TENDER
T-MCC-2102

Manufacture and delivery of a Rescue Command vehicle, a Commercial Side Control Pumper and a Commercial Pumper Tanker

Tenders in a sealed envelope will be accepted by The Municipality of the County of Cumberland no later than:
Wednesday, April 21, 2021 at 2:00 p.m.

Addressed to:
Municipality of the County of Cumberland
Kellie Seaman, Procurement Officer
1395 Blair Lake Rd
Amherst NS B4H 3Y4

All questions regarding this Tender should be directed to:
Kellie Seaman
kseaman@cumberlandcounty.ns.ca

Introduction

The Municipality of the County of Cumberland (Herein Municipality) invites qualified and experienced ULC approved fire apparatus manufacturers to present tenders for the manufacture and delivery of a Rescue Command vehicle, a Commercial Side Control Pumper and a Commercial Pumper Tanker in accordance with the terms of this Tender.

Contact Information

All contact and communications with the Municipality will be coordinated and organized through:

Kellie Seaman
kseaman@cumberlandcounty.ns.ca
Telephone: (902) 664-9243

TERMS AND CONDITIONS OF TENDERS

Submission of Tenders

1. All tenders must be received in their entirety at or before 2 pm AT April 21, 2021. Applicants are responsible for ensuring that their tender is received on time and at the location specified. Tenders shall be opened by 2 pm AT on April 21, 2021; a list of tenderers who have submitted tenders will be released, but no pricing or specification information shall be released. Review and evaluation by the Municipality and its agents will be conducted in private at a later date.

2. Each submission shall consist of a complete, sealed, and signed copy of the tender, and each tender must be clearly marked “Manufacture and Deliver of a Rescue Command vehicle, a Commercial Side Control Pumper and a Commercial Pumper Tanker” on the outside of a sealed envelope.

3. Tenders must be delivered by courier or hand delivered to:

   Municipality of the County of Cumberland
   Kellie Seaman, Procurement Officer
   1395 Blair Lake Rd
   Amherst NS B4H 3Y4

4. Tenderers shall identify themselves or their company/organization, and provide the name, address, e-mail address, and telephone number of a contact person.

5. It is not a requirement to submit a tender on all three vehicles. Tenderers can choose to tender on any or all three of the specified vehicles. Each vehicle price must be separate on the supplied Tender Form.

6. Tenderers shall provide four (4), complete copies of the tender at time of submission.

7. The tender must be signed by an appropriate authorized official of the firm submitting the tender.

Late and non-conforming tenders may be rejected

8. Tenders that are not complete or that do not conform with the requirements of this Tender shall be eliminated from further consideration.

9. Tenders received late, or not received completely by the closing time shall not be considered.

Prices must be in Canadian dollars, without taxes

10. All prices should be quoted in Canadian dollars and should not include any Provincial or Federal sales taxes in the price.

The Municipality may request further information

11. The tender must contain all information as prescribed by the contents of this Tender at the time of submission. However, the Municipality may, at its discretion, notify the Tenderer that additional information or clarification is necessary.

Tenders irrevocable and open for 60 days

12. Tenders must remain open for acceptance and are irrevocable for a period of 60 days after the closing date.

The Municipality may modify Tender

13. The Municipality reserves the right to modify the terms of this tender at any time prior to closing, at its sole discretion.

Tenderer accepts terms of Tender

14. All of the terms, conditions and/or specifications stated or referenced in this tender are assumed to be accepted by the tenderer and incorporated in the tender.

The Municipality is under no obligation to accept any tender

15. Issuing this tender implies no obligation on the Municipality to accept any tender, or a portion of any tender submitted.

16. The lowest priced tender, or any tender, will not necessarily be accepted.

17. If no compliant tenders are received in response to the invitation, the Municipality of the County of Cumberland reserves the right to enter into negotiations with one or more vendors in order to complete the procurement.

The Municipality may reject any and all tenders

18. The Municipality reserves the right to reject any and all tenders, for any reason. In addition, the Municipality may cancel this tender, reject all the Tenders, and seek to purchase the Rescue Command vehicle, a Commercial Side Control Pumper and a Commercial Pumper Tanker through a new tender or other means.

Tenders become property of the Municipality

19. All tenders become the property of the Municipality. Tenderers are responsible for their own expenses in preparing, delivering or presenting a tender and for subsequent negotiations with the Municipality, if any.

No liability of the Municipality

20. The Municipality will not be responsible for any costs, expenses, losses, damages or liability incurred by any tenderer as a result of, or arising out of, the submission or any tender, or due to the Municipality accepting or rejecting any tender.

Accuracy of Tender

21. While the Municipality has tried to ensure accuracy in this tender, it is not guaranteed or warranted by the Municipality to be accurate, nor is it necessarily comprehensive or exhaustive.

