traffic advisor and one for rear traffic advisor, wired “hot”. _____
- 18.9 Side work lights – two (2) Truck-Lite 81360, one (1) per side of service body, wired separately through chassis manufacturers OEM dash mounted switches, labelled “Work Light Left” and “Work Light Right”. _____
- 18.10 Deck light – Truck-Lite 81360, mounted to the boom rest, complete with in-cab, OEM dash mounted switch with indicator light, labelled, wired through the ignition. _____
- 18.11 Compartment lights – LED continuous “rope” style lighting in all service body compartments, properly secured to prevent damage, wired through _____

- chassis manufacturers OEM dash mounted switch labelled "Bin Lights". _____
- 18.12 Power take-off engagement switch – truck manufacturer's OEM dash mounted switch c/w warning light, labelled. _____
- 18.13 Boom stow warning light – required, chassis manufacturer's OEM dash mounted indicator light, normally on when the boom is not in fully stored position. A micro switch is required to trigger the light. _____
- 18.14 Outtrigger warning light – required, chassis manufacturer's OEM dash mounted indicator light, normally on when any outrigger is not in fully stored position. Micro switches are required to activate lights and must be enclosed to prevent damage. _____
- 18.15 Hourmeter – dash mounted, energized by engagement of PTO. PTO hourmeter to be labelled with a permanent type, engraved style label. _____
- 18.16 All switches and warning lights shall be identified with permanent engraved type labels or chassis manufacturer's OEM labels. No labels allowed on upper surface of dash. _____
- 18.17 Inverter – CSA approved, 110 Volt, 5000 Watt, mounted under or behind rear seat, wired through ignition through chassis manufacturer's OEM dash mounted switch, labeled. **State** make and model of inverter being bid. _____
- 18.17.1 All exposed inverter terminals shall be coated with a dielectric grease and completely covered with shrink wrap tubing or rubber fittings. _____
- 18.17.2 Duplex receptacle, interior – one (1) required on front inside of cab. The receptacle shall be GFI, CSA approved, weatherproof type, with hinged cover. _____
- 18.17.3 Duplex receptacle, exterior – one (1) required on front right side of body, approx. 54 in. above ground level. The receptacle shall be GFI, CSA approved, weatherproof type, with hinged cover. _____
- 18.17.4 Roll-up electrical cables – four (4) heavy duty, 3-outlet, 40 ft. cables, two located on passenger and driver's side near rear of service body, two located at front of service body each side, all hard wired to inverter circuit. _____
- 18.18 All wiring installed by body manufacturer/installer (including accessories, trailer plug, etc.) shall be colour coded, loomed, properly secured and protected from damage. _____
- 18.19 All electrical connectors shall be crimped & soldered, then sealed with heat shrink tubing. _____
- 18.20 All joining of wires shall be soldered and sealed using heat shrink tubing (crimp-on electrical connectors for joining wires are not acceptable). _____
- 18.21 Any holes required to run wires through body, cab, steel sections, etc. shall be drilled (not punched), grommeted and sealed. _____
- 19. INSTALLATION**
- 19.1 The Contractor shall install the aerial device and fibreglass service body on the chassis specified in Detailed Specifications 14031. _____
- 19.2 Aerial device shall be installed in accordance with CAN/CSA C225-M00

- and in accordance with aerial device, manufacturer's guidelines. _____
- 19.3 Mounting of the fibreglass body and 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. _____
- 19.3.1 The fibreglass body shall be mounted to the steel deck using stainless steel carriage bolts and fender washers. Bearing plates shall be used in high stress areas. _____
- 19.3.2 Main body compartment supports – cross sill outriggers directly attached to the sub-frame. _____
- 19.3.3 Bidders shall supply within forty eight (48) hours of the request of the Contract Administrator, a diagram and description showing the manufacturer's recommended body and deck to chassis mount. _____
- 19.4 Welding to truck chassis frame is not permitted (except hitch plate). _____
- 19.5 Mounting brackets shall be bolted to chassis frame using Grade-8 fasteners. _____
- 19.6 Any holes required in chassis frame web must be drilled and reamed to fit bolts. _____
- 19.7 All non-continuous body seams (joints) shall be caulked with an automotive grade elastomeric sealant. _____
- 19.8 Departure angle of completed unit – 18° minimum. **State** angle. _____
- 19.9 Overall height decal – engraved type, installed in chassis cab. _____
- 20. MISCELLANEOUS**
- 20.1 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. _____
- 20.2 Outrigger pad storage compartments – steel construction, for two (2) pads each side with nominal pad dimensions of 24" x 24" x 3". _____
- 20.3 Compartments shall have a raised front lip and shall be located beneath service body ahead of rear axle. _____
- 20.4 Wheel chocks – four (4), high density rubber construction with steel or rope handles. _____
- 20.5 Bucket access steps from deck to top of fibreglass service body to cab guard required on each side to permit safe and efficient access to and from each personnel platform. Step frame shall be made of heavy duty tubular aluminum. Steps shall be 4 in. heavy-duty gripstrut, reinforced as required. _____
- 20.6 Grab handles – supplied as required to provide safe access on and off deck and cab guard. _____
- 20.7 Bucket covers – two (2) required. _____
- 20.8 Traffic cone holders – two (2) mounted on top of outriggers where exposed, one (1) per side. _____

