

FORM N: DETAILED SPECIFICATIONS 24010

SUPPLY AND INSTALLATION OF ALUMINUM SERVICE BODY

INSTRUCTIONS FOR COMPLETION OF SPECIFICATIONS

- 1.1 All items in these specifications should be answered indicating compliance or non-compliance.
- 1.2 **Bidder shall state “yes” for compliance or state “deviation”**, or give a reply where requested to do so. Deviations and/or equivalents shall be clearly stated and fully detailed. Deviations and/or equivalents will be considered subject to evaluation. In every instance where a brand name or design specifications is used, the City will also consider deviations and/or equivalents.
- 1.3 Lengthy explanations of deviations may be included in a separate document and must reference the appropriate Detailed Specification.
- 1.4 Each Proponent is required to fill in every blank. Failure to do so may be used as a basis for rejection of bid.
- 1.5 It will be the responsibility of the Proponent to inform the City of any errors or omissions in these Detailed 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.

2.0 DESCRIPTION OF EQUIPMENT

- 2.1 These specifications describe the supply and installation of an **Aluminum Service Body** and other equipment and features as specified herein.
- 2.2 The **Aluminum Service Body** shall be a new **2024** model year or newer.
- 2.3 The **Aluminum Service Body** and all other items/components shall be the manufacturer's latest model. The equipment shall be furnished complete and ready for operation. Any parts or accessories not specifically mentioned, but which are required to complete and place the equipment and associated attachments in successful operation shall be furnished as though specifically mentioned in these specifications. The equipment and associated attachments, and all parts thereof, shall conform in strength and quality of material and workmanship, to the best standards and engineering practice of the industry.
- 2.4 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.

3.0 OTHER SPECIFICATIONS AND STANDARDS

- 3.1 All applicable SAE standards form an integral part of these specifications and shall have precedence in any conflict concerning minimum acceptable standards.
- 3.2 **Where applicable**, the **Service Body** shall comply with the applicable regulations:

Standard - Specification/Regulation

Internet URL

Transport Canada, National Safety Mark, NSM:

<http://www.tc.gc.ca/eng/acts-regulations/acts-road.htm>

Manitoba Safety and Health Regulation, Parts 12, 16, 22:

<http://web2.gov.mb.ca/laws/reg/current/217.06.pdf>

Canadian Motor Vehicle Safety Standards C.M.V.S.S.:

http://laws-lois.justice.gc.ca/eng/regulations/C.R.C.,_c._1038/section-sched3.html

Standard - Specification/Regulation

Internet URL

Manitoba Highway Traffic Act regulations and requirements including, but not limited to, a Manitoba Government Inspection with Safety Sticker:

<http://web2.gov.mb.ca/laws/regs/index.php?act=h60>

Canadian Standards Association CSA:

<http://www.csagroup.org>

Under Writers of Canada U/L:

<http://www.ulc.ca>

Society of Automotive Engineers SAE:

<http://www.sae.org>

City of Winnipeg Lighting Visibility Standard:

<http://winnipeg.ca/matmgmt/pdfs/PublicWorksEquipLightingVisibility.pdf>

Manitoba Building Code:

https://web2.gov.mb.ca/laws/regs/current/_pdf-regs.php?reg=31/2011

3.3 Where applicable, the completed unit shall include a Manitoba Government Inspection with Safety Sticker.

3.4 Where applicable, the manufacturer/installer shall be a certified vehicle completer and must affix their National Safety Mark (NSM) certification sticker on each unit.

State NSM number: _____

4.0 FUEL

4.1 Where applicable, the equipment shall be fully fuelled upon delivery (no exceptions).

5.0 REFERENCES

5.1 If available, please provide five (5) references where this equipment is used in a working environment where climatic conditions are similar to the City of Winnipeg.

6.0 MAKE & MODEL

6.1 State year, make and model being bid:

Model Year: _____

Make: _____

Model: _____

7.0 PERFORMANCE RELIABILITY

7.1 The responsibility for the design of the **Service Bodies** its performance and reliability shall rest upon the Contractor.

- 7.2 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 schedule.
- 7.3 Where the **Service Body** develops “repeated failures” in service, the Contractor shall make any necessary engineering changes, repairs, alterations or modifications in order to guarantee reliability of performance.
- 7.4 The equipment shall be capable of consistent top performance in City of Winnipeg Environment. **Note: The City of Winnipeg has four seasons with ambient temperatures ranging from approximately 90°F (32°C) to -40°F (-40°C).**

8.0 SERVICE FACILITY

- 8.1 For the purpose of warranty repairs, the Bidder shall have an authorized service facility. The facility, or a portion thereof, shall be dedicated to the service and maintenance of the type equipment being offered. 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.

9.0 QUALIFICATIONS OF MANUFACTURER & CONTRACTOR

- 9.1 The manufacturer of the **Service Body** shall have five (5) years continuous experience manufacturing **Service Body**.
- 9.2 The manufacturer shall have in effect a documented quality control program ensuring that the quality of materials and workmanship, including welding, conforms to the best standards and engineering practice of the industry.
- 9.3 The Contractor shall have five (5) years continuous experience servicing, repairing and maintaining **Service Bodies** of the type being offered.

Representative Picture, Typical Completed Aluminum Service Body on Truck Chassis, Pictured below – Passenger’s Side View (R1).



10.1 **SPECIFICATIONS**

Scope

10.2 Supply and Delivery of **Aluminum Service Body** complete which will be mounted on a City owned cab and chassis _____

The **Aluminum Service Body** shall be capable of consistent top performance for loading and hauling varying payloads year-round in conditions normal to the City of Winnipeg

- Body and accessories to be mounted by a CMVSS certified installer in accordance with CMVSS regulations as well as the chassis and body manufacturers recommendations.

