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# Township of Guelph/Eramosa

## Request for Quotes **Reference number: FD2016-01**

Quote to Supply and Deliver

Tanker  
Tender Specifications

**Closing Date:** Friday September 30, 2016  
**Time:** 1:00 pm

**Contact:** John Osborne, Fire Chief  
519-824-6590  
John.osborne@guelph.ca



8348 Wellington Road 124  
P.O. Box 700  
Rockwood ON N0B 2K0  
Tel: 519-856-9596  
Fax: 519-856-2240  
Toll Free: 1-800-267-1465

**SEALED QUOTATIONS** will be received by the Township of Guelph/Eramosa, at 8348 Wellington Road 124, Rockwood, Ontario, N0B 2K0 until Friday September 30, 2016 at **1:00 pm**.

For supplying, complete as specified, one (1) Tanker Fire Apparatus.

The lowest or any tender will not necessarily be accepted.

Fax responses will not be accepted.

**For more information about the specifications, please contact John Osborne, Fire Chief at 519-824-6590 or via email at [john.osborne@guelph.ca](mailto:john.osborne@guelph.ca)**

**\*\*\* Please note Canada Post does not physically deliver to this location. All other courier services do \*\*\***

**THE CORPORATION OF THE TOWNSHIP OF GUELPH/  
ERAMOSA  
FORM OF TENDER**

**SUPPLY AND DELIVERY OF ONE (1)  
TANKER FIRE APPARATUS  
REFERENCE NUMBER: FD2016-01**

I/We, the undersigned, have read and understood, and herewith agree to supply and deliver the above in accordance with specifications issued by the Township of Guelph/Eramosa at the following price(s).

DECLARATION

I/WE, the undersigned authorized signing officer of the Bidder, HEREBY DECLARE that no person, firm or corporation other than the one represented by the signature (or signatures) of proper officers as provided below, has any interest in this tender.

I/WE further declare that all statements, schedules and other information provided in this tender are true, complete and accurate in all respects to the best knowledge and belief of the Bidder.

I/WE further declare that this tender is made without collusion, connection, knowledge, comparison of figures or arrangement with any other company, firm or persons making a tender and is in all respects fair and without collusion for fraud. I/we understand that this may result in the rejection of the tender.

I/WE further declare that no employee or member of Council of the Township of Guelph/Eramosa is or will become interested, directly or indirectly as a contracting party or otherwise in the supplies, work or business to which it relates or in any portion of the profits thereof, or in any such supplies to be therein or in any of the monies to be derived there from.

I/WE further declare that we have read, understood and agree to pages 5 to 14

I/WE further declare that the undersigned is empowered by the Bidder to negotiate all matters with the Township of Guelph/Eramosa representatives, relative to this tender.

**ALL PRICING IS TO BE QUOTED IN CANADIAN DOLLARS**



8348 Wellington Road 124  
P.O. Box 700  
Rockwood ON N0B 2K0  
Tel: 519-856-9596  
Fax: 519-856-2240  
Toll Free: 1-800-267-1465

NEW VEHICLE

DESCRIPTION OF ITEM	QTY	PRICE/EACH
TANKER	1.	\$ _____

(Refer to Price Notation on page 6)

Maximum number of calendar days required after receipt of the Purchase Order for the completed unit to be delivered to the Township of Guelph/Eramosa \_\_\_\_\_

Cash discount offered for prompt payment \_\_\_\_\_

COMPANY NAME: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

CITY: \_\_\_\_\_ POSTAL CODE \_\_\_\_\_

SIGNATURE: \_\_\_\_\_

NAME (please print or type): \_\_\_\_\_

TITLE: \_\_\_\_\_

PHONE NUMBER: (\_\_\_\_) \_\_\_\_\_

EMAIL ADDRESS \_\_\_\_\_

DATE OF TENDER: \_\_\_\_\_

## **TOWNSHIP OF GUELPH/ERAMOSA**

### **TENDER DOCUMENT**

**SUPPLY AND DELIVERY OF ONE(1)  
PUMPER/ TANKER FIRE APPARATUS  
REFERENCE NUMBER: FD2016-01**

### **INSTRUCTIONS TO BIDDERS**

Sealed tenders, for the above, will be received ONLY at the Township of Guelph/Eramosa Township office, 8348 Wellington Road 124, Rockwood, Ontario, Canada, N0B 2K0, **BEFORE ONE (1:00) p.m., local time Friday September 30, 2016.**

### **GENERAL**

These terms, conditions and specifications are intended to govern the supply and delivery of One (1) Pumper/ Tanker Fire Apparatus.

### **RECEIPT OF SUBMISSIONS**

The Township of Guelph/Eramosa will not accept a response to this tender by any telegraphic facsimile machine or e-mail. You are to provide 2 two copies of the tender documents, one copy that must be marked as ORIGINAL and shall contain all original signatures and 1 copy of all requested documents (Form of Tender etc).

All Tenders shall be submitted with the Submission Label completed in full and affixed to the submission envelope.

### **CONFLICT OF INTEREST**

An employee of the Township of Guelph/Eramosa shall not have a direct or indirect interest in a company or own a company, which sells goods or services to the Township of Guelph Eramosa.

### **WITHDRAWAL**

The Township of Guelph/Eramosa reserves the right to withdraw, at its discretion, this tender at any time and shall not be liable for any expense, cost, loss or damage incurred or suffered by any bidder as a result of such withdrawal.

### **TIME OPEN FOR ACCEPTANCE**

This Tender is irrevocable and is to continue open for acceptance by the Township of Guelph/Eramosa for a period of ninety (90) calendar days after the date and time set for submission of Tender. The Township of Guelph/Eramosa may at any time within the above ninety (90) calendar day period accept this Tender whether or not any other Tender has previously been accepted.

### **DOCUMENT INTENT**

The intent of this document is to procure for the Township of Guelph/Eramosa (subject to availability/approval of Township budgetary funding), the goods indicated, in accordance with the minimum specifications outlined herein and to set forth the terms of reference of requirement.

Notwithstanding certain detail of specifications, goods of similar design and construction will receive consideration if, in the opinion of the using department, they are considered to be suitable for the intended application and generally conform to performance requirements. All bids on goods not fully meeting the specifications shall be accompanied by a statement fully outlining any departures from the specifications and fully describing the commodities offered, referencing Item number where appropriate.

This document (and response thereto) shall form part of the Purchase Order Contract issued to the successful bidder.

### **BUILDING STANDARDS**

The fire apparatus will be built according to the latest standard of ULC S515, NFPA 1901, as well as other appropriate electrical, mechanical or other industry standards, and third-party tested where required. The fire apparatus will be built to standards for acceptable use on Ontario roads, and shall conform to Ontario Ministry of Transportation and Canadian Motor Vehicle Safety Standards. The fire department is aware that should they request items that do not comply with these standards they may have to sign a waiver. **NO EXCEPTION**

### **COMMERCIAL VEHICLE INSPECTION**

Prior to delivery there shall be a Province of Ontario Periodic Mandatory Commercial Vehicle Inspection (PMCVI) completed, with documents supplied on delivery. **NO EXCEPTION**

### **PRICE**

Prices shall be tendered on the attached Form of Tender in **Canadian** dollars and will be net prices including all **duty, delivery charges, setup, etc fully prepaid by the vendor**. You must provide prices for all options. **All sales tax must be excluded. HST extra**

### **PAYMENT**

Lump sum payment will only be made 30 days after final acceptance of delivery of the vehicle, including **ALL** pre-acceptance delivery servicing **ALL** specified equipment and **ALL** specified information documents.

### **PAYMENT TERMS**

You can indicate on the Form of Tender any discounts for prompt payment example (2% 10 days). The Township's standard payments terms are Net 30 days from date of acceptance of unit(s) or your invoice date whichever is later.

### **BRAND NAME**

Any manufacturer's names, trade names, brand names or catalogue numbers mentioned are for the purpose of establishing and describing general performance and quality levels, unless specified otherwise. Such references are not intended to be restrictive and bids are invited on approved generic no-name equals and comparable equipment of any manufacturer. However, if a product other than the one specified is bid, it is the bidder's responsibility to name such product and prove to the Township that said product is equal to the specifications, and to submit brochures, samples upon request and/or specifications in detail on the item(s) bid. The Township shall be the sole judge concerning the merits of bids submitted.

### **AWARD**

The Township will review all tenders and will be the sole judge of the merit of each tender submitted. The Township reserves the right to select any or all components of the tender to the best overall advantage to the Township.

### **REJECTION OF TENDERS**

The Township reserves the right to reject any, or any part of, or all tenders and also reserves the right to award a contract to other than the bidder submitting the lowest total acquisition cost.

The Township will not consider tenders unless properly made out and complete on the Form of Tender furnished by the Township, and unless accompanied by the prescribed Bid Bond, or Certified Cheque, or Agreement to Bond, if requested.

Tenders presented to the Township of Guelph/Eramosa Township office, 8348 Wellington Road 124, Rockwood, Ontario, Canada, N0B 2K0 will not be received after the designated closing time on the due date and will not be considered regardless of the circumstances, which resulted in the late arrival to the Township of Guelph/Eramosa township office regardless of the postal cancellation date that may be imprinted on them.

### **ACCEPTANCE OF UNITS**

The units delivered under this tender shall remain the property of the seller until a physical inspection and actual usage of the units is made and thereafter accepted to the satisfaction of the Township, and must comply with the terms herein and be fully in accord with the specifications and of the highest quality. In the event the units supplied to the Township are found to be defective, or do not conform to specifications, the Township reserves the right to cancel the order upon written notice to the seller and return the units to the seller at the seller's expense.

#### **VARIATION OF TENDER PRICES**

No variation in the unit prices or total price bid will be permitted after a sealed bid has been submitted to the authorized representative, except in the instance of variation due solely to an increase or decrease in the rate of eligible taxes, beyond the control of the Bidder, occurring after the time and date of submission of their bid. An increase or a decrease in the rate of eligible taxes, under these circumstances, shall alter the price of the bid, but only to the extent of the tax increase or decrease.

In the event that a tax increase does occur after the submission of bid, the Bidder must prove to the satisfaction of the Township that they will not benefit in any way by reason of the increase.

#### **DEFINITIONS**

The terms proponent, bidder, and contractor, are synonymous. The terms successful proponent, successful bidder, and successful contractor, are also intended to be synonymous and are intended to refer to the proponent whose tender has resulted in its being awarded a binding contract with the Township.

**Owner:** Refers to the Township of Guelph/Eramosa

**Township:** Refers to the Township of Guelph/Eramosa

**Total Acquisition Cost:** shall mean the most cost efficient and effective manner and shall be the sum of all costs, including purchase price, all taxes, warranty, life cycle cost, operating and disposal costs, incurred for determining the lowest acceptable bid meeting the specifications.

#### **ACCEPTANCE OF MATERIAL**

The Township reserves the right to reject any or any part of, or all tenders and award a contract to other than the lowest total acquisition cost.

#### **DESCRIPTIVE LITERATURE**

Descriptive literature with detailed specifications of the equipment offered shall be submitted with the tender. Bidders shall list **ALL** items in their tender that are not specified in this specification.

#### **DEFECTIVE/INFERIOR GOODS**



Should the Township, in its sole discretion, be of the opinion that goods received are defective/inferior or substandard, then the Township shall have the right to:

- a) reject the goods outright;
- b) return the goods whether they have previously been accepted or not;
- c) require the vendor to retrieve the goods at its own expense;
- d) use the goods and adjust the price accordingly; or
- e) require the vendor to replace the goods forthwith at no additional cost.

Under no circumstances will the Township be responsible for re-stocking charges.