Post-closing inquiries from one or more tenderers

22. The Municipality reserves the right in its sole discretion to clarify any tender after closing by seeking further information from that tenderer, without becoming obligated to clarify or seek further information from any or all other tenderers.

TENDER SUBMISSION REQUIREMENTS

1. Tenders must include the following:
    a. completed "Specifications" document contained in Appendix A,B and C;

    b. "Contractor's Specifications", setting out:
        i. detailed description of the apparatus and equipment proposed, in the order in which they appear in the "Specification" document contained in this Tender. Any exceptions or differences between the specifications in the "Specification" document and the apparatus and equipment proposed must be clearly identified and explained;

        ii. the size, type, make and model of all components, parts and equipment;

        iii. any features in addition to those contained in the "Specification" document;

        iv. projected centre of gravity and weight distribution of the equipment shown on the drawings.

    c. stamped engineered drawings as described in this Tender;

    d. completed tender form

    e. chassis price shall be separated from total build cost.

CONTRACT REQUIREMENTS

1. All new, first quality equipment and parts must be used in the equipment; used, refurbished, second, obsolete, discontinued or demonstrator items are not permitted.

2. The supplier is responsible for delivering the equipment to the Municipality, in Cumberland County, Nova Scotia, under their own power.

3. The supplier must provide at its expense, two individual training sessions for members of the final destination Fire Departments in Cumberland County, on vehicle and apparatus systems, safety features and operations, to be scheduled with the Fire Chiefs.

4. The equipment must be completed, operational and delivered to the Municipality by the agreed-upon delivery date, and all training sessions must be completed within 14 days of delivery.

5. The supplier will be required to supply a performance bond in the full amount of the contract, issued by a duly licensed surety company authorized to transact a business of suretyship, and the performance bond shall be maintained in good standing until the fulfillment of the contract. The performance bond shall be in a form acceptable to the Municipality. In the alternative, the supplier may provide an irrevocable letter of credit from a Canadian chartered bank to the Municipality in the full amount of the contract price, as contract security.

6. Terms of payment will be as follows:

a. payment for the cost of the cab and chassis when the supplier receives it
b. balance of 90% of the contract price within 7 days of delivery of the equipment to the Municipality;
c. final 10% within 60 days of delivery.

7. Tenderers shall provide a description of their quality control measures in place, if not ISO 9001 compliant, the Municipality will determine if measures are adequate.

ADDITIONAL TERMS AND CONDITIONS

Tenderers Information and Understanding:
Tenderers are cautioned to review all the enclosed terms and conditions which may affect the tender. The Tenderer acknowledges, by mere submission of its tender, that the Technical Specifications provided are suitable and adequate for the performance of the contract scope, and that it undertakes any obligation, risk or consequence deriving from their application.

It is the tenderer's responsibility to clarify with the Municipality, any details as they pertain to this specification, prior to tender submission.

Intent of Specifications:
It is the intent of this specification to cover the delivery of a Rescue Command vehicle, a Commercial Side Control Pumper and a Commercial Pumper Tanker equipped as specified. The equipment proposed by the tenderer shall meet the requirements of the latest NFPA, SAE, Canadian ULC, International Association of Fire Chiefs, Federal and Provincial Laws and exhaust emissions standards with exception to equipment supplied by Tenderer.

Any errors, omissions or inconsistencies that are identified by the tenderer shall be listed as such in the exceptions and a tender to meet the intent of the specification shall be listed.

Pre – Construction Conference:
A pre-construction conference shall be arranged between the successful tenderer and the Municipality prior to manufacturing, at which time the drawings and Tenderer "as-built" sheet will be reviewed and all construction details will be finalized in writing upon approval, within thirty days. The apparatus shall not enter production until this document is agreed to and signed by authorities having jurisdiction.

Inspections:
The Municipality, reserves the right to inspect the successful tenderer's premises and have a demonstration of all goods offered, prior to and at any point during the contract, at the Municipalities expense. At pre-delivery inspection, the apparatus shall be fully loaded, weighed on reliable scales and road performance tested. The pre-delivery inspection shall be comprehensive.

Special Move Permit Requirements:
The body builder, if required, will complete form 62G, prior to final acceptance, certifying axles to their rated capacity and tire combination, certified by an Engineer in writing. The 62G form will be provided if required.

Design and Material Changes:
There will be no change in design or material by the tenderer, without prior consent, in writing, by authorities of the Municipality.

Engineered Drawings:
Engineered drawings prepared by the manufacturer must accompany the tender, stamped by a Mechanical Engineer. Failure to do so will be cause for rejection.

Drawings shall be on "D" size paper, 35 x 24 n. and views ½"=1'- 0 scale. This will allow the ability to compare drawings of all manufacturers on equal basis. Shall, be four (4) copies minimum included with the tender.