Note: The City of Winnipeg has four seasons with ambient temperatures ranging from approximately 90°F (32°C) to -40°F (-40°C)

Make and Model – Service Body

10.3 Make **State:** make: _____

10.4 Model **State:** model: _____

10.5 Model Year **State:** model year: _____

Body Weights

10.6 Body Weight **State:** estimated weight of body: _____

Weigh Scale Ticket

10.7 Weigh Scale Ticket: _____

- The Contractor shall provide a certified weigh scale ticket upon delivery of the completed unit
- The scale ticket shall include front and rear axle weights including two (2) operators, all attachments and full of fuel

Installation

10.8 The Contractor shall install the **Aluminum Service Body** on the following City owned cab and chassis vehicles: _____

City Winnipeg Department/Customer	Vehicle Type/Style	Quantity	Description	New Vehicle Unit Number (WFMA)
FP-FPS-LIGHT Fleet SVC	2024 Ford F-550	1	19,500 lbs. GVWR Gas, 4WD Extended Cab. Cab; 84 (Cab to Axle Length CA), 7.3 L, V8 Gasoline engine TorqShift® 10-Spd. Automatic Horizontal discharge exhaust, Ford Oxford White Code Z1	2204902

10.9 **Availability** The cab and chassis will be available during the second quarter of 2024 _____

- 10.10 Pick-Up
- The Contractor shall be responsible for picking-up the cab and chassis vehicles from the City upon commencement of the Contract _____
 - The vehicles will be available for pick-up at the Winnipeg Fleet Management Agency, 185 Tecumseh St., Winnipeg, Manitoba
 - Pick-up times will be between 8:00 am and 2:00 pm on any Business Day
 - The Contractor shall be responsible for any related fuel and Insurance costs to and from their facility

Note: The vehicles will be fully fuelled at the time of pick-up by the Contractor

Drawings

Drawings - Contractor Shall Supply

- 10.11 Contractor shall supply: _____
- The Contractor shall supply multi-view CAD drawings to the Contract Administrator upon Award of Contract
 - Drawings will be reviewed and approved as part of the Pre-Production planning stages
 - Contractor to provide a weight analysis after pre-production meetings
 - Drawings are to include all dimensions, materials, and specifications as required
 - Drawings are to be revised as requested by the City
 - Multiple drawing iterations may be required
 - Construction of the service body shall not commence until approval is granted

Note: Drawings can be supply as hard copies, PDF's or electronically

Service Body - Material

- 10.12 Aluminum _____
- High strength aluminum substructure service body primed and painted with two (2) coats of plastic urethane paint
 - Colour impregnated to match chassis cab colour (Ford Oxford White Z1)

10.13 Compartment Interiors Aluminum left in natural unpainted finish _____

- 10.14 Material (Outside)
- Corrosion-resistant 10 gauge 5052-H32 marine grade Aluminum _____
 - The mill certification for the material grade 10 gauge 5052-H32 aluminum marine grade shall be provided or available to the inspector upon request or Contract Administrator.
 - Internally reinforced compartment doors
- State:** material thickness: _____
- 10.15 Compartment Layout
- Each side of vehicle to have:
- one (1) front vertical compartment _____
 - one (1) horizontal compartment over the wheel well
 - one (1) rear vertical compartment

General Dimensions

For the purpose of these specifications:

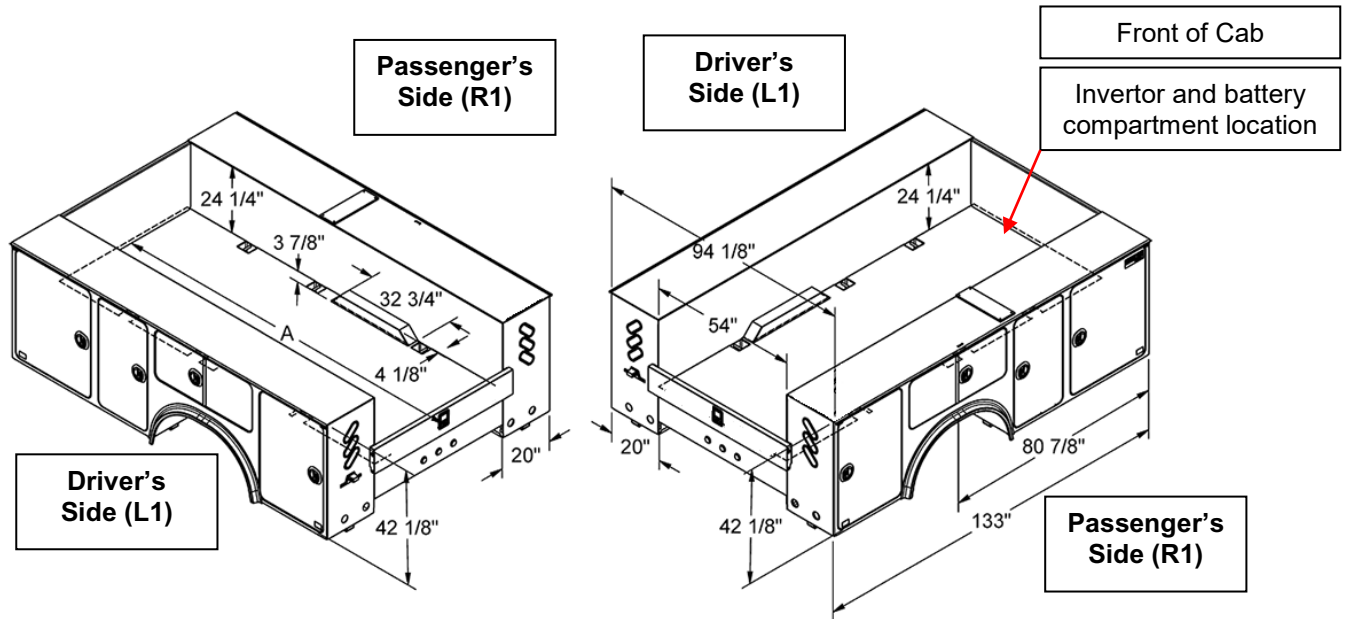
- L – Length along or parallel to chassis longitudinal axis.
- H – Height, vertical.
- D – Depth on horizontal plane across vehicle

Note: Unless otherwise specified, all dimensions are in inches and are the nominal sizes.

- Left and right is always based on perspective when sitting in the vehicle, so:
- Driver side is the left - L1
- Passenger side is on the right – R1.
- The designations for the driver's side may be referred to as L1 within the documentation.
- The designations for the passenger's side may be referred to as R1 within this documentation.

- 10.16 Body Height
- Driver's Side – L1**
- Approximately 50 in. L1 side, _____
- Passenger's Side – R1**
- Approximately 50 in. R1 side
- State: Body Height _____
- 10.17 Body Length
- Approximately 132" inches
(work platform included)
- State: Body Length: _____
- 10.18 Body Width
- Approximately 90" – 96" inches
- State: Body Width: _____

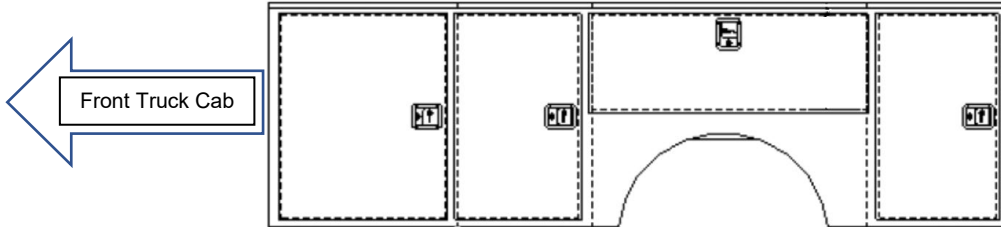
Representative Pictures of Aluminum Service Body – This image shown for illustration purposes only and may not be an exact representation of the final product but should be a similar configuration and style.