### **PRODUCT RETURNS**

Any products delivered that do not meet the specifications of the item(s) bid will be returned to the vendor at vendor's expense. When a shipment or product is returned, the vendor is expected to make immediate replacement with acceptable product.

### **SAFETY STANDARDS**

This specification lists only the major details of the unit; therefore it is the supplier's responsibility to deliver a fully equipped unit with compatible components to provide dependable efficient service. These vehicles shall be supplied with all STANDARD EQUIPMENT plus all other equipment outlined in this specification if not standard with no deletions.

### **WELDING**

The bidder must be certified by the Canadian Welding Bureau, and include copies of the certification. American certifications are acceptable as equal. **NO EXCEPTIONS.**

### **ULC**

The bidder must be certified by ULC for inspection and certification of fire apparatus. The bidder must include the certification number with the bid submission. **NO EXCEPTIONS.**

### **NATIONAL SAFETY MARK**

All bidders must be registered to the Canadian National Safety Mark, and include copies of their registration and other pertinent documents. Bidders who do not possess this registration will not be accepted. **NO EXCEPTIONS.**

### **REFERENCES**

All bidders must provide a detailed list of no less than ten (10) references of apparatus delivered in Ontario as of the close date of this tender. The reference information must include full contact information, the number and type of units delivered (multiple unit purchases are considered one reference) and the date of final delivery. These references will be checked for overall satisfaction, quality, and any other items deemed necessary. **NO EXCEPTION**

### **DEMONSTRATION**

When required, the Township may request a full demonstration of any unit(s) bid prior to awarding an order.

### **DELIVERY TIME**

You are to indicate on the Form of Tender the maximum delivery time from date of order placement.

**Delivery Location - F.O.B. is Township of Guelph/Eramosa**

### **FORCE MAJEURE**

- a) If the Contractor is delayed in delivery by labour disputes, strikes, lock-outs, fire, or by any cause of any kind whatsoever beyond the manufacturer's control then the time of delivery shall be extended for a period of time equal to the time lost due to such delays, at no cost penalty to the Township.
- b) No such delivery time extension shall be made for delays unless written notice of same is given to the Township within seven (7) days of its commencement. Other than in the case of a continuing cause of delay only one claim shall be necessary.

### **LIQUIDATED DAMAGES**

It is agreed by the parties to the Contract that in case the vehicles called for under the Contract are not delivered by the date of delivery specified, damage will be sustained by the Township of Guelph/Eramosa, and that it is and will be impractical and extremely difficult to ascertain and determine the actual damage that the Township of Guelph/Eramosa will sustain in the event of and by reason of such delay and the parties hereto agree that the Manufacturer will pay to the Township of Guelph/Eramosa the sum of \$150 as liquidated damages for each and every calendar days delay in delivery beyond the date of delivery prescribed and it is agreed that this amount is an estimate of actual damage to the Township of Guelph/Eramosa which will accrue during the period in excess of the prescribed date of completion. The Township of Guelph/Eramosa may deduct any amount under this paragraph from any monies that may be due or payable to the Manufacturer on any account whatsoever. The Manufacturer shall not be responsible for any damages, costs or losses incurred by the Township of Guelph/Eramosa as a result of default or delays in the delivery, except for the sum specified above payable as

liquidated damages, provided that the Manufacturer shall not be liable for such liquidated damages as a result of default or delays in delivery where such default or delay is excused under FORCE MAJEURE.

#### **ADVERTISING PROHIBITED**

Dealer's name or any other advertising slogan other than the usual insignia applied by the manufacturer shall not appear on the new unit upon delivery.

#### **MATHEMATICAL ERRORS**

Should there be any error in extensions, additions or computations, the Township shall be entitled to correct such errors based on the unit prices shown, and the corrected total shall be considered as representing the intention of the bidder and shall be used as the basis to comparison of bid submissions.

#### **OWNERSHIP OF SUBMISSION MATERIAL**

In consideration of the right to bid being extended, the bidder (by responding) releases all rights to the bid documents, which, on acceptance by the Township, become the property of the Township.

#### **INCURRED COSTS**

The Township will not be liable nor reimburse any bidders for costs incurred in the preparation of bids, or any other services that may be requested as part of the evaluation process.

#### **ADDENDUM**

The Township will issue any changes/additions/deletions to specifications and/or terms and conditions. Any and all addenda issued prior to the closing date shall form part of the document. The cost of complying with the addenda requirement (if any) shall be included in the price. The Township will assume no responsibility for oral instruction or suggestion.

#### **MISUNDERSTANDINGS AND DISPUTES**

In all cases of misunderstandings and disputes, verbal arrangements will not be considered, but the vendor must produce written authority in support of their contentions, and shall advance no claim in the absence of such written authority, or use, or attempt to use any conversation with any parties against the Township or in prosecuting any claim against the Township.

### **CANCELLATION**

Failure by the successful vendor to comply with all terms, conditions and general provisions of this Tender to the satisfaction of the Township, shall be just cause for the cancellation of the contract award. The Township shall then have the right to award this contract to any other vendor, or to re-issue the Request.

### **GUARANTEE**

Successful vendor covenants and agrees:

- that all goods furnished by it shall be new and of first grade and fit for the purpose for which they are required. Successful vendor is responsible for and will make good any defects in workmanship and/or materials, covered by the Purchase Order. Successful vendor is not relieved of the responsibility imposed by this clause, either as to proper packing, quality of materials or specifications by reason of acceptance by Township designated inspectors.
- that all goods supplied will conform with all laws, ordinances and regulations and will defend and save harmless the Township from loss, cost or damage by reason of any actual or alleged violation thereof. With respect to patent infringement, bidder warrants that the materials delivered/bid hereunder, the processes by which they were made and the use thereof for which they were specifically designed, will not per se infringe any patent of Canada (and of the country of manufacture, if other than Canada).

### **VENDOR DEFAULT**

In cases of vendor performance default, the Township shall, at their discretion, procure the product(s)/service(s) from other sources and hold the vendor responsible for any cost incurred including, but not limited to, excess cost of handling charge. The Township designee reserves the right to cancel the contract with the defaulted vendor and negotiate with an alternative bidder or call a new Request for Quotation. The Township designee shall have the right to remove any vendor who defaults on any contract with the Township from its current and future bidder listings.

### **NON-ASSIGNMENT**

It is mutually agreed and understood that the vendor shall not assign, transfer, convey, sublet or otherwise dispose of their contract or their right, title or interest therein, or their power to execute

the contract, to any other person, firm, company or corporation without the previous written consent of the Township.

### **LEGAL COMPLIANCE**

The contract resulting from the Request for Tender shall be governed by, subject to and interpreted in accordance with the laws of the Province of Ontario; e.g. the Sale of Goods Act. The successful bidder will be also be required to comply with all local, municipal, provincial and federal license requirements, laws, regulations, ordinances and codes.

### **INDEMNIFICATION**

The vendor shall indemnify and save harmless the Township its officers and employees from and against all claims, losses, costs, damages, expenses (including legal fees and disbursements initially and with any and all appeals), suits, proceedings, or actions arising in any way out of or related to the vendor activities in executing the work pursuant to the provision of the contract, including his omissions, improper act or delays in executing the work.

### **EVALUATION OF QUOTATIONS**

The evaluation process, in determining which vendor document submission will result in an award, will consist of but not be limited to consideration of price, delivery, payment terms, specifications, quality of goods and services offered, performance, reputation, any special or extra costs involved therein, enhancement to minimum specifications, vendors' qualifications and reliability, payment terms, reference checks.

### **AWARD/REJECTION OF BIDS**

Neither the issuance of this document nor the acceptance of a reply shall constitute any obligation or imply any commitment on the part of the Township. Award of this requirement shall be as recommended by the designated Township Selection Committee and conveyed as a Purchase Order contract to the successful bidder by the Purchasing Department. The lowest or any quotation shall not necessarily be accepted. In the evaluation of tenders, it is understood by the bidder that the Township reserves the right to reject any or all tenders for any reason whatever, and to accept any quotation if, upon ultimate need evaluation, it is considered to be in the Township's best interest. Award of the contract in its entirety or in part shall be in accordance with Township requirements.

### **INSPECTION COST**

All bidders must include meeting and inspection costs in their bid submission. There will be two (2) members of the fire department present for each meeting or inspection required.

- Factory pre-construction meeting and facilities tour
- Factory final inspection

Factory meetings and inspections denote the location the apparatus is built, and not at the dealer location the apparatus is delivered to prior to final delivery to the fire department. This is required to ensure that all requirements, changes, and other items deemed necessary by the fire department are carried out in the quickest fashion causing minimum delays. Where the manufacturer is over 300km from the fire department hotel (individual hotel rooms) and meal accommodations must be included. Where the manufacturer is over 500km from the fire department travel by air and two (2) nights of accommodations (individual hotel rooms) and meals must be provided, at minimum. **NO EXCEPTION**

#### **OCCUPATIONAL HEALTH AND SAFETY**

The bidder warrants that the items supplied to the Township conform in all respects to the standards set forth by Federal and Provincial agencies and failure to comply with this condition will be considered a breach of contract

#### **MANUFACTURING SCHEDULE**

The manufacturing dates on the Form of Tender are to be completed and expressed as in days, as defined to be calendar days only and including all holidays and vacation periods, required to complete and deliver the specified vehicle and equipment.

The successful bidder will provide the following:

1. A copy of their purchase order to the chassis supplier for the acquisition of the vehicle chassis within 30 calendar days of receipt of a faxed copy of the purchase order issued by the Township. The copies will be sent to the Township's representatives listed in the communications section of this tender.
2. A copy of their **ACKNOWLEDGED** purchase order to the chassis supplier for the acquisition of vehicle chassis within 60 calendar days of receipt of faxed copy of the purchase order issued by the Township. This copy will be sent to the Township's representative listed in the communications section of this tender.

#### **PURCHASE ORDER**

The Purchase Order will constitute a binding contract between the Township of Guelph /Eramosa and the successful bidder in accordance with the terms and conditions set out in these specifications, their addenda and any related correspondence.

#### **NON-FULFILMENT AND FORFEIT**

In the event of default or failure, neglect or refusal on the part of the successful bidder to complete the contract including the delivery of vehicle as specified, providing of ALL certificates, ALL drawings, ALL manuals, ALL vehicle equipment, ALL other pertinent information and services specified in the specifications, to the satisfaction of the Township; the Township will be at liberty to accept the next lowest, or any tender, or call for new tenders, holding the successful bidder and any surety provided, liable for any increase in cost to the Township.

Award of this requirement shall be as recommended by the Township Selection Committee and conveyed as a Purchase Order contracted to the successful bidder.

In the evaluation of tenders, it is understood by the bidder that the Township reserves the right to reject any or all tenders for any reason whatever, and to accept any quotation if, upon ultimate need evaluation, it is considered to be in the Township's best interest. Award of the contract in its entirety or in part shall be in accordance with the Township requirements.

#### **INFERIOR MATERIAL AND/OR FAILURE TO SUPPLY SPECIFIED INFORMATION DOCUMENTS**

Should the successful bidder, at any time, offer for acceptance, any material which is of inferior quality, or not as specified or agreed to in the opinion of Purchasing or the Township, or any person appointed by them, or is inconsistent with the specifications or fails to supply such material or documents, that will not be accepted and will be removed at once or provided as required by the successful bidder at his own expense. Should the successful bidder refuse to remove any material so condemned, or fail to supply equipment, or provide specified information documents, then the Township may take action to remove such materials or to secure the equipment, information, certificates, etc., and recover any costs by whatever means available from the successful bidder arising from such removal or obtaining of the said equipment.