- 20.9 Tie-down provisions – two (2) Buyers Products B-801 required, located at the rear of the main deck. _____
- 20.10 Storage tray, right side – located above side pack, steel construction 110"L x 18"W with 3 in. high sides and Dri-deck on the entire tray. _____
- 20.10.1 Grip-strut walkway – 110"L x 18"W located 14 in. above tray, supported by four (4) vertical uprights on each side. Centre two (2) uprights to include one (1) swivel hook each. A steel pan shall be installed below the walkway. _____
- 20.10.2 Ladder rack – provision for an 8 ft. A-frame ladder located below gripstrut walkway. _____
- 20.10.3 Cargo netting – fixed cargo netting, located on the outside of the gripstrut walkway, full length. _____
- 20.10.4 Steel mesh – provided at front of walkway. _____
- 20.11 Ladder rack, left side – located above the side pack, steel construction, suitable for independent storage of two (2) ladders with each storage provision measuring 110" x 20" (ID) with 3 in. high sides. A grip-strut walkway, 132" x 20", shall be located 13 in. above side pack, supported by six (6) vertical uprights on each side. Centre four (4) uprights to include one (1) swivel hook each. _____
- 20.12 Storage box – steel or aluminum construction, sized to accommodate a hydraulic impact wrench, approx. 20"W x 13³/₄"D x 10"H. The box shall have a vertically hinged front door, with an opening for hydraulic hoses, lockable by padlock. The box shall be deck mounted at the left rear corner. _____
- 20.13 Banding strap holder – 2¹/₂ in. ID aluminum tube, 30 in. high, closed bottom, fastened to rear of service body, passenger side below roll-up electrical cable. _____
- 20.14 Cable hooks – five (5) required, swivel type, ³/₄ in. diameter steel hooks, 10"H x 6"D approx. mounted to service body on deck side, three (3) on driver's side, two (2) on passenger side. _____
- 20.15 Pipe storage brackets – three (3) brackets required, located on passenger side below cable hooks, each positioned to angle the pipe downward towards the front. 1¹/₂" x ¹/₈" flatbar construction, approx. 4"D x 10"H. _____
- 20.16 Receiving brackets – two (2) required, 2" x 2" (ID) steel tubing, approx. 2 in. height, welded to side of rear deck, driver's side, used to safely store davit arm support brackets. _____
- 20.16.1 Lower receiving brackets – two (2) required under rear step bumper mounted approx. 30 in. from driver's side edge, 2" x 2" (ID) steel tubing, approx. 12 in. length c/w retainer pin with check chain. _____
- 20.17 File box – Weatherguard Model R8861 or equal, installed between the front seats of the chassis. _____
- 20.18 Isolators – all interfaces between aluminium and steel are to be separated by ¹/₁₆ in. thick rubber or neoprene sheet and shall be bolted through with stainless steel bolts and non-conductive bushings. _____

20.19 Automatic greasing system – complete chassis and aerial device (where applicable) shall be supplied with a Groeneveld Single Line EP0s Inc. auto-greasing system including all required grease points on aerial, approx. twenty-six (26) points on cab & chassis, and automatic low level shut-off with in-cab red light indicator.

21. COLOUR AND FINISH

21.1 Aerial device steel boom sections – powder coated, applied to components prior to assembly so that all surfaces are coated.

21.1.1 **State** details of finish on steel boom sections.