The drawings will have the following views:
- Street Side
- Curb Side
- Rear View
- Front View
- Plan View
- Pump Panel lay out(Tanker and Pumper only)
- Proposed Center of Gravity

Drawings including wording such as "Similar to" blue prints or "statements referring to later submissions after award of contract" will be rejected.

Following preconstruction meeting, detailed drawings, specifications and body design options that have been discussed are to be prepared and approved in writing before the vehicle enters production, within, thirty (30) days from pre-construction meeting). Shall, be four (4) sets of the aforementioned drawings and a copy of the as to build sheet are to be provided and approved by the Municipality.

Guarantees:
Minor details of construction and materials where not otherwise specified are left to the discretion of the tenderer, who shall be solely responsible for the design and construction of all features.

Safety Requirements:
The Tenderer will meet all Provincial and Federal safety standards, weight restrictions and laws that are in effect on the date of the tender for the item (s) that are being specified and the particular use for which they are meant.

NFPA 1901:
The National Fire Protection Standard 1901 most recent edition is hereby adopted and made part of these specifications, as if they were written in full, insofar as they apply, with exception, to provide only the equipment requested in this specification and the Municipality will provide the rest before the vehicles are put into service.

Liability:
The successful tenderer shall defend any and all law suits resulting from the use of the apparatus and assume all liability for the use of any patented process, copyright, trade secrets, device or article

forming a part of the apparatus or any appliance furnished under the tender. The Municipality accepts no liability.

Samples:
Equivalent to samples shall be made available for inspection and or approval by authorities of the Municipality in writing.

Information Required:
The successful tenderer must supply at the time of delivery at least two (2 per vehicle) copies of a complete operation, safety, detailed electrical schematic, parts and maintenance manual plus all other requested documentation. Digital copies of the above submissions will also be provided.

Quality and Workmanship:
Apparatus design must embody the latest approved welding, electrical and automotive engineering practices. Experimental design and methods will not be accepted. Approved isolation of all dissimilar metals, fasteners and thread corrosion protection shall be described in the tender.

General Construction:
Weight distribution shall be in accordance with the International Association of Fire Chiefs, the National Fire Protection Association, the Underwriters Laboratories of Canada and Provincial and Federal laws and regulations.

Workmanship must be of the highest quality. The following requirements will be included in all equipment:

- Easy accessibility of the various components which require periodic maintenance, inspection, checking and adding fluids (all), and repair, ease of operation;
- firefighter safety
- symmetrical proportions
- neat runs for wiring, hoses, plumbing; and
- all water tight and corrosion resistant electrical connections and power distribution panels.

Apparatus components and construction shall withstand their intended service under full load and on grades up to minimum of 8 % through all weather conditions for the apparatus life span. (20 years)

Termination:
The contract may be terminated upon non-compliance.

Tenderer Capability:
The tenderer may be requested to provide evidence of experience and capacity if deemed necessary by the Municipality to fulfill the contract. All claims may be investigated.

Requirements:
Any item(s) which fail to meet the agreed upon specifications in the contract is subject to rejection, or to be paid on an adjusted basis. The Municipality has the final say. The apparatus proposed shall be tested to meet the latest ULC Standard S515-04 and all amendments in effect at the time of this order placement.

Intended Purpose:
All products, goods and services provided by the tenderer shall be suitable for their intended use and perform in accordance with this specification and performance specification of the product.

Defects:
All products or services provided by the tenderer shall be new upon delivery and remain in that state until the final delivery inspection.

Permits:
The tenderer is responsible for all permits, licenses and fees, and give all notices and comply with all applicable statutes, laws, by-laws and regulations, Federal, Provincial, Municipal or otherwise.

Title:
The successful tenderer must have full power and legal right to convey all products under the contract which shall pass to the Municipality in accordance with the term of the contract, free from all liens, encumbrances, security interests and in the ordinary course of business of the tenderer. The tenderer shall register all components for warranties and include documentation at final delivery.

No Verbal Instructions:
All instructions, change orders, requests or any other change to these specifications are to be signed off on (in writing) by an authorizing member of the Municipality.

Collusion or Conflicts:
By submission of the tender, the tenderer declares that the tender is fair and without collusion or fraud, with any person(s), which may profit from this specification.

Delivery Date:
A firm delivery date is to be provided, in writing.

Final Acceptance:
Final acceptance shall be carried out by the Municipality and its agents on our property. Signature of acceptance by authorizing members of the Municipality shall be given once the documentation and contract requirements have been met.

SPECIFICIATION SHEETS

Tenderers shall indicate in the Yes/No column if their proposal complies with each item. IF **NOT** compliant the tenderer shall discuss in “Details of Deviation” column.

Exceptions to a specification shall be allowed if they are equal to or exceed that specified and provided they are listed and fully explained.

NOTE: Tenderers SHOULD NOT make any comments on these “Specifications”.