Service Body Compartment Layout, Driver’s Side (L1)

Representative pictures of internal service body components are shown below – These images shown for illustration purposes only and may not be an exact representation of the final product but should be a similar configuration and functionality style.

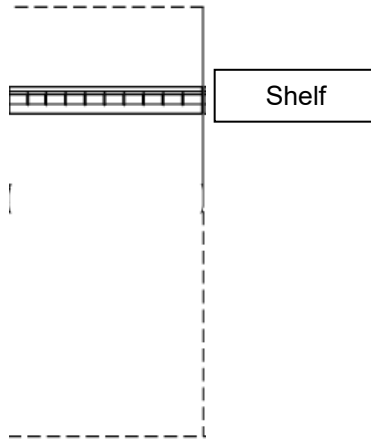
Compartment #1



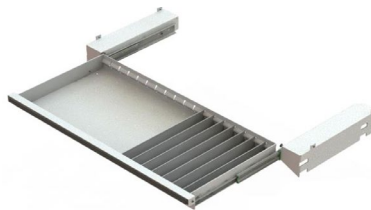
COMPARTMENT SIZES – Approximate Dimesnions		
1	60" W x 50" H x 19" D	19" D
2	46" W x 30" H x 19" D	19" D
3	26" W x 50" H x 19" D	19" D
Length 132" inches	Height range approximalety 50" inches	Width 90.25" – 96" inches
Approximate Estimated Weight 2,125 lbs.		

10.19 Front Vertical
Compartment #1
(Behind truck cab)

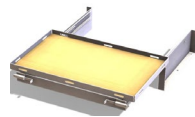
- Compartment # 1
- Approximately 60" inches width x 50" inches height x 19" inches depth
- Barn style doors that overlap each other
- No centre divider panel or an individual door for each compartment is acceptable
- Front compartment; 10" height opening, shelve installed, with 2.0" inch lip
- Battery (power tool batteries) compartment storage, two (2) plug outlets mounted on the back wall of the service body



- Remaining 40" height will house pullout draws, full slide extension
- 250 lb heavy duty draw sliders
- Spacing between draws 12.0" inches, 8.0" inches and 5.0" inches.
- One (1) draw at 12.0" inches spacing
- One (1) draw at 8.0" inches spacing
- Four (4) draws at 5.0" inches spacing
- Width of draws approximately 30" wide (located on left side of compartment)



- Second compartment, total height of 60" inches to have 4 adjustable shelves, with 2.0" lip
- One (1) slide out tray (full slide extension) mounted at the bottom of the compartment with a 2.0" lip



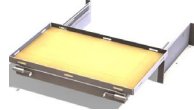
- 250 lb. minimum load capacity

State:
Compartment Size: _____

Compartment #2

10.20 Horizontal
Compartment #2
(over wheel well)

- Compartment # 2
- Approximately 46" inches width x 30" inches height x 19" inches depth _____
- Compartment door opening to swing up to open
- One (1) shelf, 2.0" inch lip.
- One (1) slide out tray (full slide extension) mounted at the bottom of the compartment with a 2.0" lip



- 250 lb. minimum load capacity

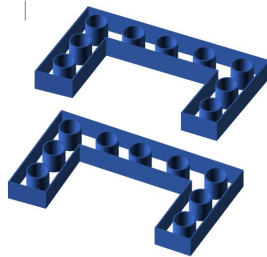
State:

Compartment Size: _____

Compartment #3

10.21 Rear Vertical
Compartment #3

- Compartment # 3
- Approximately 26" inches width x 50" inches height x 19" inches depth _____
- Compartment door opening swings open to the right
- Two spray can holders, angled for ease of access
- Spray can holder capacity; nine (9) cans -minimum



- Material hooks installed on the spray can holder



- Bottom right side of cabinet; bracket angled for 6.5" cylinder holder, adjustable



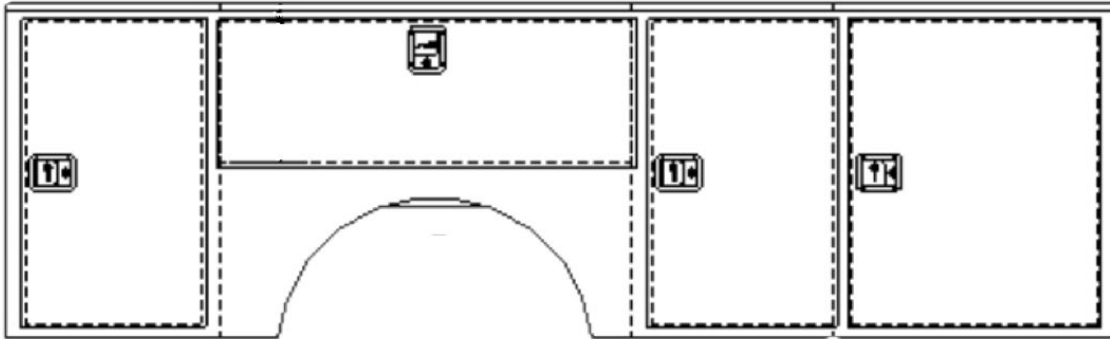
- 250 lb. minimum load capacity

State:

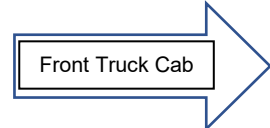
Compartment Size: _____

Service Body Compartment Layout, Passenger's Side (R1)

10.22



COMPARTMENT SIZES – Approximate Dimesnions		
1	60" W x 50" H x 19" D	19" D
2	46" W x 30" H x 19" D	19" D
3	26" W x 50" H x 19" D	19" D
Length 132" inches	Height range approximalety 50" inches	Width 90.25" – 96" inches
Approximate Estimated Weight 2,125 lbs.		