21.1.2 Insulated third (upper) fibreglass boom shall be coated with white, colour impregnated gel-coat.

21.2 Service body – colour impregnated Gel-coat to match chassis cab colour.

21.3 Cab-guard, bumper, boom rest, outriggers, storage racks, trays, etc., shall be sandblasted, properly cleaned, free of oil, dirt, rust etc., primed and finished with the Endura paint process including Endura EP32 Intermix Epoxy Primer and 2-4 mils of Endura EX-2C Topcoat, black.

21.4 Deck surface and deck area sides – properly cleaned and coated with Davis Frost LX-00097 Black Sure Foot Enamel.

21.5 Floor, underside – under body shall be undercoated with cold tar epoxy.

21.6 Kick plates, shall be aluminum checkerplate.

22. OPTIONS

Note: Options shall be price separately as indicated on Form B: Prices.

22.1 **Option 1:** Hydraulic impact wrench – Stanley Model IW24, 1.5 in. square with 1.5" to 1" adapter c/w 18 in. whip hoses and Bruning quick couplers.

23. TECHNICAL DOCUMENTS AND MANUALS

23.1 Bidders shall include the following, within forty-eight (48) hours of the request of the Contract Administrator:

23.1.1 Two (2) sets of three (3) view drawings showing complete unit including chassis, aerial device, service body, cab-guard, etc.

23.1.2 Estimated front and rear axle weights of the complete unit (chassis, aerial device, body, etc. including full fuel and hydraulic tanks).

23.1.3 Service facility description (see 4.2.2).

23.1.4 Subframe mounting plans (see 10.7.1).

23.1.5 Body and deck mounting plans (see 19.3.3).

23.2 Prior to final inspection the Contractor shall provide the following;

a) Scale weight ticket of the completed unit.

- b) Certification letter (see 4.2.3). _____
- c) Dielectric test certificate (see 8.6). _____
- d) Operator's manuals for aerial device – two (2) sets required. _____
- e) Parts and maintenance manuals – two (2) sets required with the following comprising a set:
 - i) Aerial device lubrication chart. _____
 - ii) Maintenance manual. _____
 - iii) Unit parts book. _____
 - iv) Electric wiring diagram (as built) of the completed unit. _____
 - v) Hydraulic circuit diagram (as built) of the completed unit. _____

NOTE: The manuals supplied with this Contract must be in English and shall be specifically for the unit supplied. General purpose manuals are not acceptable. Contract will not be considered complete until these sets of manuals have been delivered. Manuals must be supplied at the time the unit is delivered. CD format preferred.

Bidder shall provide information on any manuals that are available in an electronic format.

24. DELIVERY

- 24.1 The completed 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 **fifty-two (52) 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. _____
- 24.2 A pre-delivery inspection shall be performed by the Contractor on all equipment. _____

25. TRAINING

- 25.1 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 operating personnel and two (2) business days for maintenance 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.

25.2 Training Aides:

- a) On the type of equipment being offered, **state** if CD Rom training aides or on-line training is available. _____

25.2.1 Training Materials and applicable manuals or on-line training material information must be provided to the Operator Training Branch of Public Works at the earliest possible opportunity, no later than (4) weeks prior to delivery of the equipment and related attachments. Training materials shall be sent preferably in both hard copy and electronic format (i.e., CD or DVD) to:

Public Works Department, Human Resources Division
Equipment Operator Training Branch

102-1155 Pacific Avenue
Winnipeg, Manitoba
R3E 3P1

Leanne Guertin
Equipment Operator Training Consultant
Cel: 204-451-3793
E-mail: lguertin@winnipeg.ca

26. **PERFORMANCE RELIABILITY**

26.1 The responsibility for the design of the complete aerial device vehicle, its performance, and reliability shall rest upon the Contractor. _____

26.2 The term "*repeated failures*" as used herein is defined to mean that the same component, subassembly, or assembly develops repeated defects, breakdowns and/or malfunctions rendering the vehicle 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 schedules. _____

26.2.1 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. _____

27. **WARRANTY (Aerial)**

27.1 The Warranty on the aerial device shall include the following:

1. 100% replacement parts and labour for the complete unit for a period

of two (2) years.

2. The following components shall carry a lifetime, major structural components limited Warranty (wear components excluded). Warranty shall include parts and labour;

a) Booms.

b) Boom articulation links.

c) Hydraulic cylinder structures.

d) Outrigger weldments.

e) Pedestals.

f) Sub-bases.

g) Turntables.