Proposals taking exception to these requirements and specifications could be grounds for rejection. This specification will prevail over any proposal submitted, unless a properly defined and approved exception was granted (in writing). Exception must be requested no later than 5 days prior to tender closing date by the Municipality.

1. TENDER FORM

FORM OF TENDER

1. Salutation:

1.1 Municipality of the County of Cumberland
1395 Blair Lake Rd
Amherst NS B4H 3Y4

1.2 Supply and delivery of a Rescue Command Vehicle, Commercial Side Control Pumper, Commercial Pumper Tanker

1.3 From:_____

2. Tenderer Declares:

2.1 That this Tender is made without collusion or fraud.

2.2 That they have carefully examined the proposed work; familiarized themselves with local conditions; carefully examined the Contract Documents and Addenda and taken all the foregoing into consideration in preparation of the Tender.

3. Tenderer Agrees:

3.1 To enter into a contract to supply all labour, material, and equipment to provide the material/supply/equipment desired and/or to complete the work as described and specified herein for the prices stated in Subsection 4 hereunder, Tender Sheet.

3.2 That this Tender is valid for acceptance for 60 days from the time of Tender closing.

3.3 Tenders must include the following:

a. completed “Specification” document contained in Appendix A, B, C;

b. “Contractor’s Specifications”, setting out:

i. detailed description of the apparatus and equipment proposed, in the order in which they appear in the “Specification” document contained in this Tender. Any exceptions or differences between the specifications in the “Specification” document and the apparatus and equipment proposed must be clearly identified and explained;

ii. the size, type, make and model of all components, parts and equipment;

iii. any features in addition to those contained in the “Specification” document;

iv. projected centre of gravity and weight distribution of the equipment shown on the drawings.

f. stamped engineered drawings as described in this Tender;

g. completed tender form

h. chassis price shall be separated from total build cost.

Vehicle(s) is to include all items listed as standard equipment on manufacturer's specifications.

The successful Tenderer shall provide the following books, manuals, technical information and miscellaneous items as applicable, upon delivery:

- at least two (2 per vehicle) copies of a complete operation, safety, detailed electrical schematic, parts and maintenance manual plus all other requested documentation.
- Digital copies of the above submissions will also be provided.

4 **Tender Sheet**:

Tenderers do not have to tender on all three vehicles. Each vehicle shall be priced separately.

Description	Quantity	Unit Price	Total Price (excluding HST)	Delivery (weeks)
1a. Supply & Delivery of New Rescue Command Vehicle - Chassis	1			
1b. Supply & Delivery of New Rescue Command Vehicle – Body/Component	1			
2a. Supply & Delivery of New Commercial Side Control Pumper – Chassis	1			
2b. Supply & Delivery of New Commercial Side Control Pumper – Body/Component	1			
3a. Supply & Delivery of a New Commercial Pumper Tanker- Chassis	1			
3b. Supply & Delivery of a New Commercial Pumper Tanker- Body/Component	1			
		Subtotal:		

5 Signatures:

Signed this _____ day of _____ , 2021.

_____
Name of Firm Tendering

_____ _____
Address Telephone

_____ _____
Signature Name & Title (Printed)

_____ _____
Witness Name & Title (Printed)

APPENDIX A

RESCUE COMMAND
SPECIFICATIONS

This specification is for the supply of one (1) conventional cab, 18 ft. (5.48 m) walk-through body rescue command with a diesel engine of no less than 360 horsepower and H/D automatic transmission.

The unit shall be to the manufacture's standard, equipped with manufactures equipment and accessories advertised and published as standard. No such item or accessory shall be removed or omitted for the reason it was not specified in the proposal. These specifications must be considered as minimum requirements. Materials, workmanship shall be of the highest grade free of all defects or imperfections affecting performance. Performance standards and operating specifications are measured against accepted guides as noted in the specifications. Exceptions must be stated in your proposal. This unit will be delivered to the city complete and ready for work in each of the tasks noted.

	Specifications	***Yes/No***	***Details of Deviations***
A.	***General Information***		
	a) Freightliner newest model 2021 plus only. *b) Unit must conform to all applicable Federal, Provincial vehicle regulations and meet manufacturer's recommended axle and gross vehicle load limits.* *c) The delivered unit will have Transport Canada Certification (National Safety Mark) or equivalent for vehicle and body manufacture and installation.* *d) Completed unit required must be proven to operate in extreme cold and hot ambient temperatures.* *e) All components must be new. Used equipment will not be accepted.* *f) All body builder electrical circuits (excluding stock cab and chassis) should be soldered and heat shrink covered (compressed joints & double shrink - two wall).* *g) Unit to include all appropriate warning labels at all hazard areas and unit to be equipped with backup alarm.* *h) Upon delivery vendor to provide or factory training either on site or at factory.* *i) State all warranties for this proposed unit.*		