Compartment #1

10.23

Front Vertical
 Compartment # 1
 (Behind truck cab)

- Compartment #1
- Approximately 60" inches width x 50" inches height x 19" inches depth
- Barn style doors that overlap each other
- No centre divider panel or individual doors for each compartment is acceptable
- One (1) adjustable shelf near top of the cabinet, with 2.0" lip
- Six (6) draw cabinet with dividers to be included for adjustment in cabinet drawers



- Adjacent compartment one shelves located near the top of the compartment
- One (1) 36" tool box installed in compartment
- 250 lb. minimum load capacity
- 250 lb heavy duty draw sliders

State:

Compartment Size: _____

Compartment #2

10.24 Horizontal
Compartment #2
(over wheel well)

- Compartment # 2
- Approximately 46" inches length x 30" Height x 19" Depth
- Compartment door opening to swing up to open
- One (1) adjustable shelf, with 2.0" inch front lip
- Pull-out draw 3/4" height, full slide extension
- 250 lb minimum load capacity
- 250 lb heavy duty draw sliders

State:

Compartment Size: _____

Compartment #3

10.25 Rear Vertical Compartment #3

- Adjustable shelving for wire spool storage
- Approximately 26" inches width x 50" inches height x 19" inches depth
- Compartment door opening swings open to the right
- Four (4) shelves to be supplied
- 250 lb minimum load capacity

State:

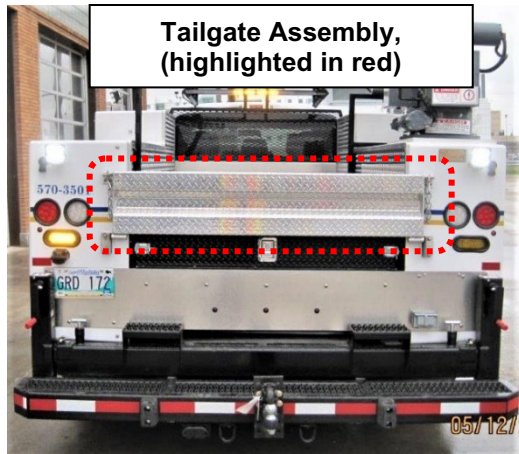
Compartment Size: _____

Tailgate

10.26 Tailgate

- Automotive style tailgate
- Tailgate, 12-Gauge – automotive style tailgate, corrosion-resistant 5052-H32 marine grade aluminum construction for rust preventative, approximately 14" – 16" in. height, fold-down style with check chains.
- All components corrosion protected
- Approximately 10" inches height
- Load rating of approximately 350 lbs.
- Fold-down style with check chains or slam style spring latch with hidden stop opening to 90 degrees

State: _____



10.27 Tailgate Standard Requirement There shall be no gap between tailgate and the floor and sides when tailgate is in the closed position _____

Under Deck Compartment

10.28 Tailgate Under Deck Compartment

- 3/16 in. galvanized steel construction corrosion-resistant
- Fold-down type with heavy duty hinges
- Chrome or stainless-steel paddle style door handle and latch

Lubrication

- Grease fitting required on each hinge



10.29 Pull-out Tray

- Rectangular pull-out tray
- Approximately 106" – 122" inches long x 7" inches height x 46" inches width
- Pull-out tray to have adjustable dividers in the tray compartment
- Locking mechanism quick release for access for pull-out tray draw.

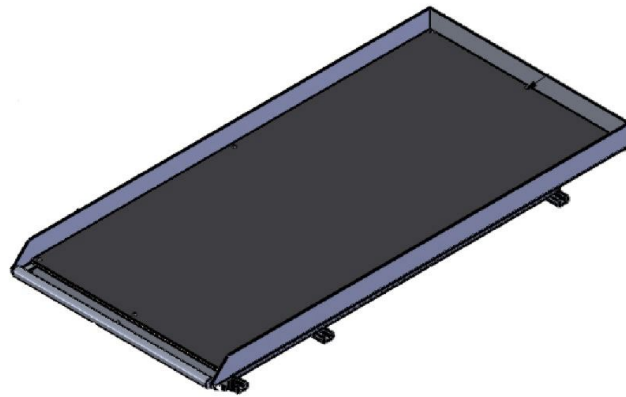
State:

Compartment Size: _____

10.30 Drain Holes

- 3/4" inch drain holes required at front of under deck compartment

Illustration and picture showing under deck pull out compartment located at the rear of the tailgate.



Slide mechanism



These images shown for illustration purposes only and may not be an exact representation of the final product but should be a similar configuration and style/functionality.

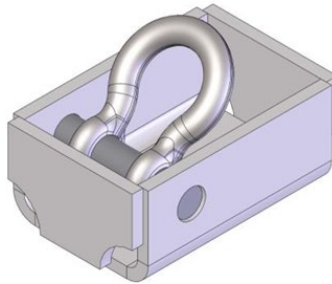
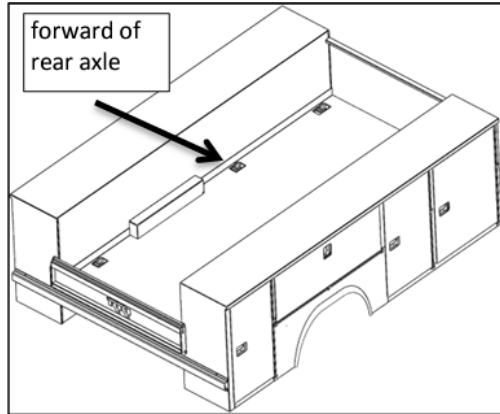
Tie Downs

10.31 Tie Downs

Required: Four (6)

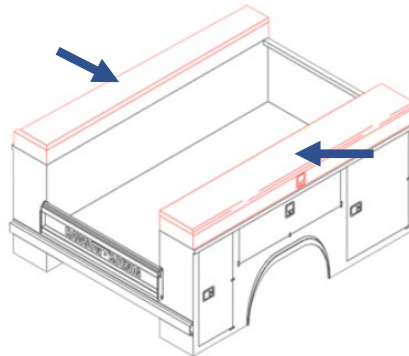
Located on inside of service body

- Two (2) near top/front of each side
- Two (2) middle of each side
- Two (2) near top/rear of each side
- D-Ring
- Tie downs shall be counter sunk
- Two (2) hook to be installed on the front panel of service body in the box
- Tie downs eyes to have a lifting capacity rated for full box weight for lifting box during installation



10.32 Topper Service Body Compartments

- Installation of two (2) Topper service body compartments on each side of the service body
- Length of topper compartment 14' long
- Drivers side - L1 and Passenger side – R1.



Ladders

10.33 Ladder Rack

- 250 lbs. load capacity (when used in pairs)
- Constructed out of Aluminum
- Fully welded heavy gauge steel tubing
- Located and mounted to provide access to topper compartments
- Length 14' long design
- Mounted as close as possible to service body bed area, approximately 40" above cargo bed of service body.