#### **INSURANCE**

The successful bidder shall maintain, during the term of the contract with the Township, Property Damage and Public Liability Insurance, including Product Liability coverage and provisions for cross-liability as between the Township and the successful bidder, in amounts and with policies in a form satisfactory from time to time to the Township, with insurers acceptable to the Township.

In particular:

- a) Standard Garage Policy with:
  - i) Limits not less than **\$3,000,000**; and
  - ii) Legal Liability for Collision and Comprehensive Perils with a limit at least equal to the value of the chassis and completed vehicle or work, as the case may be; and

- iii) Term not to expire before final acceptance by the Township of the completed vehicle or work, as the case may be, in accordance with the terms of the tender.
- b) Garage Premises Liability with:
  - i) Limits of not less than **\$3,000,000**; and
  - ii) Term to include the guarantee on the completed vehicle or work, as the case may be, set out in this tender.
- c) The above-mentioned policies shall be endorsed to provide that thirty (30) days' notice of any change or amendment to or cancellation, termination or expiry of the policy is to be given to the Township of Guelph Eramosa.
- d) The above-mentioned policies shall name the Township of Guelph Eramosa as an additional insured as its interest may appear.
- e) The successful bidder shall be solely responsible for the payment of all deductibles payable under such policies.

The successful bidder shall furnish to the Township certificates or certified copies of all such policies, as may be required by the Township, for all such policies and evidence of the continuation of such coverage not less than thirty (30) days prior to the respective expiry dates.

### **WARRANTY**

The successful bidder will supply a three (3) year warranty, unless stated otherwise, on the complete vehicle and all supplied apparatus inclusive of parts and labor and will be the single source of said parts and labor. This warranty will start from the date of final acceptance by the Township.

### **WARRANTY REPAIR SERVICE**

Warranty repair service will be provided by one of the following methods:

- A) The successful bidder must have a fully equipped, factory authorized service centre complete with parts to repair the apparatus in a timely period with undue delay. The service centre must be within 100 km of the Township of Guelph Eramosa.

**OR**

- B) The successful bidder must authorize the following companies to do warranty repairs as indicated:
  - 1) Cummins Eastern Canada  
7175 Pacific Circle  
Mississauga, Ontario



L5T 2A5

FOR - Engine (proper), transmission (proper), and all related electrical engine and transmission management systems etc.

**WARRANTY REPAIR SERVICE**

All costs incurred by these companies as a result of warranty repair will be the responsibility of the successful bidder.

The successful vendor will reimburse the Township for any costs incurred by the Township as a result of warranty repairs for whichever method of providing this warranty service is indicated on the Form of Tender.

**DELIVERY**

The successful bidder will deliver; at its expense, the completed vehicle(s) and equipment to the Township of Guelph Eramosa, address listed below; For final inspection and pre acceptance service: The vehicle(s) remains entirely at risk of the successful bidder until final acceptance by the Township and the successful bidder will be responsible to insure the vehicle(s) for any loss or damage thereto. In no event will the Township of Guelph Eramosa be responsible for any loss, damage to or destruction of the vehicle(s) prior to final acceptance. Nor will the Township of Guelph Eramosa be liable to make any payment to the successful bidder pursuant to this contract, prior to final acceptance unless stated otherwise.

Deliver to: 5141 Wellington Road 27,  
Rockwood ON N0B 2K0

Two (2) weeks prior to delivery of the apparatus, the successful bidder must notify the Township of Guelph Eramosa, giving the exact date the vehicle(s) will be delivered.

**DEVIATIONS**

You must quote as per the specification provided. You must list all deviations from the specifications and provide detailed information on the deviations requested.

## CHASSIS SPECIFICATIONS

<b>Price Level</b>	M2 PRL-10M (EFF:02/11/15)
<b>Data Version</b>	SPECPRO21 DATA RELEASE VER 006
<b>Interior Convenience/Driver Retention Package</b>	INTERIOR CONVENIENCE PACKAGE
<b>Vehicle Configuration</b>	M2 106 CONVENTIONAL CHASSIS 2017 MODEL YEAR SPECIFIED SET BACK AXLE - TRUCK STRAIGHT TRUCK PROVISION LH PRIMARY STEERING LOCATION
<b>General Service</b>	TRUCK CONFIGURATION DOMICILED, CANADA (OTHER THAN QUEBEC) FIXED CANADIAN EXCHANGE FIRE SERVICE EMERGENCY VEHICLES BUSINESS SEGMENT LIQUID BULK COMMODITY TERRAIN/DUTY: 100% (ALL) OF THE TIME, IN TRANSIT, IS SPENT ON PAVED ROADS MAXIMUM 8% EXPECTED GRADE SMOOTH CONCRETE OR ASPHALT PAVEMENT - MOST SEVERE IN-TRANSIT (BETWEEN SITES) ROAD SURFACE MEDIUM TRUCK WARRANTY EXPECTED FRONT AXLE(S) LOAD : 16000.0 lbs EXPECTED REAR DRIVE AXLE(S) LOAD : 30000.0 lbs EXPECTED GROSS VEHICLE WEIGHT CAPACITY : 46000.0 lbs
<b>Truck Service</b>	FIRE TANKER - MAIN DRIVELINE DRIVEN SPLIT- SHAFT PTO/PUMP EXPECTED BODY/PAYLOAD CG HEIGHT ABOVE FRAME "XX" INCHES : 32.0 in
<b>Engine</b>	CUM ISL 350 HP @ 2000 RPM, 2200 GOV RPM, 1000 LB/FT @ 1400 RPM or larger engine acceptable

#### Electronic Parameters

68 MPH ROAD SPEED LIMIT  
CRUISE CONTROL SPEED LIMIT SAME AS ROAD  
SPEED LIMIT  
PTO MODE ENGINE RPM LIMIT - 1100 RPM  
PTO RPM WITH CRUISE SET SWITCH - 700 RPM  
PTO RPM WITH CRUISE RESUME SWITCH - 800  
RPM  
PTO MODE CANCEL VEHICLE SPEED - 5 MPH  
PTO GOVERNOR RAMP RATE - 250 RPM PER  
SECOND  
THREE REMOTE PTO SPEEDS  
REMOTE PTO SPEED 1 SETTING - 900 RPM  
REMOTE PTO SPEED 2 SETTING - 1200 RPM  
REMOTE PTO SPEED 3 SETTING - 1400 RPM  
PTO MINIMUM RPM - 700  
REGEN INHIBIT SPEED THRESHOLD - 5 MPH

#### Engine Equipment

2016 ONBOARD DIAGNOSTICS/2010  
EPA/CARB/GHG14  
2008 CARB EMISSION CERTIFICATION - CLEAN  
IDLE (INCLUDES 6X4 INCH LABEL ON LOWER  
FORWARD CORNER OF DRIVER DOOR)  
STANDARD OIL PAN  
ENGINE MOUNTED OIL CHECK AND FILL  
ONE PIECE VALVE COVER  
SIDE OF HOOD AIR INTAKE WITH NFPA  
COMPLIANT EMBER SCREEN AND FIRE  
RETARDANT DONALDSON AIR CLEANER  
DR 12V 275 AMP 40-SI BRUSHLESS PAD  
ALTERNATOR WITH REMOTE BATTERY VOLTAGE  
SENSE  
(2) ALLIANCE MODEL 1231, GROUP 31, 12 VOLT  
MAINTENANCE FREE 2250 CCA THREADED STUD  
BATTERIES  
BATTERY BOX FRAME MOUNTED  
STANDARD BATTERY JUMPERS  
SINGLE BATTERY BOX FRAME MOUNTED LH SIDE  
UNDER CAB  
WIRE GROUND RETURN FOR BATTERY CABLES  
WITH ADDITIONAL FRAME GROUND RETURN  
NON-POLISHED BATTERY BOX COVER  
POSITIVE LOAD DISCONNECT WITH CAB  
MOUNTED CONTROL SWITCH MOUNTED  
OUTBOARD DRIVER SEAT  
CUMMINS TURBOCHARGED 18.7 CFM AIR  
COMPRESSOR WITH INTERNAL SAFETY VALVE  
STANDARD MECHANICAL AIR COMPRESSOR  
GOVERNOR  
AIR COMPRESSOR DISCHARGE LINE

GVG, FIRE AND EMERGENCY SERVICE VEHICLES  
ENGINE WARNING  
CUMMINS EXHAUST BRAKE INTEGRAL WITH  
VARIABLE GEOMETRY TURBO WITH ON/OFF  
DASH SWITCH  
RH OUTBOARD UNDER STEP MOUNTED  
HORIZONTAL AFTERTREATMENT SYSTEM  
ASSEMBLY WITH RH HORIZONTAL TAILPIPE  
EXITING FORWARD OF REAR TIRES  
ENGINE AFTERTREATMENT DEVICE, AUTOMATIC  
OVER THE ROAD REGENERATION AND DASH  
MOUNTED REGENERATION REQUEST SWITCH  
STANDARD EXHAUST SYSTEM LENGTH  
RH HORIZONTAL TAILPIPE, EXIT FORWARD OF  
REAR TIRES AT 90 DEGREES  
6 GALLON DIESEL EXHAUST FLUID TANK  
100 PERCENT DIESEL EXHAUST FLUID FILL  
LH MEDIUM DUTY STANDARD DIESEL EXHAUST  
FLUID TANK LOCATION  
DIESEL EXHAUST FLUID PUMP MOUNTED AFT OF  
DIESEL EXHAUST FLUID TANK  
STANDARD DIESEL EXHAUST FLUID TANK CAP  
HORTON DRIVEMASTER ON/OFF FAN DRIVE  
AUTOMATIC FAN CONTROL WITH DASH SWITCH  
AND INDICATOR LIGHT, NON ENGINE MOUNTED  
CUMMINS SPIN ON FUEL FILTER  
COMBINATION FULL FLOW/BYPASS OIL FILTER  
1100 SQUARE INCH ALUMINUM RADIATOR  
ANTIFREEZE TO -60F, ETHYLENE GLYCOL PRE-  
CHARGED SCA HEAVY DUTY COOLANT  
GATES BLUE STRIPE COOLANT HOSES OR  
EQUIVALENT  
CONSTANT TENSION HOSE CLAMPS FOR  
COOLANT HOSES  
RADIATOR DRAIN VALVE  
LOWER RADIATOR GUARD  
ALUMINUM FLYWHEEL HOUSING  
ELECTRIC GRID AIR INTAKE WARMER  
DELCO 12V 38MT HD STARTER WITH INTEGRATED  
MAGNETIC SWITCH

**Transmission**

ALLISON 3000 EVS AUTOMATIC TRANSMISSION  
WITH PTO PROVISION

**Transmission Equipment**

ALLISON VOCATIONAL PACKAGE 198 - AVAILABLE  
ON 3000/4000 PRODUCT FAMILIES WITH  
VOCATIONAL MODEL EVS  
ALLISON VOCATIONAL RATING FOR FIRE  
TRUCK/EMERGENCY VEHICLE APPLICATIONS  
AVAILABLE WITH ALL PRODUCT FAMILIES

PRIMARY MODE GEARS, LOWEST GEAR 1, START  
GEAR 1, HIGHEST GEAR 5, AVAILABLE FOR  
3000/4000 PRODUCT FAMILIES ONLY  
SECONDARY MODE GEARS, LOWEST GEAR 1,  
START GEAR 1, HIGHEST GEAR 5, AVAILABLE FOR  
3000/4000 PRODUCT FAMILIES ONLY  
NEUTRAL AT STOP - DISABLED, FUELSENSE -  
DISABLED  
VEHICLE INTERFACE WIRING WITH BODY BUILDER  
CONNECTOR MOUNTED END OF FRAME, NO  
BLUNT CUTS  
ELECTRONIC TRANSMISSION CUSTOMER ACCESS  
CONNECTOR FIREWALL MOUNTED  
CUSTOMER INSTALLED CHELSEA 277 SERIES PTO  
PTO MOUNTING, LH SIDE OF MAIN  
TRANSMISSION  
MAGNETIC PLUGS, ENGINE DRAIN,  
TRANSMISSION DRAIN, AXLE(S) FILL AND DRAIN  
PUSH BUTTON ELECTRONIC SHIFT CONTROL,  
DASH MOUNTED  
TRANSMISSION PROGNOSTICS - ENABLED 2013  
WATER TO OIL TRANSMISSION COOLER, IN  
RADIATOR END TANK  
TRANSMISSION OIL CHECK AND FILL WITH  
ELECTRONIC OIL LEVEL CHECK  
SYNTHETIC TRANSMISSION FLUID (TES-295  
COMPLIANT)