	Specifications	Yes/No	
B.	**Cab and Chassis**		
	a) The cab & chassis must be Freightliner to match Fire department current fleet for ease of maintenance. *b) M2-106 Conventional Chassis.* *c) 106 Inch BBC Flat Roof Aluminum Conventional Cab.* *d) Three-piece 14 inch chrome steel bumper with collapsible ends and LH wing cutout for federal MS100/ES100/ES100C speaker.* *e) Chrome hood mounted air intake grille.* *f)Hood mounted chromed plastic grille.* *g) Lh and rh electric door locks.* *h) RH and LH electric powered windows, passenger switches on door(s).* *i) Dual west coast bright finish heated mirrors with LH and RH remote.* *j)LH and RH 8 inch bright finish convex mirrors mounted under primary mirrors.* *k) Seating for Two (2).* *l) One (1) Premium high back air suspension driver seat with high visibility orange seat belt, 3 chamber air lumbar, integrated cushion extension, forward and rear cushion tilt, adjustable shock absorber.* *m)One (1) Seat Inc 911 Universal Series high back Air suspension driver seat* *n) Two (2) Yellow grab handle inside the cab doors. One (1) on each side.* *o) Two (2) LH and RH foot switches with dash switch for horn button to control air horn, default to electric <85 psi.* *p) Heavy-duty tow eyes / hooks mounted;* *- Two (2) Front* *- Two (2) Rear* *q) One (1) 2'' Heavy duty hitch receiver installed in the front of the truck. The manufacturer shall include power connection for winch.* *r) One (1) 2'' Heavy duty hitch received installed at the rear of the truck with 7-Way power connection for trailer and brake controller.* *s) Two (2) mounted 24" Stuttertone air horns mounted on hood of apparatus with shield.* *t) Cab / crew compartment video camera & viewing screen with 2-Way audio intercom for communication between cab and crew compartment.* *u) Electric & Air auto eject kit including;* *- One (1) Kussmaul 091-20WP-120* *- One (1) Kussmaul 091-28AK-YW*		

	v) One (1) LED white dome light installed between the two seats inside the cab. *w) Standard Red/White dome lights* *x) Two (2) 12 volt positive and negative wires shall be located on the dash for future radio installation.* *y) Two (2) antenna brackets shall be installed and antenna wire shall be run to the same location.*		
C.	***Fuel Tank***		
	a) 50 gallons/189 liters short rectangular aluminum fuel tank – LH. *b) Plain aluminum/painted steel fuel/hydraulic tank(s) with painted bands.* *c) Polished stainless steel step finish.*		

	Specifications	Yes/No	Details of Deviations
D.	**Engine**		
	a) Cummins B6.7 360EV HP @ 2600 RPM, 2600 GOV, 800 LB/FT @ 1800 RPM, R/F/E. *b) Cummins exhaust brake integral with variable geometry turbo with on/off dash switch.* *c) LN 12V 240 AMP alternator.* *d) To be equipped with engine high idle control.* *e) Top speed of vehicle to be programmed at 120 km/hr at governed engine RPM.* *f) Switch for exhaust in inhibit regen.*		
E.	***Transmission***		
	a) Allison 3000 Evs Automatic Transmission with Pto Provision.		
F.	***Front Axle and Suspension***		
	a) Expected Front Axle(S) Load: 16 000 Lbs *b) Detroit Da-F-16.0-5 16,000# Fl1 71.0 Kpi/3.74 Drop Single Front Axle.* *c) Meritor 16.5x6 Q+ Cast Spider Cam Front Brakes, Double Anchor, Fabricated Shoes.* *d) Fire and Emergency Severe Service, Non-Asbestos Front Lining.* *e) 16,000# Taperleaf Front Suspension.*		

G.	***Rear Axle and Suspension***		
	a) Expected rear drive axle(s) load: 23 000 lbs. *b) Rs-23-160 23,000# r-series single rear axle.* *c) 6.43 rear axle ratio.* *d) Driver controlled traction differential - single rear axle.* *e) (1) Driver controlled differential lock rear valve for single drive axle.* *f) Fire and emergency severe service non-asbestos rear brake lining.* *g) Airliner 23,000# rear suspension with chain clearance.*		
H.	***Brake System***		
	a) Air brake package. *b) Wabco 4S/4M ABS.* *c) Cummins exhaust brake integral with variable geometry turbo with on/off dash switch.* *d) Cast iron outboard front brake drums.* *e) Front brake dust shields.* *f) Meritor 16.5x7 Q+ cast spider cam rear brakes, double anchor, fabricated shoes.* *g) Fire and emergency severe service non-asbestos rear brake lining.* *h) Conmet cast iron rear brake drums.* *i) Rear brake dust shields.* *j) Standard brake system valves.*		