Final design and installation to be finalized at pre-production meeting

10.34 Cabinet Locks

- Service Body cabinets to be keyed to the same key for all cabinets.
- Master Locking system to be installed on both side of the service body for all compartments

10.35 Drip Edge

- Installed along the full length of the body above the door openings
- Designed to prevent water from entering into the storage compartments

State: method _____

10.36 Deck Width

Approximately 52 in. between side packs

10.37 Deck Sides

- 3/16 in. aluminum checker plate; minimum grade 5052-H32 marine grade aluminum
- Extended full height up sides of the side packs

10.38 Front Headboard

- 3/16" inch aluminum checker plate
- Approximately 52 in.
- Top of headboard shall not protrude higher than the lower portion of the rear truck window

10.39 Kick Plate, Rear of Body

- 3/16" inch. Aluminum checker plate
- Full width below deck floor level

10.40 Kick Plate, Front

- 3/16" inch. aluminum checker plate (corrosion-resistant 5052-H32 marine grade Aluminum) to protect lower front area of body protruding past chassis cab
- Each side
- Approximately 8 in. kick plate height

10.41 Sealant

Deck sides and kick plates caulked along edges using automotive grade elastomeric sealant

10.42 Master Lock System

Required

Representative Picture of Master Lock System for Aluminum Service Body.

Note: This image shown for illustration purposes only and may not be an exact representation of the final product.



10.43 Service Body Cabinet Light (LED) System

- Aluminum service body cabinets, all to be illuminated with integrated high performance and long-life LED lighting.
 - Actuated when the doors are opened
-



10.44 Grab Handles

- Located for ergonomic access to service body deck
 - Diameter 1-1/4" inches (32mm) – 1-1/2" inches (38mm)
 - Spacing behind grab bars is approximately 3" inches (76mm)
 - Slip resistant
 - Bolt on construction and affixed securely and positioned in a manner that does not impede or interfere with the tailgate assembly or obstruct any lighting
 - **Primed and painted high visibility yellow paint**
-

Final design and installation to be finalized at pre-production meeting

10.45 Ford F550 Rear Suspension
Chassis – Air Suspension
Installation

- Supply and installation of rear air suspension on Ford F550 Chassis. Air suspension should be able to operational and function in the City of Winnipeg **four seasons with ambient temperatures ranging from approximately 90°F (32°C) to -40°F (-40°C)**.
- Controls in the truck cab for leveling and with air dryer and tanks mounted in chassis away from debris spray.

Cameras

10.46 Back-Up Cameras

Required: Quantity one (1)

- Location # 1 - back of vehicle
-



Note: Contractor responsible for contacting cab and chassis supplier for programming assistance and technical support

Rear Fenders / Mud Flaps

10.47 Rear Fenders

- Fender - Rubber Roll Crown complete assembly includes mounting strips and attaching hardware.
 - Heavy Duty rear poly half-moon fenders complete with steel mounting hardware
 - Installed to have sufficient clearance from body and when chassis suspension is dumped for dump body operation
-



10.48 Mud Flaps

- Black rubber, no-name, front and rear of back tires
 - Complete with anti-sail bracket on each mud-flap
 - Rear mud flaps shall not contact the ground when the dump body is at maximum dump angle
 - Acceptable to bolt directly to fender.
-

Rear Bumper and Hitch

10.49 Rear Bumper

- Heavy duty step type bumper
- Tubular steel construction
- Galvanized
- Tapered at outer ends
- 12 in. steel grip strut surface
- Recess for a Pintle hitch mount
- Approximately 16 in. step height from ground

Design (including overhang) and installation to be determined at pre-production meeting

10.50 Auxiliary Step

- Aluminum grip strut
- Approximately 7 in. L x full width of deck
- Located equidistant between bumper and deck level

10.51 Rear Hitch

- Hitch integrated into the rear bumper design, tow capacity 6000 lbs.
 - Combination hitch with 2-5/16 ball
 - Installed on hitch plate at a 24 in. height
 - Add extra holes in rear hitch plate to allow for multiple mounting positions
 - Wallace Forge Company DPH2516
 - Wallace Forge Company 2325211 – 2" ball supplied loose
 - Licence plate holder.
- Or Equivalent
- Buyers Products BH82516
 - Buyers Products RB2000 – 2" ball supplied and installed (loose)

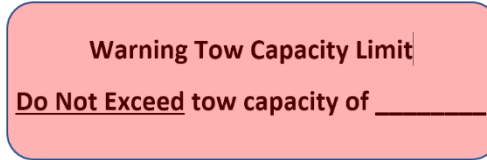
Design and installation to be determined at pre-production meeting



Rear Bumper and Auxiliary Step

10.52 Tow Capacity Safety Sticker

A weather-resistant tow capacity sticker must be attached to the back bumper or service body deck. This sticker will indicate the maximum tow capacity for both the bumper and/or hitch, which should not be surpassed during operations



10.53 Eye Bolt or welded shackle (Required for Trailer Safety Chains)

One (1) each side of hitch
 Eye bolt or welded shackle on bumper or equivalent style and functionality requirement for tower safety chains

10.54 Driver's Side – Interior Heater Service Body – Driver's Side

- “Espar” heating system or equivalent in functionality. Substitutes, as recommended from body manufacturer for extreme cold climate.
- Interior Heat – Espar heating system (20-2819-87-0400 M2 B4L 4kw Gasoline heater with the Easy Start Pro Diagnostic Timer) or equivalent system with sane performance and functionality. Substitutes are acceptable with written approval from contact Administrator.



State Details of the Heating package:

Running Boards

10.55 Construction

Custom made:

- Extending entire length of underside of front and rear doors, each side.
- AGS 6061 aluminum grip strut, 9-1/2” inches x 2.0” inches x 0.08” inches
- Inside kick plate shall consist of 1/8” inches aluminum checker plate
- Support brackets shall consist of 1-1/2” inches x 1-1/2” inches x 1/8” inches RC aluminum square tubing with 1/4” inches aluminum support plates

10.56 Mounting

- Cab steps to be mounted using the existing holes in the frame and body where applicable
- Use 3/8-16 nut inserts to secure the mounting brackets to the body

10.57



Trailer Equipment (Electrical)

10.58 Trailer Connector

SAE 6-Pole Flat trailer receptacle mounted and installed in rear hitch plate complete with all necessary wiring

Note: The cab and chassis will be supplied with the following:

Wiring:

- Wiring routed to end of frame with two (2) extra feet
- Air lines routed to end of frame with two (2) extra feet
- Separated from main truck lighting
- Circuit breaker protected

Trailer Auxiliary Circuit:

- Electric trailer brake
- Controlled by ignition switch

Safety

Back-Up Alarm

10.59 Back-Up Alarm

- SWS model 99202 or Whelen, Grote equivalent model having same specifications and functionality



- Mounted between frame rails at rear of vehicle
- Protected from damage and road spray/damage

Conspicuity Tape

10.60 Conspicuity Tape

- Truck-Lite 98127 or equal
- Affixed

Grease Fittings

10.61 Grease Fittings

- Required:**
- Tailgate release mechanisms
 - Pivot points
 - Tailgates

Inverter

10.62 Inverter

- CSA approved
- 110 Volt, 3000 Watts minimum
 - Make: Xantrex
 - Model: XPower 3000 Inverter or equivalent rated unit model having same specifications or functionality
 - Part Number: 813-3000-UL
 - Mounted in the bed of the service body in cabinet/box, weather protected.