#### Front Axle and Equipment

DETROIT DA-F-16.0-5 18,000# FL1 71.0 KPI/3.74  
DROP SINGLE FRONT AXLE  
MERITOR 16.5X6 Q+ CAST SPIDER CAM FRONT  
BRAKES, DOUBLE ANCHOR, FABRICATED SHOES  
FIRE AND EMERGENCY SEVERE SERVICE, NON-  
ASBESTOS FRONT LINING  
CONMET CAST IRON FRONT BRAKE DRUMS  
FRONT BRAKE DUST SHIELDS  
SKF SCOTSEAL PLUS XL FRONT OIL SEALS  
VENTED FRONT HUB CAPS WITH WINDOW,  
CENTER AND SIDE PLUGS - OIL  
STANDARD SPINDLE NUTS FOR ALL AXLES  
HALDEX AUTOMATIC FRONT SLACK ADJUSTERS  
TRW TAS-85 POWER STEERING  
POWER STEERING PUMP  
2 QUART SEE THROUGH POWER STEERING  
RESERVOIR  
ORGANIC SAE 80/90 FRONT AXLE LUBE

#### Front Suspension

18,000# TAPERLEAF FRONT SUSPENSION  
MAINTENANCE FREE RUBBER BUSHINGS - FRONT  
SUSPENSION

**FRONT SHOCK ABSORBERS**

**Rear Axle and Equipment**

RS-30-185 30,000# U-SERIES SINGLE REAR AXLE  
5.63 REAR AXLE RATIO  
IRON REAR AXLE CARRIER WITH STANDARD AXLE  
HOUSING  
MXL 17N MERITOR EXTENDED LUBE MAIN  
DRIVELINE WITH FULL ROUND YOKES  
DRIVER CONTROLLED TRACTION DIFFERENTIAL -  
SINGLE REAR AXLE  
(1) DRIVER CONTROLLED DIFFERENTIAL LOCK  
REAR VALVE FOR SINGLE DRIVE AXLE  
BLINKING LAMP WITH EACH MODE SWITCH,  
DIFFERENTIAL UNLOCK WITH IGNITION OFF,  
ACTIVE <5 MPH  
MERITOR 16.5X7 P CAM REAR BRAKES, DOUBLE  
ANCHOR, CAST SHOES  
FIRE AND EMERGENCY SEVERE SERVICE NON-  
ASBESTOS REAR BRAKE LINING  
BRAKE CAMS AND CHAMBERS ON FORWARD  
SIDE OF DRIVE AXLE(S)  
WEBB CAST IRON REAR BRAKE DRUMS  
REAR BRAKE DUST SHIELDS  
REAR OIL SEALS  
HALDEX GOLDSEAL LONGSTROKE 1-DRIVE AXLE  
SPRING PARKING CHAMBERS  
HALDEX AUTOMATIC REAR SLACK ADJUSTERS  
ORGANIC SAE 80/90 REAR AXLE LUBE

**Rear Suspension**

31,000# FLAT LEAF SPRING REAR SUSPENSION  
WITH HELPER AND RADIUS ROD FOR  
FIRE/EMERGENCY SERVICE  
SPRING SUSPENSION - NO AXLE SPACERS  
STANDARD U-BOLT PAD  
NEWAY AD THRU BOLT AXLE CONNECTION  
FORE/AFT CONTROL RODS

**Brake System**

AIR BRAKE PACKAGE  
WABCO 4S/4M ABS WITH TRACTION CONTROL  
REINFORCED NYLON, FABRIC BRAID AND WIRE  
BRAID CHASSIS AIR LINES  
FIBER BRAID PARKING BRAKE HOSE  
STANDARD BRAKE SYSTEM VALVES  
STANDARD AIR SYSTEM PRESSURE PROTECTION  
SYSTEM  
STD U.S. FRONT BRAKE VALVE  
RELAY VALVE WITH 5-8 PSI CRACK PRESSURE, NO  
REAR PROPORTIONING VALVE  
BW AD-9 BRAKE LINE AIR DRYER WITH HEATER  
AIR DRYER MOUNTED INBOARD ON LH RAIL

STEEL AIR TANKS MOUNTED AFT INSIDE AND/OR  
BELOW FRAME JUST FORWARD OF REAR  
SUSPENSION  
CLEAR FRAME RAILS 36 INCHES FROM BACK OF  
CAB INSIDE AND BELOW BOTH FRAME RAILS  
BW DV-2 AUTO DRAIN VALVE WITHOUT HEATER -  
WET TANK

#### Trailer Connections

UPGRADED CHASSIS MULTIPLEXING UNIT  
UPGRADED BULKHEAD MULTIPLEXING UNIT  
REAR TRAILER HITCH 2" RECEIVER AND WIRING

#### Wheelbase & Frame

4534MM (178.5 INCH) WHEELBASE  
7/16X3-9/16X11-1/8 INCH STEEL FRAME  
(11.11MMX282.6MM/0.437X11.13 INCH) 120KSI  
1800MM (71 INCH) REAR FRAME OVERHANG  
FRAME OVERHANG RANGE: 71 INCH TO 80 INCH  
CALC'D BACK OF CAB TO REAR SUSP C/L (CA) :  
150.2 in  
CALCULATED EFFECTIVE BACK OF CAB TO REAR  
SUSPENSION C/L (CA) : 147.2 in  
CALC'D FRAME LENGTH - OVERALL : 363.39  
CALC'D SPACE AVAILABLE FOR DECKPLATE : 150.2  
in  
CALCULATED FRAME SPACE LH SIDE : 232.15 in  
CALCULATED FRAME SPACE RH SIDE : 206.01 in  
SQUARE END OF FRAME  
FRONT CLOSING CROSSMEMBER  
LIGHTWEIGHT HEAVY DUTY ALUMINUM ENGINE  
CROSSMEMBER  
STANDARD MIDSHIP #1 CROSSMEMBER(S)  
INVERTED U TRACTOR CROSSMEMBER  
HEAVY DUTY SUSPENSION CROSSMEMBER

#### Chassis Equipment

THREE-PIECE 14 INCH CHROMED STEEL BUMPER  
WITH COLLAPSIBLE ENDS  
FRONT TOW HOOKS - FRAME MOUNTED  
BUMPER MOUNTING FOR SINGLE LICENSE PLATE  
FENDER AND FRONT OF HOOD MOUNTED FRONT  
MUDFLAPS  
GRADE 8 THREADED HEX HEADED FRAME  
FASTENERS

#### Fuel Tanks

50 GALLON/189 LITER SHORT RECTANGULAR  
ALUMINUM FUEL TANK - LH  
RECTANGULAR FUEL TANK(S)  
PLAIN ALUMINUM/PAINTED STEEL  
FUEL/HYDRAULIC TANK(S) WITH PAINTED BANDS  
FUEL TANK(S) FORWARD

PLAIN STEP FINISH  
FUEL TANK CAP(S)  
ALLIANCE FUEL FILTER/WATER SEPARATOR WITH  
HEATED BOWL AND PRIMER PUMP  
EQUIFLO INBOARD FUEL SYSTEM  
HIGH TEMPERATURE REINFORCED NYLON FUEL  
LINE

**Tires**

MICHELIN XZA2 ENERGY 315/80R22.5 20 PLY  
RADIAL FRONT TIRES  
MICHELIN XZU-S2 315/80R22.5 20 PLY RADIAL  
REAR TIRES

**Hubs**

CONMET PRESET PLUS IRON FRONT HUBS  
WEBB IRON REAR HUBS

**Wheels**

ALCOA 89465X 22.5X9.00 10-HUB PILOT 5.96  
INSET ALUMINUM DISC FRONT WHEELS  
ALCOA 89465X 22.5X9.00 10-HUB PILOT 5.96  
INSET ALUMINUM DISC REAR WHEELS  
POLISHED FRONT WHEELS; OUTSIDE ONLY  
POLISHED REAR WHEELS; OUTSIDE OF OUTER  
WHEELS ONLY  
FRONT WHEEL MOUNTING NUTS  
REAR WHEEL MOUNTING NUTS  
ALLIGATOR V2B CAPS WITH NYLON WHEEL  
GUARDS FRONT AND REAR AT ALL INTERFACES

**Cab Exterior**

HIGH-ROOF ALUMINUM CONVENTIONAL CAB  
AIR CAB MOUNTS  
LH AND RH EXTERIOR GRAB HANDLES WITH  
SINGLE RUBBER INSERT  
HOOD MOUNTED CHROMED PLASTIC GRILLE  
CHROME HOOD MOUNTED AIR INTAKE GRILLE  
FIBERGLASS HOOD  
HOOD LINER, ADDED FIREWALL AND FLOOR HEAT  
INSULATION  
DUAL 25 INCH ROUND STUTTER TONE HOOD  
MOUNTED AIR HORNS  
DUAL ELECTRIC HORNS  
DUAL HORN SHIELDS  
DOOR LOCKS AND IGNITION SWITCH KEYED THE  
SAME WITH (4) KEYS  
REAR LICENSE PLATE MOUNT END OF FRAME  
INTEGRAL HEADLIGHT/MARKER ASSEMBLY WITH  
CHROME BEZEL  
LED AERODYNAMIC MARKER LIGHTS  
DAYTIME RUNNING LIGHTS



INTEGRAL STOP/TAIL/BACKUP LIGHTS WITH 7  
FEET ADDITIONAL WIRE AT CHASSIS END OF  
FRAME  
STANDARD FRONT TURN SIGNAL LAMPS  
DUAL WEST COAST BRIGHT FINISH HEATED  
MIRRORS WITH LH AND RH REMOTE  
DOOR MOUNTED MIRRORS  
102 INCH EQUIPMENT WIDTH  
LH AND RH 8" BRIGHT FINISH CONVEX MIRRORS  
MOUNTED UNDER PRIMARY MIRRORS  
STANDARD SIDE/REAR REFLECTORS  
63X14 INCH TINTED REAR WINDOW  
TINTED DOOR GLASS LH AND RH WITH TINTED  
OPERATING WING WINDOWS  
RH AND LH ELECTRIC POWERED WINDOWS  
TINTED WINDSHIELD  
2 GALLON WINDSHIELD WASHER RESERVOIR  
WITHOUT FLUID LEVEL INDICATOR, FRAME  
MOUNTED