3. Provide details on any extended Warranty coverage available.

27.1.1 A new one (1) year Warranty period shall be provided for any component, subassembly or assembly that is repaired or replaced under the terms of the "repeated failures" clause (Section 26.0 Performance Reliability) The new Warranty period shall be effective from the date of acceptance of the repaired or replaced article.

27.2 All Warranty items brought to the attention of the Contractor by the City shall be addressed within forty eight (48) hours. The City reserves the right to effect Warranty repairs to the vehicle, at full cost to the Contractor, should the Contractor fail to commence repairs within forty eight (48) hours.

FORM N: DETAILED SPECIFICATIONS 14031

37,000 LBS. GVWR CREW CAB & CHASSIS VEHICLE

1. TYPE

1.1 Shall be a 37,000 lbs. GVWR Crew Cab & Chassis suitable for use with a Telescopic, Material Handling aerial device with a nominal 9 ft. Service Body. The chassis shall be furnished complete and ready for use with all features and equipment as described herein.

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

2. 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, Domiciled Canada and a Manitoba Government Inspection with Safety Sticker on the driver's side window.

3. 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.

4. 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. GVWR		
5.1	Total 37,000 lbs.	_____
5.2	Front 14,000 lbs.	_____
5.3	Rear 23,000 lbs.	_____
6. Chassis Dimensions		
6.1	Cab-to-axle 102 in. approx. State requirement	_____
6.2	Wheelbase 213 in. approx., state	_____

DETAILED SPECIFICATIONS 14031 (continued)

7. Engine

7.1	Eligible models	9-L Class 6-cylinder diesel engine, state make, model and displacement	_____
7.2	Horsepower	275 HP gross	_____
7.3	Torque	860 lb-ft	_____
7.4	Engine shut down	Low oil pressure / high water temperature	_____
7.5	Anti-idling programming	Required to shut engine off after 15-minutes (except when PTO is engaged)	_____
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, 1200 Watt 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. Electrical system

8.1	Chassis wiring	Multiplexed wiring	_____
8.1.1	PTO alarm	Audible, in-cab alarm is required when transmission is engaged with PTO "on"	_____
8.1.2	Diff. lock protection	Shall disengage differential lock over 7 km/hr approx.	_____
8.1.3	Outrigger alarm	Audible, in-cab alarm is required when transmission is engaged 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	_____
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	_____

DETAILED SPECIFICATIONS 14031 (continued)

8.1.8	Door ajar alarm	Audible alarm to sound when transmission is engaged with door(s) are ajar	_____
8.2	Alternator	Delco Remy 36-SI, 165 Amp	_____
8.3	Starter	Delco Remy 39-MT/OCP 450 Series with thermal protection	_____
8.4	Batteries	Three (3), 12-volt, group 31, 1950 CCA combined Capacity, all exposed connectors shall be sealed with a dielectric grease	_____
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	Trailer plug wiring	Routed to end of frame plus extra 3 ft. of wiring, c/w 6-Pole socket, Grote 82-1068 or equal. The trailer wiring circuit shall include a separate, dedicated circuit from main truck lighting	_____
8.10	Back-up alarm	STAR 99901, 97dBA, located on inside-rear of frame rails	_____
8.11	Accessory switches	Seven (7) required, dash mounted for "PTO", "Beacon", "Deck Light", "Work Light Left", "Work Light Right", "Bin Lights", and additional switch labelled "Aux". "Beacon" switch to be wired hot, all remaining switches wired through ignition and Acc. circuit, complete and wired for body installation, all labelled and backlit	_____
8.12	Warning lights	Two (2), factory installed red lenses for "Boom Stow" and "Outrigger" warning lights, labelled	_____
9.	Exhaust system		
9.1	Configuration	Single horizontal muffler and tailpipe	_____
10.	Transmission		
10.1	Model	Allison 3500 RDS Series	_____
10.2	Shift selector	Dash mounted digital push button	_____
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.	Front axle		
11.1	Capacity	14,000 lbs. capacity	_____
12.	Rear axle		
12.1	Capacity	23,000 lbs. capacity	_____

DETAILED SPECIFICATIONS 14031 (continued)