	Specifications	Yes/No	
I.	***Exhaust System***		
	a) *6 gallon diesel exhaust fluid tank.* *b) LH medium duty standard diesel exhaust fluid tank location.*		
J.	***Tires, Wheels and Hubs***		
	a) Michelin XYZ-3, 315/80R-22.5, 20 Ply load range "L". *b) Michelin XDS 12R22.5 16 Ply Radial rear tires.* *c) Alcoa Ultra One 89U64X 22.5x9.00 10-Hub pilot 5.99 inset aluminum front wheels.* *d) Alcoa LVL One 88367X 22.5X8.25 10-Hub pilot aluminum disc rear wheels.*		
K.	**Lighting & Emergency Equipment**		
	a) All lights are to conform to all applicable provincial and federal regulations. *b) One (1) Fire Research Corp. push up pole with 12V LED green strobe light; to be installed on the front ofthe body (exterior drivers' side) to comes with a raised pole indicator and switch.* *c) Two (2) Fire Research Corp. Evolution II LED model FCA530-V20 side mount push up telescopic light shall be installed at the rear, one on each side. The light pole shall be anodized aluminum and have a knurled twist lock mechanism to secure the extension pole in position. The extension pole shall rotate 360 degrees. The outer pole shall be a grooved aluminum extrusion and qualify as an NFPA compliant handrail. The pole mounting brackets shall have a 3 1/2" offset. Wiring shall extend from the pole bottom with a 4' retractile cord. The lamphead shall have eight (8) ultra-bright white LEDs. It shall operate at 12/24 volts DC, draw 13/6.5 amps, and generate 20,000 lumens. The lamphead shall direct 50 percent of the light onto the action area while providing 50 percent to illuminate the working area. The lamphead angle of elevation shall be adjustable at a pivot in the mounting arm and the position locked with a round knurled locking knob. The lamphead shall incorporate heat-dissipating fins and be no more than 5 3/16" deep by 3 5/16" high by 11 1/2" wide. The lamphead and mounting arm shall be powder coated white. The floodlight shall be for fire service use.* *d) One (1) Fire Research Corp. CrestLight™ LED Scene Light model CLA100-A49 with brow mounting bracket shall be provided. The lamphead shall be supplied with a brow mount that attaches to the on the cab roof. The brow mount shall be fixed using a 2-bolt pattern. The lamphead shall be mounted using either M6 or ¼" fasteners (not supplied). The mounting holes shall be 51 5/8" apart. Wiring shall extend from the rear of the lamphead and shall be a 32" long cable (3/8" OD) with 14 AWG wires. The lamphead shall have (45) forty-five ultra-bright white LEDs to provide a low beam/narrow flood/low beam light pattern. It shall operate at 12V/24V volts DC and generate 12,500 lumens of light. Power consumption shall be 165 Watts. The lamphead shall have (5) five amber marker lights. The lamphead shall include both a set of low beam lenses and a set of narrow flood reflectors. The low beam shall lower the beam pattern below the horizontal, and the narrow flood beam shall project the*		

	beam straight ahead. The lamphead shall have the ability to independently control either the marker lights, the narrow flood or low beam. The lamphead shall weigh 9.75 pounds (with mounting bracket) and be powder coated in white. The lamphead shall measure 3" high with mounting bracket (1 13/16" high without mounting bracket), 52 ½" wide with mounting bracket and 3 5/16" deep. The waterproof rating shall be IPX7. The LED scene light shall be for fire service use applications. ***e)*** *Eight (8) Whelen 9SC0ENZR - 900 Series Super-LED scene lights including chrome bezel; scene lights must be installed at the highest possible.* - *One (1) located to each side of the rear area of the body.* - *Three (3) located to the driver side of the body.* - *Three (3) located to the passenger side of the body.* *f) Twelve (12) Whelen 60R02FRR – 600 Series Super-LED Intersection lights including chrome bezel;* - *Two (2) located to the cab grill (split white/Red)* - *Two (2) located on each side of the cab* - *Four (4) located each side of the body - One (1) in each corner.* - *Four (4) located on the rear of the body – One (1) in each corner.* *g) One (1) Whelen 62'' JEONFPA LED lightbar installed on the cab roof.* *h) One (1) Whelen TAM83 Super-LED Traffic advisor located above the rear door entry.* *i) Two (2) Whelen PLAST4VL chrome housing installed at the rear of the body (One (1) on each side) to receive the following lights;* - *Two (2) Whelen 60R02FRR – 600 Series Super-LED Intersection lights including chrome bezel* - *Two (2) Whelen 60A00TAR – 600 Series Super-LED Arrow amber* - *Two (2) Whelen 60BTT – 600 Series Super-LED Brake/Tail/Turn* - *Two (2) Whelen 60C00VCR – 600 Series Super-LED back up light* *j) One (1) Whelen HHS3200 module with CANCTL6 lights and siren control box. The electrical panel and HHS3200 module must be installed behind the aluminum console inside the cab. The panel must be easily accessible.* *k) One (1) Whelen SA314A Aluminum speaker installed inside the driver side bumper. The speaker must be mounted flush mount.* *l) Super Bright LED strips shall be installed in each compartment.* *m) Super Bright LED strips shall be installed inside the body. The LED lighting must cover all the inside of the body.* *n) One (1) CAMCAB* rear back-up camera # ACC7M1C *with 7'' screen color & sound must be installed at the rear of the body. The 7'' screen shall be installed to the inside cab roof, between the two seats.* *o) One (1) 3000W Inverter minimum shall be installed.* *p) One (1) IOTA battery charger model DLS-45 shall be installed.*		