#### Cab Interior

OPAL GRAY VINYL INTERIOR  
MOLDED PLASTIC DOOR PANEL WITHOUT VINYL  
INSERT WITH ALUMINUM KICKPLATE LOWER  
DOOR  
MOLDED PLASTIC DOOR PANEL WITHOUT VINYL  
INSERT WITH ALUMINUM KICKPLATE LOWER  
DOOR  
BLACK MATS WITH SINGLE INSULATION  
FORWARD ROOF MOUNTED CONSOLE WITH  
UPPER STORAGE COMPARTMENTS AND  
ADDITIONAL CENTER COMPARTMENT WITHOUT  
NETTING  
IN DASH STORAGE BIN  
(2) CUP HOLDERS LH AND RH DASH  
GRAY/CHARCOAL FLAT DASH  
SMART SWITCH EXPANSION MODULE  
2-1/2 LB. FIRE EXTINGUISHER  
FIRST AID KIT  
HEATER, DEFROSTER AND AIR CONDITIONER  
STANDARD HVAC DUCTING WITH SNOW SHIELD  
FOR FRESH AIR INTAKE  
MAIN HVAC CONTROLS WITH RECIRCULATION  
SWITCH  
STANDARD HEATER PLUMBING  
DENSO HEAVY DUTY AIR CONDITIONER  
COMPRESSOR  
BINARY CONTROL, R-134A  
PREMIUM INSULATION  
SOLID-STATE CIRCUIT PROTECTION AND FUSES  
12V NEGATIVE GROUND ELECTRICAL SYSTEM

DOOR ACTIVATED DOME/RED MAP LIGHTS,  
FORWARD LH AND RH AND REAR LH, RH AND  
CENTER  
LH AND RH ELECTRIC DOOR LOCKS  
(1) 12 VOLT POWER SUPPLY IN DASH  
TRIANGULAR REFLECTORS WITHOUT FLARES  
SEATS INC 911 UNIVERSAL SERIES HIGH BACK AIR  
SUSPENSION DRIVER SEAT WITH NFPA 1901-2009  
COMPLIANT SEAT SENSOR  
SEATS INC 911 UNIVERSAL SERIES SCBA NON  
SUSPENSION PASSENGER BENCH SEAT WITH  
UNDERSEAT STORAGE

GRAY VINYL DRIVER SEAT COVER WITH GRAY  
CORDURA CLOTH BOLSTER AND HEADREST  
GRAY VINYL FRONT PASSENGER SEAT COVER  
WITH GRAY CORDURA CLOTH BOLSTER AND  
HEADREST  
GRAY VINYL REAR PASSENGER SEAT COVER WITH  
GRAY CORDURA CLOTH BOLSTER AND HEADREST  
3 POINT HIGH VISIBILITY ORANGE RETRACTOR  
DRIVER, CENTER AND RH FRONT PASSENGER  
SEAT BELTS WITH NFPA 1901-2009 COMPLIANT  
SENSOR AND DASH HARNESS  
ADJUSTABLE TILT AND TELESCOPING STEERING  
COLUMN  
4-SPOKE 18 INCH (450MM) STEERING WHEEL  
DRIVER AND PASSENGER INTERIOR SUN VISORS

#### Instruments & Controls

GRAY DRIVER INSTRUMENT PANEL  
GRAY CENTER INSTRUMENT PANEL  
ENGINE REMOTE INTERFACE WITH PARK BRAKE  
INTERLOCK  
BLACK GAUGE BEZELS  
LOW AIR PRESSURE INDICATOR LIGHT AND  
AUDIBLE ALARM  
(1) SINGLE BRAKE APPLICATION AIR GAUGE  
2 INCH PRIMARY AND SECONDARY AIR PRESSURE  
GAUGES  
INTAKE MOUNTED AIR RESTRICTION INDICATOR  
WITHOUT GRADUATIONS  
PRECO 1040 87 DB TO 112 DB AUTOMATIC SELF-  
ADJUSTING BACKUP ALARM  
ELECTRONIC CRUISE CONTROL WITH SWITCHES IN  
LH SWITCH PANEL  
KEY OPERATED IGNITION SWITCH AND INTEGRAL  
START POSITION; 4 POSITION  
OFF/RUN/START/ACCESSORY  
ICU35, 132X48 DISPLAY WITH DIAGNOSTICS, 28  
LED WARNING LAMPS AND DATA LINKED

DIAGNOSTIC INTERFACE CONNECTOR, 9 PIN, SAE J1939, LOCATED BELOW DASH  
2 INCH ELECTRIC FUEL GAUGE  
ENGINE REMOTE INTERFACE WITH MULTIPLE SET SPEEDS  
ENGINE REMOTE INTERFACE CONNECTOR IN ENGINE COMPARTMENT  
ELECTRICAL ENGINE COOLANT TEMPERATURE GAUGE  
2 INCH TRANSMISSION OIL TEMPERATURE GAUGE  
ENGINE AND TRIP HOUR METERS INTEGRAL WITHIN DRIVER DISPLAY  
CUSTOMER FURNISHED AND INSTALLED PTO CONTROLS  
ELECTRIC ENGINE OIL PRESSURE GAUGE  
ELECTRONIC KPH SPEEDOMETER WITH SECONDARY MPH SCALE, WITHOUT ODOMETER  
STANDARD VEHICLE SPEED SENSOR  
ELECTRONIC 3000 RPM TACHOMETER  
IGNITION SWITCH CONTROLLED ENGINE STOP  
DIGITAL VOLTAGE DISPLAY INTEGRAL WITH DRIVER DISPLAY  
SINGLE ELECTRIC WINDSHIELD WIPER MOTOR WITH DELAY  
MARKER LIGHT SWITCH INTEGRAL WITH HEADLIGHT SWITCH  
ONE VALVE PARKING BRAKE SYSTEM WITH WARNING INDICATOR  
SELF CANCELING TURN SIGNAL SWITCH WITH DIMMER, WASHER/WIPER AND HAZARD IN HANDLE  
INTEGRAL ELECTRONIC TURN SIGNAL FLASHER WITH HAZARD LAMPS OVERRIDING STOP LAMPS

**Design**

PAINT: TWO SOLID COLORS – BLACK TOP WITH RED LOWER SECTION

**Color**

CAB COLOR A: L1132EB RED ELITE BC & BLACK, HIGH SOLIDS POLYURETHANE CHASSIS PAINT

**Certification / Compliance**

CANADA CMVSS CERTIFICATION, EXCEPT SALES CABS AND GLIDER KITS



8348 Wellington Road 124  
P.O. Box 700  
Rockwood ON N0B 2K0  
Tel: 519-856-9596  
Fax: 519-856-2240  
Toll Free: 1-800-267-1465

**CONDENSED SPECIFICATION PROPOSAL**

	Description
<b>Vehicle Configuration</b>	
	SET BACK AXLE - TRUCK M2 106 CONVENTIONAL CHASSIS
<b>Engine</b>	
	CUM ISL 350 HP @ 2000 RPM, 2200 GOV RPM, 1000 LB/FT @ 1400 RPM
<b>Engine Equipment</b>	
	CUMMINS EXHAUST BRAKE INTEGRAL WITH VARIABLE GEOMETRY TURBO WITH ON/OFF DASH SWITCH RH OUTBOARD UNDER STEP MOUNTED HORIZONTAL AFTERTREATMENT SYSTEM ASSEMBLY WITH RH HORIZONTAL TAILPIPE EXITING FORWARD OF REAR TIRES
<b>Transmission</b>	
	ALLISON 3000 EVS AUTOMATIC TRANSMISSION WITH PTO PROVISION
<b>Front Axle and Equipment</b>	
	DETROIT DA-F-16.0-5 18,000# FL1 71.0 KPI/3.74 DROP SINGLE FRONT AXLE
<b>Front Suspension</b>	
	18,000# TAPERLEAF FRONT SUSPENSION
<b>Rear Axle and Equipment</b>	
	RS-30-185 30,000# U-SERIES SINGLE REAR AXLE 5.63 REAR AXLE RATIO
<b>Rear Suspension</b>	
	31,000# FLAT LEAF SPRING REAR SUSPENSION WITH HELPER AND RADIUS ROD FOR FIRE/EMERGENCY SERVICE
<b>Wheelbase &amp; Frame</b>	
	4534MM (178.5 INCH) WHEELBASE 7/16X3-9/16X11-1/8 INCH STEEL FRAME (11.11MMX282.6MM/0.437X11.13 INCH) 120KSI
<b>Fuel Tanks</b>	
	50 GALLON/189 LITER SHORT RECTANGULAR ALUMINUM FUEL TANK - LH
<b>Tires</b>	
	MICHELIN XZU-S2 315/80R22.5 20 PLY RADIAL REAR TIRES



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**Description**

MICHELIN XZA2 ENERGY 315/80R22.5 20 PLY RADIAL  
FRONT TIRES

**Wheels**

ALCOA 89465X 22.5X9.00 10-HUB PILOT 5.96 INSET  
ALUMINUM DISC REAR WHEELS  
ALCOA 89465X 22.5X9.00 10-HUB PILOT 5.96 INSET  
ALUMINUM DISC FRONT WHEELS

**Cab Exterior**

154 INCH BBC HIGH-ROOF ALUMINUM  
CONVENTIONAL CREW CAB

**Color**

BLACK, HIGH SOLIDS POLYURETHANE CHASSIS PAINT  
CAB COLOR A: L1132EB RED ELITE BC

## **CHASSIS MODIFICATIONS**

### **DIMENSION DATA LABEL**

The cab dash area shall have an apparatus dimension label installed. The label shall be highly visible, indicating the overall height, length, width, and weight of the vehicle. The labels shall be in meters, to two (2) decimal points.

### **DATA PLAQUE**

A data plaque shall be provided and installed on the inside of the driver's door. The data plaque shall contain the required information based on the applicable components for the apparatus and as required by ULC and NFPA.

Standards shall include:

- Engine oil
- Engine coolant
- Chassis transmission fluid
- Drive axle lubricant
- Power steering fluid
- Pump, generator, or other component lubrications
- Other ULC and NFPA applicable fluid levels or data as required
- Paint manufacturer, type and colour code

The location shall be in the driver's compartment or on the driver's door.

### **EXHAUST PIPE MODIFICATIONS**

The exhaust pipe from the emissions after treatment device shall be extended to before the rear wheel and angled down away from apparatus body. Any location that may be subject to excessive heat shall be shielded from the body.

### **CAB STEPS**

The existing chassis steps shall be trimmed and covered with aluminum checker plate with open grate top. The upper and lower steps shall each be a minimum of 6" deep. The upper step plates shall be approximately 8" x 39", and the lower step plates shall be approximately 14" x 39". Access to batteries and other components under the chassis shall be provided. There shall be a label located beside the fuel fill located that says 'DIESEL FUEL ONLY.' There shall be a location for "DEF" fill located beside the fuel fill area on the step, it shall be labeled accordingly.

### **CONTROL CONSOLE**

There shall be an aluminum control console box provided in the cab. The box shall be painted aluminum in order to provide a smooth surface to prevent snags and catches. The console shall be sized to fit the space available. A small map/binder storage area shall be incorporated into the front of the console.

#### **ROAD SAFETY KIT**

The apparatus shall be complete with the following items, to comply with Ontario Ministry of Transportation regulations:

- One (1) FX 13316 Flame Tamer 2.5lb extinguisher with mounting bracket
- One (1) 01363 basic first aid kit
- One (1) 1005 DOT three (3) reflective warning triangles

#### **FIRE PUMP**

The fire pump shall be a DARLEY HM 500 Rated at 500 US GPM.

#### **Pump Assembly**

1. The pump shall be of a size and design to mount on the chassis rails of commercial and custom truck chassis, and have the capacity of 500 gallons per minute (U.S. GPM), NFPA-1901 rated performance.
2. The entire pump shall be assembled and tested at the pump manufacturer's factory.
3. The pump shall be driven by a drive line from the truck transmission. The engine shall provide Sufficient horsepower and RPM to enable pump to meet and exceed its rated performance.
4. The entire pump, both suction and discharge passages, shall be hydrostatically tested to a pressure of 600 PSI. The pump shall be fully tested at the pump manufacturer's factory to the performance spots as outlined by the latest NFPA Pamphlet No. 1901. Pump shall be free from objectionable pulsation and vibration.
5. The pump body and related parts shall be of fine grain alloy cast iron, with a minimum tensile strength of 30,000 PSI (2069 bar). All metal moving parts in contact with water shall be of high quality bronze or stainless steel. Pump utilizing castings made of lower tensile strength cast iron not acceptable.
6. Pump body shall be vertically split, on a single plane for easy removal of entire impeller assembly including wear rings and bearings from the pump without disturbing piping or the mounting of the pump in chassis.