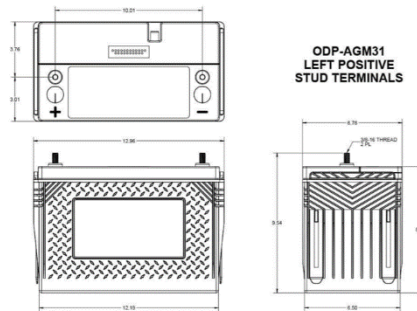
State:

Make: _____

Model: _____

10.63 Deep Cycle AGM Battery

- Group 31, Deep Cycle AGM battery, approximately 900 CCA or equivalent Model
- Battery - Operating temperature range-40°F / -40°C to 140°F / +60°C
- Battery Cold Start Performance S.A.E J537



M
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service body

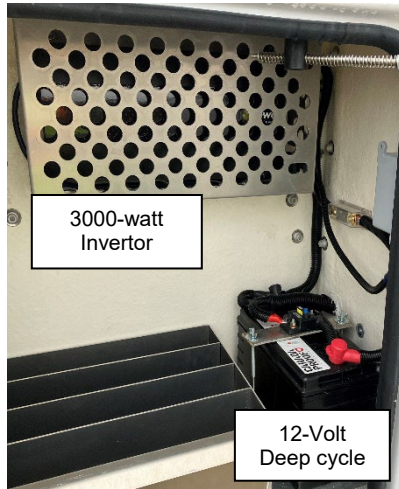
1 a

State:

Make: _____

Model: _____

10.64



10.65 Installation

All exposed inverter terminals shall be:

- Coated with a dielectric grease
- Completely covered with adhesive-sealant-lined shrink tubing must be used to guarantee joint integrity, waterproofing and strain relief or rubber fittings
- The battery lid cover supplied to provide protection for the terminals, ensuring their shielding.

10.66 Location

Front of service body bed with inverter and battery mounted in self-contained aluminum box, weather protected.

Location to be confirmed at pre-production meeting

10.67 Wiring

- Wired through ignition through dash mounted inverter mfg. remote switch
- Must be labeled – permanent and engraved
- Inverter to be complete with suitable solenoid and battery isolator
- The wiring should have the capability to carry approximately 14 volts of alternator charging voltage from the engine compartment (when engine running) to the deep cycle battery connected to the inverter.

10.68 Installation

No exposed inverter terminals

- Terminals coated with a dielectric grease
- Completely covered with adhesive-sealant-lined shrink tubing must be used to guarantee joint integrity, waterproofing and strain relief or rubber fittings

10.69 Receptacle



- One (1) required
- Duplex receptacle
- Mounted at front of service body, passenger side (Passenger Side – R1)
- Forward facing
- Mounted as high as practicable so as not to interfere with interior shelf positioning
- The Duplex receptacle shall be minimum 20 AMP, GFI, CSA approved
- Weatherproof type with hinged covers with automatic cover closure/spring closure mechanism built in to the housing cover.

Location to be confirmed at pre-production meeting.

Lighting

10.70 Work lights – Service Body/Ladder Rack

- All switches wired and labelled with permanent type engraved style label
- Work lights left and right of service body switch individual for driver's and passenger side
- Work lights to be wired through the ignition, wired through two (2) OEM dash mounted switches
- Labelled "Curb Work Lights" and "Street Work Lights"

10.71 Identification:

- All dash mounted warning lights and switches to be identified with permanent, engraved type labels
- Mounting of labels with 3M VHB Tape or equivalent. To ensure adhesion to interior surfaces 3M Adhesion Promoter 06396 is a convenient liquid primer for enhancing the adhesion of 3M™ Acrylic Foam Tapes in automotive applications. This adhesion promoter works with most LSE plastics used for interior and exterior automotive trim and parts
- No labels to be located on upper surface of dash

10.72



Not Acceptable – Not Permanently Label



Picture above shows example of permanent engraved label switches.

10.73 Combination Turn/Stop and Taillights

- One (1) per side
- P/N Truck-Lite 44302R with P/N 44710 mounting grommets

10.74 Back-Up Lights

- One (1) per side
- P/N Truck-Lite 44206C with P/N 44710 mounting grommets

10.75 3-Light Cluster

- Three (3)
- P/N Truck-Lite 10250R with P/N 10403 mounting grommets
- Located to protect from damage

10.76 Clearance Lights

- Grote 49333 and 49332 with mounting grommets
- Or
- Truck-Lite 33050R and 33050Y with 3370 mounting grommets

Note: shall not protrude beyond the dump body

10.77 Clearance Lights (Mounting Locations)

- Front – qty two (2), located one on each bottom corner of body
- Sides – qty two (2) per side, located on front and rear bottom corners
- Rear – qty two (2), located one on each bottom or top corner

10.78 License Plate Light

- Complete with license plate bracket
- P/N Truck-Lite 36140 (Light)
- P/N Truck-Lite 36710 (Bracket)
- Mounted on rear hitch plate

Standards
(Where applicable/requirements in accordance with application)

Finish

10.79	Service Body/Truck Chassis	<p>Service body must be attached to the truck chassis and properly supported. i.e. bolted and automotive grade U-bolts used to secure service body to truck chassis main frame members.</p> <p>Note: in some cases, the following must be conducted in accordance with service body manufacturers specifications for installation.</p> <p>Body and accessories to be mounted by a CMVSS certified installer in accordance with CMVSS regulations as well as the chassis and body manufacturers recommendations.</p>	_____
10.80	Acknowledgment	<p>EXAMPLE: Ford & Ram Specific Requirements – The under structure of the service body must be attached to the truck frame using a minimum of four points. The front two mounts closest to the cab of the truck must be spring mounted.</p> <p>Exception for Aerial/Crane Device equipped Service Bodies: If an aerial/crane device is involved, the body is to be spring mounted at the opposite end of the device at the two-service body under structure to truck frame attachment points.</p> <p>After the installation of the body to the chassis verify:</p> <ul style="list-style-type: none">• Doors shut and seal correctly, if not, adjust striker assembly• Master Lock Rod System, if equipped, functions as advertised, if not, adjust components <p>After the adjustments are made, perform a water intrusion test.</p>	_____
10.81	Isolators	<ul style="list-style-type: none">• All interfaces between aluminium and steel are to be separated by an approximately $\frac{1}{16}$ in. thick rubber or neoprene sheet• Shall be bolted through with stainless steel bolts and non-conductive bushings	_____
10.82	Drain Holes	<p>All body compartments to include a $\frac{1}{2}$ in. drain hole complete with plug</p>	_____

10.83 Doors Design and Weather Stripping

Automotive door design with neoprene seals or equivalent seals having same specifications to minimize moisture and dust intrusion. Automotive grade weather stripping.