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.	Front suspension		
13.1	Type	Taper leaf spring suspension, 14,000 lbs. capacity	_____
14.	Rear suspension		
14.1	Type	Air ride suspension, 23,000 lbs. capacity, state make and model of suspension being bid	_____
14.2	Leveling valves	Dual	_____
14.2	Susp. control valve	Manual dump valve for air suspension c/w dash mtd. switch	_____
14.3	Automatic dump	Air bag shall automatically dump when PTO is engaged	_____
15.	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.	Tires, front		
16.1	Make & model	Michelin XZE or Goodyear G291 RSA, state tires	_____
16.2	Size	315/80R22.5G	_____
17.	Tires, rear		
17.1	Make & model	Michelin XDE M/S or Goodyear G622, state tires	_____
17.2	Size	11R22.5G	_____
18.	Frame		
18.1	Type	To match GVWR, 1,500,000 in.-lbs. RBM, outside frame clear	_____
18.2	Application	Suitable for use with an aerial device and service body	_____
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. approx., state	_____
19.	Steering		
19.1	Type	Power	_____
20.	Brakes		
20.1	Type	Air, ABS	_____

DETAILED SPECIFICATIONS 14031 (continued)

20.2	Slack adjusters	Haldex/Eaton (clearance sensing), automatic type with greasable slack adjuster pins	_____
20.3	Parking brake	Spring set	_____
20.4	Dust shields	Required	_____
20.5	Moisture ejector	Bendix DV-2, heated in wet tank	_____
20.6	Drain valve	Manual, cable operated, required on each air tank except wet tank	_____
20.7	Air drier	Heated, Wabco System Saver 1200	_____
21.	Fuel tank		
21.1	Type	Aluminium, 227 L capacity, fully fuelled upon delivery	_____
21.2	Tank straps	Steel mounting straps with ¹ / ₁₆ in. rubber or neoprene isolators	_____
21.3	Fuel separator	Heated, drainable	_____
22.	Cab		
22.1	Type	4-door crew cab, 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	Four (4), 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	Front passenger seat	High back, air suspension w/foldable left hand armrest, seat belt, heavy-duty cloth upholstery, Cordura or equal, state material	_____
22.11	Rear seat	Bench, cloth upholstery c/w 3-seat belts	_____
22.12	Sun visors	Dual flip-up type	_____
22.13	Steering wheel	Tilt type	_____
22.14	12-Volt power outlet	Two (2) required in front dash area	_____
22.15	Radio	Factory installed AM/FM with CD and USB	_____
22.16	Starter switch	Key operated c/w three (3) sets of keys	_____
22.17	Interior light	Dome light with door switches on all doors, light to have a timer "off" when doors open for extended period of time	_____

DETAILED SPECIFICATIONS 14031 (continued)

22.18	Heater / Defroster	High output, capable of keeping all windows clear at an outside temperature of -35°F (-37°C)	_____
22.19	Air conditioning	Required	_____
22.20	Door locks	Power for all four (4) doors.	_____
22.21	Remote keyless entry	Two (2) remotes	_____
22.22	Horn	Dual electric	_____
22.23	Exterior mirrors	Dual West Coast, stainless steel or polycarbonate, 7" x 14½" min., heated, electrically adjustable	_____
22.24	Convex mirrors	6 in. aux., stainless steel, mtd. below West Coast mirrors, or integral type with polycarbonate mirrors, one (1) per side	_____
22.25	Windows & windshield	Tinted	_____
22.26	Windshield wipers	Electric, intermittent, arctic type blades	_____
22.27	Windshield washers	Electric	_____
22.28	Grab handles	Required for all 4-doors (interior and exterior)	_____
22.29	Entrance steps	Dual each side, open grate / grip type	_____
22.30	Winter front	Heavy-duty vinyl w/twist lock or snap type fasteners	_____
23.	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.	Tow hooks		
24.1	Location	Front mounted	_____
25.	Front bumper		
25.1	Type	Chrome steel, full width c/w license plate bracket	_____
26.	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	Wheels	Powder coated white	_____
27.	Accessories		
27.1	Flare kit	Three (3) triangular reflectors, CVSA approved	_____

DETAILED SPECIFICATIONS 14031 (continued)

27.2	Fire extinguisher	5 lb. ABC type, required in cab with mounting bracket	_____
28.	Manuals		
28.1	Operator's manual	Required, one (1) per vehicle	_____
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.	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	Three (3) 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	_____