7. The pump body shall extend as one piece across the truck chassis from side mounting to side mounting and incorporate the discharge manifolding system with a minimum of (1) 4" ports and (9) 3" ports.
8. Pump shaft to be rigidly supported by bearings for minimum deflection. The bearings shall be heavy - duty, deep groove ball bearings in the gearbox and they shall be splash lubricated.
9. The pump shaft shall have: one (1) mechanical seal on the suction (inboard) side of the pump. The mechanical seal must be spring loaded, maintenance free and self-adjusting. Mechanical seal construction shall be a carbon sealing ring, stainless steel coil spring, Viton rubber cup, and a tungsten carbide seat.
10. Pump impeller shall be hard, fine grain bronze of the mixed flow design; accurately machined and individually balanced. The vanes of the impeller intake eyes shall be of sufficient size and design to provide ample reserve capacity utilizing minimum horsepower.
11. Impeller clearance rings shall be bronze, easily renewable without replacing impeller or pump volute
12. The pump shaft shall be heat-treated, electric furnace, corrosion resistant stainless for longer shaft life. Pump shaft must be sealed with double-lip oil seal to keep road dirt and water out of gearbox.

#### **GEARBOX**

1. Pump gearbox shall be of sufficient size to withstand up to 16,000 lbs. ft. of drive through torque of the engine system. The drive unit shall be designed of ample capacity for lubrication reserve and to maintain the proper operating temperature.
2. The gearbox drive shafts shall be of heat-treated chrome nickel steel and at least 2-3/4 inches in diameter, on both the input and output drive shafts. They shall withstand the full torque of the engine.
3. All gears both drive and pump, shall be of highest quality electric furnace chrome nickel steel. Bores shall be ground to size and teeth integrated and hardened, to give an extremely accurate gear for long life, smooth, quiet running, and higher load carrying capability. An accurately cut spur design shall be provided to eliminate all possible end thrust. (No exceptions.)
4. The pump ratio shall be selected by the apparatus manufacturer to give maximum performance with the engine and transmission selected.



5. If the gearbox is equipped with a power shift, the shifting mechanism shall be a heat treated, hard anodized aluminum power cylinder, with stainless steel shaft. An in-cab control for rapid shift shall be provided that locks in road or pump.

6. For automatic transmissions, three green warning lights shall be provided to indicate to the operator(s) when the pump has completed the shift from Road to Pump position. Two green lights to be located in the truck driving compartment and one green light on pump operators panel adjacent to the throttle control. For manual transmissions, one green warning light will be provided for the driving compartment. All lights to have appropriate identification/instruction plates.

#### **PUMP SHIFT**

The drive unit shall be provided with an air pump shift system. The control valve shall be a spring loaded guard lever that locks in "Road" or "Pump" mode.

Adjacent to the pump shift control, there shall be two indicator lights to show the position of the pump when the control is moved to "Pump" position. A green light shall be energized when the pump shift has been completed and shall be labeled "PUMP ENGAGED"; a second green light shall be labeled "OK TO PUMP" energized when both the pump shift has been completed and the chassis automatic transmission is engaged.

A third green indicator light shall be installed adjacent to the throttle on the pump operator's panel. This light shall be labeled "Throttle Ready".

In addition to this indicator light, an additional indication shall be provided to the pump operator at the panel when the pump is ready to pump. This additional indication shall be that one (1) of the operator's panel illumination lights will only activate when the "OK TO PUMP" indicator is lit. The remaining panel lights shall be controlled via push button switch.

#### **MAIN INTAKES**

There shall be one (1) main intake on the left which shall be a 4" NH threads connection. The intake shall be electronically gated.

#### **2.5" AUXILIARY INTAKE**

One (1) 2.5" (6.4cm) auxiliary intake(minimum) shall be located on the side panel. The valve shall be manually controlled and properly labeled for direct valve operation through the side panel with a swing-out type control.

The valve shall be a quarter turn ball type constructed of an all brass body and either a chrome plated brass or stainless steel ball. The auxiliary intake shall be equipped with a quarter-turn,  $\frac{3}{4}$ " drain valve.

The 2.5" inlet shall be equipped with an integrated brass straight adapter terminating in 2.5" CSA swivel threads. One (1) chrome plug and chain for each shall also be supplied.

### **2.5" LEFT SIDE DISCHARGE**

One (1) 2.5" (6.35cm) discharge with a stainless steel or brass valve shall be located on the LH side panel. The valve shall be a quarter turn ball type and fixed pivot design to allow easy operation at all pump pressures. The 2.5" (6.35cm) outlet shall be equipped with a stainless steel or brass chrome plated, 30-degree elbow terminating with 2.5" CSA threads.

One (1) chrome cap and chain shall also be supplied. Valve shall be controlled at the side or top pump panel with a chrome handle.

### **2.5" RIGHT SIDE DISCHARGE**

One (1) 2.5" (6.35cm) discharge with a stainless steel or brass valve shall be located on the RH side panel. The valve shall be a quarter turn ball type and fixed pivot design to allow easy operation at all pump pressures. The 2.5" (6.35cm) outlet shall be equipped with a stainless steel or brass chrome plated, 30-degree elbow terminating with 2.5" CSA threads.

Two (2) chrome cap and chain shall also be supplied. Valve shall be controlled at the side or top pump panel with a chrome handle. One (1) 2.5"(6.35cm) white-faced, liquid filled pressure gauge shall be installed on the panel near the control handle to indicate pressures from 0 to 400 PSI. The discharge shall also come equipped with a quarter-turn,  $\frac{3}{4}$ " drain valve.

### **2.5" DELUGE DISCHARGE**

One (1) 3.0" discharge with an Akron 8825 valve shall be located on the captain's side as the deluge discharge. The valve shall be a quarter turn ball type and fixed pivot design to allow easy operation at all pump pressures.

One (1) 2.5"(6.35cm) white-faced, Interlube filled pressure gauge shall be installed on the panel near the control handle to indicate pressures from 0 to 400 PSI The discharge shall also come equipped with a quarter-turn,  $\frac{3}{4}$ " drain valve.

### **REAR DUMP VALVE**

The rear of the apparatus shall be equipped with a manual 1050-34 10" square Newton dump valve. The dump valve shall include a 6012SW-34 swivel and a 4036-8X12-34 34" extension. The

swivel shall permit water dumping in a 180 degree arc to the left, rear and right of the apparatus. The dump valve assembly shall be stainless steel.

#### **DIRECT TANK FILLS**

The rear of the apparatus shall be equipped with one (1) FFE-4040CF8M-F Fireman's Friend 4" direct tank fill valves. The valves shall be located with one the right side of the rear face of the body. It shall terminate in 4" Storz connections.

#### **2.0" TANK FILL**

One (1) 2.0" pump to tank fill line shall be installed with a 2.0" inline valve. The valve shall be manually controlled and properly labeled at the pump operator's panel.

#### **3.0" TANK TO PUMP**

The tank to pump valve shall be 3.0" (7.62cm) inline, installed between the water tank and the pump. The valve shall be a quarter turn ball type, fixed pivot design and be constructed of stainless steel. The valve shall be electrically controlled.

#### **RUNNING BOARDS**

The running boards shall be made of a structural tubular framework overlaid with embossed aluminum diamond plate. The tubular frame support all loads by transmitting the loads through the pump compartment structure directly to the chassis frame rails.

The running boards shall be independent of the apparatus body and shall be tied only to the pump compartment structure, thereby eliminating any pump compartment to body interference. This is essential in keeping a truly 'modular' configuration.

#### **MASTER PUMP DRAIN**

The pump shall be equipped with a Master Pump drain to allow draining of the lower pump cavities, volute and selected water carrying lines and accessories.

#### **MANUALLY OPERATED DRAINS**

The manually operated lift drains shall be installed as needed and in the lowest point(s) of the piping.

#### **PRESSURE GAUGES**

There shall be 2.5" individual line pressure gauges. There shall be one gauge for each discharge.

There shall be two (2) 4" master gauges, with one for intake and one for discharge.

All gauges shall be in both psi and kpa.

**APPARATUS LABELING**

The apparatus shall be descriptively tagged with colour coded labels. The labels shall be applied near apparatus features that require a user function description. Wherever necessary, the labels shall be color coded to differentiate controls and their respective functions to simplify and clarify complex configurations.

**WATER LEVEL GAUGE**

There shall be two (2) FRC WLA200-A00 tank vision water level gauges. There shall be located as follows:

- One (1) in the L1 compartment of apparatus body
- One (1) inside the cab within sight of the driver

**PIPING AND MANIFOLDS**

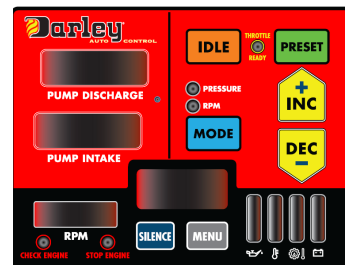
All piping and pump body attached manifolding, shall be of stainless steel, flex hose or similar materials. The complete piping system shall be designed to direct mount all 1.5” or larger ball valves onto the pump body or stainless steel manifolds attached directly to the pump body.

All NPT pipe thread connections larger than ¾” connections shall be avoided in the construction of the plumbing system.

**PRESSURE GOVERNOR**

A Darley "AUTO CONTROL" electronic pressure governor and engine monitoring system shall be installed on the pump operators control panel. The governor shall be configured to operate with the chassis engine.

It shall regulate engine RPM to maintain a consistent pressure out of the water pump over a wide range of outgoing flows.



The unit shall operate in both RPM and PSI modes.  
The 7-1/2" x 6" control unit shall include the following features:

DISPLAY:



8348 Wellington Road 124  
P.O. Box 700  
Rockwood ON N0B 2K0  
Tel: 519-856-9596  
Fax: 519-856-2240  
Toll Free: 1-800-267-1465

--A 4-digit LED readout for pump discharge pressure.

--A 4-digit LED readout for pump intake pressure.

--A 20 segment LED bar graph for the pressure or RPM setting.

--A 4-digit readout for engine RPMs.

--Four (4), 10 segment bar graphs for;  
Engine Oil Pressure: 10 to 100 PSI  
Engine Coolant Temperature: 150 to 240 °F  
Transmission Temperature: 140 to 300 °F  
Battery Voltage: 11.5 to 15.5 VDC

--"Throttle Ready" green LED.

### **WATER TANK**

The water tank shall be a 1800 US Gallon "T" shape polypropylene water tank. The tank body and end bulkheads shall be constructed of polypropylene, nitrogen-welded and tested inside and out. The tank shall carry a lifetime warranty, as previously specified.

The transverse and longitudinal swash partitions shall be interlocked and welded to each other as well as to the walls of the tank. The partitions shall be designed and equipped with vent holes to permit air and liquid movement between compartments. Hold down dowels shall extend through and be welded to both the covers and the transverse partitions, providing rigidity during fast fill operations. Drilled and tapped holes for lifting eyes shall be provided in the top area of the water tank.

The water tank manufacturer shall certify the capacity of the water tank prior to delivery of the apparatus. This capacity shall be recorded on the manufacturer's record of construction and the certification shall be provided to the purchaser when the apparatus is delivered. Tank construction shall conform to applicable NFPA standards.

### **BAFFLING SYSTEM**

The tank shall be baffled to meet U.L.C. specifications using 0.5" inner baffle material.