10.84 Doors

All vertical compartments doors to vertically hinged

10.85 Door Latches

- Flush mounted with locks for all compartment doors
- All locks shall be keyed alike

10.86 Compartment Door Handles

Tri-Mark door handles, Chrome plated or stainless-steel paddle style handles or equivalent model having same specifications

10.87 Door Hinges and Latches

Chromed or stainless steel with adjustable striker plates

10.88 Compartment Door Openings

Sealed using automotive type bulb gasket door seal

10.89 Door Hold-Open Devices

- Over-centre door holders on front and rear compartments
- Detachable cables on horizontal compartments
- Hydraulic cylinder

10.90 Primer

- Epoxy or Polyurethane
- Two (2) coats – Dry Film Thickness 3.0 – 4.0 mils

10.91 Paint

- Black
- Epoxy or Polyurethane
- Two (2) coats:
 - 3 - 5 mils Wet Film Thickness with a total combined overall average Dry Film Thickness of 4 – 6 mils

Welding Standards – Requirements

10.92 Welds Continuous welds _____

10.93 Standard CSA Standard W47.1-30, (CSA W47.1, Certification of companies for fusion welding of steel) and W59-03, (CSA W59, Welded steel construction). _____

Where Applicable:

CSA W47.2 Fusion Welding of Aluminium Company Certification,
CSA W59.2 - 2018 – Welded Aluminium Construction
Or Equivalent American Welding Society (AWS)

10.94 Weld Quality Inspection

- Straight and uniform
- Consistent thickness
- No spatter drops
- No slag, cracking or holes
- No dips or craters in the bead
- No holes, breaks or cracks in the

Not Acceptable – cause for rejection.

- Lack of uniformity and
- Visible spatter
- Cracking, undercutting or breaks
- Bead width inconsistent

10.95 Weld Spatter Weld spatter to be removed prior to finish _____

Clearance

10.96 Clearance Clearance between dump body and back of truck cab shall be a minimum 3 in. in accordance with the Cab and Chassis Incomplete Vehicle Manual _____

10.97 Tire Clearance Body shall provide for approximately 4 in. clearance with rear springs fully loaded _____

Installation

10.98 Not-Permitted

- Drilling on chassis frame flanges
- Welding on the chassis frame

10.99 Holes


- When necessary and permitted in accordance with manufacturers specifications and regulations holes in the frame shall be drilled, remade and deburred to fit bolts
- Bolt holes shall not have excessive play
Holes required to run wires through shall be drilled and deburred (not punched), grommeted and sealed as required when permitted

10.100 Isolators

- All interfaces between aluminium and steel are to be separated by an approximately 1/16 in. thick rubber or neoprene sheet
- Shall be bolted through with stainless steel bolts and non-conductive bushings

10.101 Mounting Brackets

Shall be bolted to frame using Grade-8 fasteners.

Grade Marking	Specification	Material	Bolt and Screw Size in.	Proof Load, psi	Tensile Strength min. psi
	SAE-Grade 8	Medium Carbon Alloy Steel, Quenched and Tempered	1/4 thru 1-1/2	120,000	150,000
	ASTM-A 354 Grade BD	Alloy Steel, Quenched and Tempered			

10.102 Bolt Requirements

- All bolts must be high tensile
- Hardened or equivalent strength washers must be installed under both the bolt head and under the nut
- All nuts need to be high tensile and self locking (Nyloc, Conelock or other suitable self-locking variation)
- At least two bolt threads must protrude from all nuts
- Any suspension component bolts must be ISO Class 10.9 or SAE Grade 8
- All bolts that have been installed to replace OEM bolts must be at least an equivalent class/grade.

When mounting tow couplings (towbars, fifth wheels etc.) the bolt shank needs to protrude through the entire interface of the material. This avoids stress concentration on the threaded portion and maximises the available bolt cross-section that is subject to shearing forces.

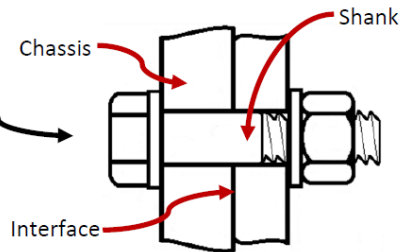


Figure 1

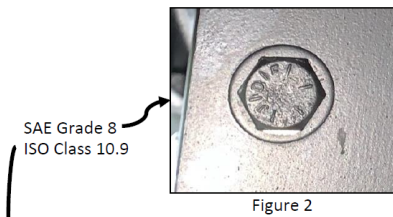


Figure 2



Figure 3

ISO Class 8.8 bolts should not be confused with SAE Grade 8 bolts.

- ISO Class 10.9 bolts are equivalent to SAE Grade 8 bolts (6 radial embossed on the bolt head – Figure 2).
- ISO Class 8.8 bolts are equivalent to SAE Grade 5 bolts (3 radial embossed on the bolt head).

Figure 3 shows an ISO Class 10.9 bolt head and a Nylock nut securing a separate bolt. Notice that both the bolt head and nut are installed with hardened washers and there are more than two threads protruding from the nut.

10.103 Mounting Standards

Mounting of the body shall be in accordance with the chassis manufacturer's guidelines for body mounting, including but not limited to guidelines for tire and suspension clearance and fuel filler installation

10.104 Mounting Standards

All non-continuous body seams (joints) shall be caulked with an automotive grade elastomeric sealant

10.105 Mounting Plates

- Mounting plates utilized or created for the installation or assembly of the service body must feature chamfered corners and avoid sharp right angles



The mounting plate on the truck frame, which is affixed to a service body, has a sharp corner highlighted by a red circle. It is not advisable to have this sharp corner, as it should be rounded to alleviate any stress concentrations. Failure to do so may result in the early development of fatigue cracks.



10.106 Bolted Connections to Chassis Frame

- Mounting to the chassis frame is permitted however the bolt/nut assembly must have no gap or skewed connections are allowed; bolt/nut connection must be perpendicular to the clamping surface.
- **Not Recommended**, However, if hole is to be drill to accommodate bolt/nut assembly, ensure hole is drilled far enough away from any seams, splices or overlays in the chassis frame to ensure bolted and nut/washer connection will be flat, ensure total contact with chassis frame.



The assembly of bolt and nut through the chassis frame must adhere to certain guidelines. In the event that the hole is situated on a curved surface or where a transition occurs in the frame, it is not recommended to utilize it as a mounting location.