L.	Instrumentation and Controls		
	a) Provide Driver Instrument Panel Equipped with: - *Speedometer, electrical.* - *Tachometer, electrical.* - *Oil pressure gauge, electrical.* - *Engine coolant temperature gauge, electrical gauge.* - *Transmission oil temperature gauge, electrical gauge.* - *Warning lamp or buzzer package for engine low oil pressure and high coolant temperature.* - *2 inch primary tank air pressure gauge, electrical (or conventional)* - *2 inch secondary tank air pressure gauge, electrical (or conventional)* - *2 inch fuel gauge, electrical.* - *Driver information should display all important information (Odometer, trip, hours, diagnostics codes, voltage, etc.* - *Low air brake pressure light and buzzer.* *b) Instrumentation to include engine speed control and programmable RPM control.* *c) Parking brake control with warning indicator.* *d) All circuits are to be equipped with circuit breakers located in breaker panel inside the cab.* *e) Heavy duty heater and defroster.* *f) AM/FM/WB world tuner radio with Bluetooth and USB and auxiliary inputs.* *g) Single electric windshield wiper motor with delay.* *h) Woodgrain driver instrument panel.* *i) Woodgrain center instrument panel.*		

	Specifications	Yes/No	
L.	**Instrumentation and Controls (continued)**		
	j) A console made of 1/8" thick aluminum to be installed between drivers & passenger seats *- The console must accommodate Whelen CANCTL6 siren and lights control box & 2 x radios.* *- One (1) Powerbar must be installed inside the console to power up chargers.* *k) Three (3) sets of keys.*		
M.	**Paint and Reflective Material**		
	a) Paint scheme; *- Cab color A: To be determined* *- Cab color B: To be determined* *- Sunvisor painted same as cab color A* *b) The entire rear portion of body to be covered with red & lime chevron style striping applied at a 45-degree upward angle pointing towards the center upper portion of rear panel.* *c) Reflective lettering must match current Fire department design.* *d) Front bumper to be covered with NFPA compliant chevrons. To match rear chevron colors.*		
N.	***Manual***		
	A) One (1) Complete manual for the cab & chassis. One (1) hard copy & One (1) USB. *B) One (1) Complete manual for the lighting package. One (1) hard copy & One (1) USB.* *C) One (1) Complete manual for additional equipment installed. One (1) hard copy & One (1) USB.* *D) The manufacturer must provide One (1) electrical diagram. One (1) hard copy & One (1) USB.*		
O.	**Rescue Command Body**		

	1. 18 ft. (5.48 m) walk-through body. *2. The manufacturer must provide drawings of the proposed unit.* *3. Body build specifications shall be* *4. The inside height of the body shall be no less than 77 inches.* *5. The substructure must be treated to rustproof coating before installing the body on the chassis.* *6. The body must have Four (4) compartments on the driver and passenger side.* *7. **R1, R2, R3, R4**, refer to the passenger side. Front to rear.* *8. **L1, L2, L3, L4**, refer to the driver side. Front to rear.* *9. **R3, R4, L3, L4,** must be equipped with AMDOR roll-up doors.* *10. All AMDOR roll-up doors must be painted as Cab color B.* *11. Roll-up doors paint shall be done at AMDOR facilities.* *12. **R1, R2, L1, L2**, to have painted aluminum compartment - front upward opening, doors must open at 100%.* *13. All compartments shall be vented and bottom corners and slide-out tray shall be perforated to evacuate water.* *14. All compartments shall be illuminated.* *15. All compartments shall have dry deck tiles.* *16. Outside compartments shall have a minimum of 28'' in dept.* *17. Outside compartments shall have a minimum of 28'' in height.* *18. **R1** compartment shall be equipped with One (1) 500 LBS slide-out tray. One (1) 5000W inverter shall be installed.* *19. **R2** compartment shall be equipped with One (1) 500 LBS slide-out tray.* *20. **R3** compartment shall be designed as storage for SCBA cylinders. Minimum storage for Fifteen (15) Scott 65 scf 4500 psi SCBA cylinders.* *21. **R4** compartment shall be designed to receive One (1) cascade system. System will consist of 4 x 6000 psi 510 scf steel cylinders with upper and lower brackets, two (2) cylinder defragmentation container and fill panel. One (1) half depth slide-out tray shall be fitted for fill station. Cascade system will be supplied and installed after delivery.* *22. **L1** compartment shall be designed shall be designed to receive the electrical panel and One (1) 500 LBS slide-out tray.* *23. **L2** compartment shall be designed to receive the electrical panel and One (1) 500 lbs slide-out tray.* *24. **L3** compartment shall stay open. One (1) adjustable shelf.*		