### **MOUNTING**

The tank shall be cradle mounted to the exact design suggested by the manufacturer and easily removed from the body. The tank shall be isolated from the cradle and chassis frame with 3" X 1" rubber sills.

### **FILL TOWER**

The tank shall have a 10" square fill tower with a removable screen at the front left corner of the tank, complete with a hinged type cover for the water section.

### **OVERFLOW**

The tank shall have a 6" overflow pipe and discharge behind the rear axle.

### **TANK SUMP**

There shall be a full depth sump with a standard fitting and anti-swirl plate.

### **TANK DRAIN**

The tank shall have one (1) 3" drain plug in the bottom of the sump beneath the tank.

## **PUMPER BODY**

### **BODY CONSTRUCTION AND DESIGN SPECIFICATIONS**

The aluminum body shall be designed for fire and rescue service operations. Commercially designed bodies intended for use in other applications are not acceptable due to lower levels of quality, construction, and longevity. The body module shall utilize a fully welded sub-frame, separate from the chassis, incorporated into the welded body under the structure.

The complete body shall be formed and welded, built with 0.188" 5052 H32 aluminum, with 0.125" aluminum non-slip polished aluminum checker plate (no exceptions). The side of the apparatus body shall be capped with stainless steel panels.

All exterior lower compartments and walls shall have fully welded seams with all upper walls, compartments, and interior dividers stitch welding every 6" minimum. All welding and sheet metal fabrication shall be completed with the highest degree of quality and precision. All welds and seams shall be caulked and sealed with permanent pliable silicone.

Strict attention shall be given to the elimination of hazards to personnel and equipment, such as rough edges, sharp corners, or protruding nuts and bolts. All exposed welded corners on aluminum checker plate shall be polished to a bright finish. All exposed sharp corners shall be radiused and deburred.

Due to the engineered combination of specifically chosen materials, no dissimilar metals shall be used in the body and its supporting substructure without being separated by a sufficient corrosion and electrolysis inhibitor. This shall consist of isolation pads, ECK and other structural adhesives.

The body shall be completely modular in design thereby allowing its transfer to a new chassis without cutting or welding in the event of an accident or the replacement of the chassis. The apparatus body shall be form built, and building a body directly on the chassis shall be not required or permitted.

The body and tank shall be supported with over the frame cross channels. These channels shall be aluminum 6061 extrusions with a minimum dimension of 2" x 3" x 0.25" thickness. The exterior side compartments shall have an aluminum angle welded to cross channels and rear compartment walls. The front to rear angle shall be a minimum of 3.5" x 5" x .375" thickness 6061 aluminum extrusion.

The compartment floors shall be 0.188" aluminum and shall be sweep out construction design, which shall permit easy cleaning of the compartments. The outer flange of the compartment

floors shall be fabricated to form a mounting area of exterior rub rails. This flange shall be a minimum of 3.5" vertical dimension, full width of the compartment floor.

The front entrance to the compartment shall have a 2" deep x 1" high recess break for mounting of compartment doors. Floor drains shall be provided in the two rear corners of the compartments in order to meet ULC requirements.

Each compartment shall include one (1) 40REGSM 4" circular vent, located on the rear wall and centered.

Each compartment shall include full height tracks. There shall be two (2) tracks per forward/rear wall in full depth compartments, and one (1) track per forward/rear wall in split depth sections of compartments.

The body shall be finished with 0.125" aluminum checker plate at the front body face. The rear of the body shall be 0.125" smooth aluminum where covered by ULC required reflective chevrons. The sides of the apparatus body shall have a stainless steel cap over the aluminum body.

The top of the storage compartments shall be 0.125" non-slip embossed aluminum checker plate and shall be bolted to the body with stainless steel bolts (no exceptions).

The body welding and fabrication shall be by certified welders that conform to CSA Standard W47.2M. This certification of Fusion Welding of Aluminum, Division 2.1 shall be submitted with the bid documents for the current year. This certificate shall denote the company code, scope, and date of register; exceptions to this certification shall not be permitted.

The body shall be mounted over the frame with rubber isolations pads that also reduce vibrations. The body shall be mounted to the frame with U-bolts which permit easy removal for service or mounting on a replacement chassis.

#### **LEFT SIDE BODY COMPARTMENTS**

##### Compartment L1

The compartment shall be 37" wide by 40" high by 28" deep. The compartment door opening is approximately 31" wide by 34" high. This compartment shall include a roll-up door.

##### Compartment L2

The compartment shall be 41" wide by 40" high by 28" deep. The compartment door opening shall be approximately 31" wide by 34" high. This compartment shall include a roll-up door.

##### Compartment L3



The compartment shall be 29" wide by 40" high by 28" deep. The compartment door opening shall be approximately 20" wide by 34" high. This compartment shall include a roll-up door.

#### **RIGHT SIDE BODY COMPARTMENTS**

##### **Compartment R1**

The compartment shall be 78" wide by 40" high by 28" deep.. The compartment door opening is approximately 67" wide by 34" high. This compartment shall include a roll-up door.

##### **Compartment R2**

The compartment shall be 29" wide by 40" high by 28" deep. The compartment door opening shall be approximately 19" wide by 34" high. This compartment shall include a roll-up door.

#### **ROLL-OUT TRAY**

There shall be four (4) roll-out trays provided, constructed of 0.188" 5052 H32 marine grade aluminium. The trays shall have double 1" breaks at the front and rear of the shelf for strength.

The trays shall include heavy-duty slide mounts, and be capable of a minimum 250 pound load capacity. They shall include mechanical locking devices to hold them in the open or closed position.

The trays shall be mounted in the following compartments:

- L2, R1, R2 compartments

The outer edge and both sides of each tray shall have alternating red and white reflective DOT (Department of Transportation) stripe material applied for safety.

#### **PVC FLOORING**

All compartments, shelving, and trays shall include black PVC flooring to assist in aeration cleanliness. The flooring shall be "Turtle Tiles."

#### **COMPARTMENT DOORS**

Compartment doors shall be equipped with Amdor brand roll-up anodized aluminum doors complete with the following features:

- AmdorLumabar LED strip lighting, integral to the door frame on two (2) side of the door
- 1" aluminum double wall slats with continuous ball & socket hinge joint designed to prevent water ingress and weather tight recessed dual durometer seals
- double wall reinforced bottom panel with stainless steel lift bar latching system
- bottom panel flange with cut-outs for ease of access with gloved hands, reusable slat shoes with positive snap-lock securement

- smooth interior door curtain to prevent equipment hang-ups
- one-piece aluminum door track / side frame
- top gutter with non-marring seal
- non-marring recessed side seals with UV stabilizers to prevent warping
- dual leg bottom seal, with all wear component material to be Type 6 Nylon
- A door ajar switch system shall be provided by Amdor and shall include magnetic proximity based components. The switch device shall be a military grade contact switch capable of meeting MIL-S-8805 which can only be activated through positive engagement of the lift bar. The door striker will include support beneath the lift bar to prevent door curtain bounce.
- Each compartment door shall include an aluminum drip pan, with PVC hose drains which drain below the compartment.

#### **PORTA TANK STORAGE**

The right side of the apparatus body shall have hydraulically-assisted Porta Tank storage bracket installed complete with checkerplate cover.

The compartment shall hold the following equipment:

- One (1) ALF-2100, 2100 Gallon Husky Portable Tank

#### **HARD SUCTION STORAGE**

There shall be one (1) enclosed storage compartments on the left rear of the apparatus to hold hard suction. They shall be on the left side of the apparatus and accessed from the left rear of the apparatus. The compartment shall be complete with aluminum door, push button latches, and chevrons to match the rest of the rear body.

The compartment shall hold the following equipment:

- Two (2) 6" by 10' hard suction hose
- Two (2) 4" by 10' hard suction hose

#### **WHEEL WELL PANEL CONSTRUCTION**

The outer wheel well panel shall be aluminum checkerplate and integral to the body.

Each wheel well shall include polished aluminum fenderettes. The fenderettes shall be positioned outside of the wheel well panel to cover any tire area that extends past the body. Each fenderette shall include a black rubber gasket to prevent dissimilar metal corrosion.

#### **TAILBOARD**

The rear tailboard shall be constructed of 2" by 2" by 0.25" aluminum extruded structural tubing or channel on the exterior perimeter with center supports forming an independent

assembly. The assembly shall then be covered with 0.188" embossed aluminum checker plate, bolted to the rear body structural framing to provide body protection and a solid rear stepping platform. The tailboard shall incorporate lighter materials than the body structure so the tailboard will 'crush' in a collision before the body structure.

The tailboard shall be 16" in depth, and shall be mounted approximately 0.5" from the body.

The rear of the apparatus body shall have a sign attached that states "DO NOT RIDE ON REAR STEP, DEATH OR SERIOUS INJURY MAY RESULT".

The tailboard and body shall be constructed so that the angle of departure to be no less than 8 degrees at the rear of the apparatus when fully loaded (per ULC-S 515 and NFPA 1901 standards).

#### **FOLDING STEPS**

There shall be Four (4) cast aluminum folding steps with LED light on the apparatus, located as follows:

- Four (4) 776-7339 CPI products Inc on the Left rear of the body

#### **HANDRAILS**

The apparatus shall include handrails to assist with safe movement between the hosebed and ground. Each handrail shall include two (2) 776-5577 chromed end stanchions, and aluminum knurled tube for greater gripping. The end stanchions shall include drain holes to prevent the buildup of water, as well as rubber gaskets to prevent dissimilar metal corrosion.

Handrail shall be located as follows:

- One (1) 24" or longer handrail on the left side of the rear body vertically
- One (1) 24" or longer handrail on the right side of the rear body vertically
- One (1) 30" or longer handrail on the intermediate rear step horizontally

#### **INTERMEDIATE REAR STEP**

The rear step shall be eight (8) inches in depth and the width shall be approximately 44" long. The step shall be constructed of a 7" wide piece of "Diamondback" grip material spaced away from the back of the body 1" to provide an 8" deep stepping surface. The step shall be mounted on the flat back of the apparatus with gusset-type mounting to provide sufficient support for loading and deploying hose and for gaining access to the hose bed area.

The stepping surface shall be constructed of aluminum diamond "Grip Strut" materials to meet the minimum NFPA 1901 standard requirements for slip resistance.

**REAR TOW EYES**

There shall be two (2) rear tow eyes constructed of 0.5" by 6" steel complete with 2.5" diameter hole and bolted to the chassis frame rails with Grade 8 bolts (no other material will be accepted, no exceptions). There shall be structural framework to support the tow eyes, if required. The complete assembly shall be painted black.

**REAR TRAILER HITCH**

There shall be one (1) trailer hitch with 2" receiver at the rear of the truck, complete with wiring harness and 5-pin trailer wire connector.

**RUB RAILS**

Exterior rub rails shall be provided below all exterior side compartments, as well as on the rear tailboard.

The P6995 rub rails shall be C-channel extruded aluminum, approximately 2" in height by 1" deep, with an upper embossed surface. The rub rails shall be mounted approximately 0.5" from the body with nylon washers to prevent dissimilar metal corrosion, and to allow water and debris to drain.

The rub rails shall include red and white reflective decals for the vehicle profile.

**MUD FLAPS**

Black wide mud flaps shall be provided behind the left and right rear wheels.

**LICENSE PLATE PROVISION**

There shall be one (1) license plate provision with LED light mounted at the rear of the apparatus.

## **12 VOLT ELECTRICAL SYSTEMS**

### **12 VOLT ELECTRICAL SPECIFICATIONS**

The following describes the 12 volt electrical system on the apparatus including all panels, electrical components, switches and relays, wiring harnesses and other electrical components. The apparatus manufacturer shall conform to the latest federal standards, current automotive electrical system standards and the applicable requirements of ULC and NFPA.