However, if the hole location is to be utilized as a mounting location, the following protocol must be observed: A levelling washer must be employed to ensure that the bolt clamping force is fully applied and perpendicular to the frame, with no gaps permitted.

The bolt/nut assembly, located on the seam, is deemed unacceptable.

Lighting and Electrical Standards

- 10.107 Conformance:
• LED Lighting – Class 2
• C.M.V.S.S.
• Manitoba Highway Traffic Act.
• City of Winnipeg Lighting Visibility Standard
<http://winnipeg.ca/matmgt/pdfs/PublicWorksEquipLightingVisibility.pdf>
- 10.108 Lighting:
• Supplier installed
• LED – Class 2
• Stop / turn / tail lights
• Clearance lights
• Back-up lights
3-Light cluster
- 10.109 Visibility:
• Taillights, back-up lights and warning lights to be fully visible when tailgate is lowered to horizontal position
• No clearance light shall protrude beyond dump body
- 10.110 Licence plates:
• The front license plate holder is securely installed and comes with the necessary mounting screws for the license plate.
• The back-license plate holder is securely installed and must have an LED light to illuminate it and should be positioned on the left side at the rear of the vehicle, ensuring it is not obstructed
- 10.111 License Plate Light (Rear Location)
• Complete with license plate bracket
• P/N Truck-Lite 36140 (Light)
• P/N Truck-Lite 36710 (Bracket)
- 10.112 Identification:
• All dash mounted warning lights and switches to be identified with permanent, engraved type labels
• Mounting of labels with 3M VHB Tape or equivalent. To ensure adhesion to interior surfaces 3M Adhesion Promoter 06396 is a convenient liquid primer for enhancing the adhesion of 3M™ Acrylic Foam Tapes in automotive applications. This adhesion promoter works with most LSE plastics used for interior and exterior automotive trim and parts
No labels to be located on upper surface of dash
- 10.113 Connection System:
• Weather Pack Sealed Connection System or equivalent system having same industry specifications.
• Genuine OEM connectors, terminals, and wire seals are used to guarantee quality and 100% fitment.
• (“J-Box” and shrink tube acceptable)



10.114 Grommets:

- Rubber grommets are to be utilized for passing or running wiring through holes in the chassis of panels, unless stated otherwise.



10.115 Harnesses:

- Harness system, properly routed and secured.
- All harnesses shall be internally grounded, no exceptions
- Colour coded or numbered

10.116 Junction Box:

- Complete with necessary compression fittings, required for all vehicle lighting harness connections
- Securely located
- Readily accessible for servicing
- Waterproof
- Protected from road spray

10.117 All Plug-In Connectors:

- All plug-in connectors shall be coated with Truck-Lite NYK Corrosion Preventive Compound prior to assembly

10.118 Wiring:

- All wiring to be colour coded, loomed and properly secured.
- Genuine OEM connectors, terminals, and wire seals are used to guarantee quality and 100% fitment
- All LED strobe lights shall be wired through the ignition, wired through a single OEM dash mounted switch or on the control panel enclosure, labelled "Strobes" with a permanent type, engraved style label

10.119 Electrical Connectors:

- All electrical connectors to be crimped, soldered and then sealed using adhesive-sealant-lined shrink tubing must be used to guarantee joint integrity, waterproofing and strain relief or rubber fittings



- Pictures above showing acceptable crimping and sealant using adhesive-sealant-lined shrink tubing must be used to guarantee joint integrity, waterproofing

10.120 Joining of Wires:

- All joining of wires to be soldered and sealed using heat shrink tubing or approved OEM weather tight connections

Note: Crimp on electrical connectors for joining wires are not acceptable

10.121 Wiring Routing:

- Any holes required to run wires through shall be drilled (not punched), grommeted and sealed

- 11.0 **WARRANTY:**
- 11.1 All warranty information shall be detailed and **include all exclusions.** _____
- The Contractor shall provide all published warranty information upon delivery
 of the equipment. _____
- Bidder shall state all warranty information.
- 11.2 The warranty for the **Aluminum Service Body** shall cover the complete
 equipment, and all parts thereof against any defects of workmanship, _____
 construction and materials.
- Any equipment that has become defective during said warranty period and
 has not proven to have been caused by negligence on the part of the user
 shall be repaired or replaced at no cost to the City.
- The warranty shall be effective from the date the equipment is put into service
 by the City of Winnipeg
- 11.3 Factory Warranty - Body **State:** Terms: _____
- 11.4 Hydraulics **State:** Terms: _____
- 11.5 Hoist **State:** Terms: _____
- 11.6 Electrical **State:** Terms: _____
- 11.7 Lights **State:** Terms: _____
- 11.8 Paint **State:** Terms: _____

12.0 **DELIVERY:**

12.1 **Delivery Point:**

The complete unit shall be serviced, ready for operation and delivered F.O.B. with the freight prepaid, including invoice and N.V.I.S. (if applicable) to the WFMA 185 Tecumseh Street, Winnipeg MB

12.2 **Delivery Time:**

Equipment shall be delivered between 8:00 am and 2:00 pm on Business Days

State: earliest delivery time from date of award: _____

12.3 **Delivery Contact:**

The Contractor shall contact the Contract Administrator prior to delivery of the equipment

12.4 **P.D.I.:**

- A pre-delivery inspection shall be performed by the Contractor on the equipment
- Proof upon inspection including completed check list

13.0 **MANUALS:**

13.1 **Manuals:**

The following manuals shall be supplied with the equipment when delivered: _____

Operator – Two (2) Copies

- One (1) copy shall be sent to the Equipment Operator Training Branch
- One (1) copy to be left with the equipment

Parts and Service

- One (1) complete set including preventative maintenance schedules

Note: CD or USB flash drive is preferred where available

14.0 **PARTS/LABOUR PRICING:**

14.1 Bidder to provide City of Winnipeg Parts Discount % Pricing from retail parts pricing _____

State: percentage discount: _____

14.2 Bidder to provide City of Winnipeg Labor Discount % Pricing from retail shop labor rate _____

State: percentage discount: _____

15.0 **FIRST SERVICE PREVENTATIVE MAINTENANCE KIT:**

15.1 If applicable, in order to assure minimum downtime of the Equipment in future service, the Contractor must provide one (1) complete replacement set of new OEM filters for each unit purchased. The set of required filters shall include (if applicable to the equipment type) air, fuel, oil, transmission, cab and hydraulic, or otherwise all known necessary common replacement filters required for the first preventative maintenance servicing and first transmission service. _____

15.2 The Contractor must provide a list of Factory recommended lubricants to be used with the equipment, as well as a complete cross reference guide for all warranty approved lubricants and filters that can be used during Preventative Maintenance servicing. _____