Wiring shall be stranded copper or copper alloy conductors of a gauge rated to carry 125 percent of the maximum current for which the circuit is protected. Voltage drops shall not exceed 10 percent in all wiring from the power source to the using device. The wiring and wiring harness and insulation shall be in conformance to applicable SAE and NFPA standards. The wiring harness shall conform to SAE J-1128 with GXL temperature properties. Exposed wiring shall be run in a loom with a minimum 289 degree Fahrenheit rating. Wiring looms shall be properly supported and attached to body members. Electrical conductors shall be constructed in accordance with applicable SAE standards, except when good engineering practice requires special construction.

All wiring connections and terminations shall provide positive mechanical and electrical connections and be installed in accordance with the device manufacturer's instructions. When wiring passes through metal panels, electrical connections shall be with mechanical type fasteners and rubber grommets

Wiring between the cab and body shall be split using Deutsche type connectors or enclosed in a terminal junction panel allowing body removal with minimal impact on the apparatus electrical system. Connections shall be crimp-type with heat shrink tubing with insulated shanks to resist moisture and foreign debris such as grease and road grime. Weather resistant connectors shall be provided throughout the system.

Electrical junction or terminal boxes shall be weather resistant and located away from water spray conditions. When required, automatic reset breakers and relays shall be housed in the main body junction panel.

There shall be no exposed electrical cabling, harnesses, or terminal connections located in compartments, unless enclosed in an electrical junction box or covered with a removable electrical panel. Wiring shall be secured in place and protected against heat, liquid contaminants and damage and shall be uniquely identified at least every 12" by color coding or permanent marking with a circuit function code and identified on a reference chart or electrical wiring schematic per requirements of applicable NFPA 1901 standards.

Low voltage over current protective devices shall be provided for the electrical circuits. The devices shall be accessible and located in required terminal connection locations or weather resistant enclosures. Over current protection devices shall be automatic reset type suitable for electrical equipment and meet SAE standards. All electrical equipment, switches, relays, terminals, and connectors shall have a direct current rating of 125 percent of maximum current for which the circuit is protected. Electro-magnetic interference suppression shall be provided in the system as required in applicable SAE standards.

The electrical system shall include the following:

Electrical terminals in weather exposed areas shall have a non-conductive grease or spray applied. All terminal plugs located outside of the cab or body shall be treated with a corrosion preventative compound.

All electrical wiring shall be placed in a protective loom or be harnessed.

Exposed connections shall be protected by heat shrink material and sealed connectors.

Large fender washers shall be used when fastening equipment to the underside of the cab roof and all holes made in the roof shall be caulked with silicone.

Electrical components installed in exposed areas shall be mounted in a manner that will not allow moisture to accumulate inside.

A coil of wire must be provided behind an electrical appliance to allow them to be pulled away from mounting area for inspection and service work.

All lights in a weather exposed area that have their sockets shall have corrosion preventative compound added to the socket terminal area.

Warning lights shall be switched in the chassis cab with labeled rocker type switches located in an accessible location. Individual rocker switches shall be provided only for warning lights provided exceeding the minimum level of warning lights in either the stationary or moving modes. All electrical equipment switches shall be appropriately identified as to their function and mounted on a switch panel mounted in the cab convenient to the operator. For easy nighttime operation, an integral indicator light shall be provided to indicate when a circuit is energized.

A single warning light switch shall activate all required warning lights. This switch will allow the vehicle to respond to an emergency "calling for the right of way". When the parking brake is activated, a "blocking the right of way" system shall be automatically activated per NFPA 1901 requirements. "Clear" warning lights shall be automatically shed on actuation of parking brake.

Upon completion of the vehicle and prior to delivery, the apparatus shall be electrically tested and the electrical testing, certifications, and test results shall be submitted with delivery documentation per requirements of NFPA 1901. The following minimum testing shall be completed by the apparatus manufacturer:

1. Reserve capacity test: The engine shall be started and kept running until the engine and engine compartment temperatures are stabilized at normal operating temperatures and the battery system is fully charged. The engine shall be shut off and the minimum continuous electrical load shall be activated for ten (10) minutes. All electrical loads shall be turned off prior to attempting to restart the engine. The battery system shall then be capable of restarting the engine. Failure to restart the engine shall be considered a test fail.

2. Alternator performance test at idle: The minimum continuous electrical load shall be activated with the engine running at idle speed. The engine temperature shall be stabilized at normal operating temperature. The battery system shall be tested to detect the presence of battery discharge current. The detection of battery discharge current shall be considered a test failure.

3. Alternator performance test at full load: The total continuous electrical load shall be activated with the engine running up to the engine manufacturer's governed speed. The test duration shall be a minimum of two (2) hours. Activation of the load management system shall be permitted during this test. However, an alarm sounded by excessive battery discharge, as detected by the system required in NFPA 1901 Standard, or a system voltage of less than 11.7 volts dc for a 12 volt nominal system, for more than 120 seconds, shall be considered a test failure.

4. Low voltage alarm test: Following the completion of the above tests, the engine shall be shut off. The total continuous electrical load shall be activated and shall continue to be applied until the excessive battery discharge alarm activates. The battery voltage shall be measured at the battery terminals. With the load still applied, a reading of less than 11.7 volts dc for a 12 volt nominal system shall be considered a test failure. The battery system shall then be able to restart the engine. Failure to restart the engine shall be considered a test failure.

#### **BATTERY CHARGER**

There shall be a Kussmaul 120V auto eject battery conditioner complete with 12V air compressor to keep the air brakes topped up. The inlet shall be located in the driver's side door steps.

#### **LOAD MANAGER**

The load manager shall be Kussmaulpart 52-06-1106.

#### **BODY GROUND LIGHTS**

There shall be AmdorLumabar 12” LED body ground lights provided under the cab doors, pump house step, side compartments and rear tailboard. These lights shall adequately illuminate the ground in close proximity to the fire apparatus body.

- Nine (9) AY-9500-012 lights shall be provided, at minimum

#### **ENGINE LIGHT**

There shall be one (1) LED lights installed in the engine compartment, complete with a switch, to be used when inspecting the engine and components of the apparatus. The light shall be made by Whelen – model PELBB.

#### **IDENTIFICATION LIGHTING**

LED identification lights and reflectors shall conform to Canadian Motor Vehicle Safety Standards as well as Ontario Ministry of Transportation standards.

#### **MID-BODY TURN SIGNALS**

There shall be two (2) amber LED turn signal mounted forward of the rear wheels in the rub rails, with one (1) on each side of the apparatus body.

#### **DOOR OPEN WARNING LIGHT**

One (1) Whelen OSR00FCR red flashing light shall be located in the cab to indicate a door is open or ajar. The light shall be connected to the break release system so it will not flash when the truck is parked. There shall also be an audible alarm.

#### **BRAKE LIGHT CLUSTER**

There shall be two (2) rear facing brake like clusters provided on the rear of the body. Each cluster shall include the following:

- One (1) red LED Whelen 60BBT brake/tail light
- One (1) amber LEDWhelen 60A00TAR turn indicator
- One (1) white LEDWhelenback-up light
- One (1) open location for warning light
- One (1) chrome plated Whelen PLAST4V four place bezel

#### **SIREN**

There shall be one (1) Whelen, dual stage amplifier siren, model CCSRNTA3, 100/200 watt full function electronic siren control mounted in the electronic control console in the cab. The siren shall be complete with a non-cancelling microphone, park kill and multiple tones.



The siren shall be mounted in a best fit location in the console, and shall be accessible by the driver seating locations.

#### **SIREN SPEAKER**

There shall be Two (2) Whelen Model SA315P,100 watt composite speakers mounted in the front bumper.

#### **WARNING LIGHTS**

LED warning lights shall be provided, in locations as follows. When listed as two (2), it indicates one (1) per left and right side of the apparatus.

- One (1) Whelen Ultra Freedom light bar model F4NOVLED
- Two (2) 60R02FRR Whelen lights in the Front lower warning zone
- Two (2) Green light Whelen lights in the front grill
- Two (2) 60R02FRR Whelen lights in the driver's side lower warning zone
- Two (2) 60R02FRR Whelen lights in the rear lower warning zone
- Two (2) 60R02FRR Whelen lights in the passenger lower warning zone
- One (1) L31 red beacon light in the upper rear warning zone
- One (1) L31 amber beacon light in the upper rear warning zone
- One (1) TAL65 Whelen LED traffic advisor, in the upper rear position

#### **SCENE LIGHTS**

Apparatus will also include FRC push up scene lights with mounts installed on the body.

Two (2) PFS2 Dual Panel Pioneer™ Combination Flood/Spot With 3000 Series Pole Assemblies Side Mount Poles 12v (DC) 16000 Lumens, installed on the front of the apparatus body, one (1) on each side of apparatus

Apparatus will also have rear flood lightson the upper stanchion of the truck.

- Two (2) Whelen900 Series lights

#### **FRONT SCENE LIGHT – BROW LIGHT**

One (1) PFP2 Dual Pioneer Plus Flood Lights (12V) with PBA0130 Brow Brackets shall be installed below the front light bar located on the front of the apparatus.

One (1) scene light switch with indicator shall be installed on the cab main switch panelto control the front brow light. The switch shall be labeled "BROW LIGHT".

#### **CAMERA**

A rear view camera system shall be supplied. The system shall include one (1) rear view camera. The monitor will be installed in the cab of the chassis in a location where the operator can clearly see. The monitor is to be a 7" color monitor.

## **PAINTING AND FINISHING**

### **COMPARTMENT FINISH**

The finish of all apparatus body storage compartments shall be heavy-duty gray painted finish.

### **DECALS**

There shall be a 6" white reflective stripe running from front to back of the apparatus; The 6" white stripe shall have a ¼" black stripe above and below (touching) the white stripe. 16" white reflective apparatus numbers shall be placed on the top section of the rear cabinets – one (1) on both sides of the apparatus. A 16" white reflective apparatus number shall be placed on the rear of the apparatus over the reflective chevrons. A 12" white reflective apparatus number shall be installed on the front hood of the apparatus.

### **REFLECTIVE CHEVRONS**

The outer rear panels of the body shall have a red and yellow reflective 6" chevrons installed, as per the requirements of ULC S-515 and NFPA 1901, with aluminum checker plate in the lower section. The entire rear (top to bottom, side to side) shall have reflective chevrons.

### **CAB DOOR REFLECTIVE**

The inside of the cab door is to have a reflective stripe to warn approaching traffic when necessary. The stripe is to be white and located in the door seal area.

### **CAB DOOR LIGHTS**

One (1) Whelen model M2R LED warning light shall be installed on the inside, lower section of each cab door (total of four (4) lights). The light shall be installed in the lower section of the door. The light shall flash when the door is opened. The dimensions of the lights shall be 4- 1/4" x 2-11/16".

### **MANUALS**

A chassis service and parts manuals shall be supplied for the cab, engine and transmission. Additional chassis information is available from the manufacturer website, which is common to all chassis.

Two (2) sets of parts, service instructions, and wiring diagrams are provided for the apparatus equipment and body.



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### **LOOSE EQUIPMENT TO BE INCLUDED**

The following loose equipment shall be supplied. All additional loose equipment that may be required by ULC or NFPA shall be provided by and installed by the fire department prior to apparatus entry into service.

- One (1) 20lbs Multi-purpose extinguisher
- Two (2) 6" PVC flexible, light weight coupling, suction hoses – 10' length each
- One (1) 6" Low Level Jet siphon (38mm connection)
- Two (2) folding wheel chocks shall be provided and installed under the apparatus on the driver's side