	*25. **L4** compartment shall be designed to be split in two.* *- One (1) side with Two (2) adjustable shelves and one (1) slide-out tray,* *- One (1) side with One (1) slide-out tool board with bottom support and straps.* *- Straps and hardware to be provided by the manufacturer.* *26. R4 and L4 compartments height shall be discussed during pre-build meeting.* *27. A minimum of two (2) storage for 4500 PSI SCBA cylinder within the wheel fender must be installed on each side of the body.* *28. One (1) 2'' hitch receiver installed at the rear of the body with 7-Way power connection for trailer and brake controller in cab.* *29. 12'' Heavy duty anti-slip aluminum rear bumper.* *30. One (1) 36'' rear entrance with One (1) single window.* *- Three (3) inside steps and One (1) Tecniq LED lighting.* *- Access door to rear tow hook.* *- Three (3) stainless steel 5 " hinges.* *31. One (1) 30'' side entrance with One (1) single window.* *- Three (3) inside steps and One (1) Tecniq LED lighting.* *- Three (3) 5 " stainless steel hinges.* *32. Four (4) anti-slip boarding handles.* *- One (1) installed at the rear entrance.* *- One (1) installed at the side entrance.* *- One (1) installed inside near the rear steps.* *- One (1) installed inside near the side steps.*		

	Specifications	Yes/No	
O.	**Rescue Command Body (continued)**		
	1. The inside space of the body must be maximized. *2. The inside of the body shall be covered with «Diamond plate» type aluminum # 30030-h22 of 1/16 ".* *3. Anti-slip rubber flooring shall be installed to cover the entire area.* *4. Two (2) heating system shall be incorporated to the unit.* *5. One (1) 22,000 BTU heating system powered by the truck. The heater shall be installed near the front of the body.* *6. One (1) 1000W-12V heater system powered by the inverter. The second heater shall be installed near the back of the body.* *7. Seating for Four (4) firefighter's with storage area located in the front of the body.* *8. Four (4) NFPA compliant harness.* *- Four (4) NFPA compliant seatbelts.* *- Four (4) Ziamatic KD-ULLH-ES brackets.* *9. The manufacturer shall design a storage area for One (1) backboard and stokes basket. Velcro straps shall be included and installed by the manufacturer.* *10. One (1) folding table made of 3/16 aluminum installed on the left side centered with the window.* *11. Wiring for radio shall be included. Location shall be decided during the pre-build meeting.* *12. One (1) Fire Research Corp. Intercom # ICA-100 to allow communication between the cab and body. The main intercom shall be installed on the aluminum console between the two seats. The second intercom shall be installed next to the folding table near the front of the body. The intercom kit shall include a master station, remote station, and 20' of interconnecting cable. The master station shall have a volume control knob and a push-to-talk button. The remote station shall operate hands free and constantly transmit to the master station unless the master push-to-talk button is pressed. The intercom shall be designed for interior use. Each station shall have a plastic housing and be surface mounted. The master station shall be no more than 1 1/2" deep by 4" high by 5 1/4" wide. The remote station shall be no more than 1 1/2" deep by 3 1/4" high by 4 1/4" wide. The power requirements for the intercom shall be 12 VDC and not exceed 3 amps. The output power shall be 8 watts.* *13. One (1) CAMCAB* rear back-up camera # ACC7M1C *with 7'' screen color & sound must be installed inside the body. The cameral must cover all occupants.* *14. One (1) maximized area of approximately 22 inches installed on the left side and designed to receive;* *15. One (1) Stainless Steel Fridge* *16. One (1) Stainless Steel Micro-wave* *17. One (1) Coffee maker* *18. Additional storage area* *19. The fridge shall be equipped with a lock so secure the door from opening.* *20. The micro-wave shall be fixed to secure from falling.* *21. The coffee maker shall be secured with velcro straps.* *22. The remaining space on the left side shall be utilized for turnout gear storage*		

	bunkers. Dimensions shall be discussed during the pre-meeting building. The fire department reserve the rights to modify any dimensions during the building process. There shall be spaces for a minimum of fourteen (14) sets of turnout gear. *23. One (1) full size length shelf for radios and chargers installed above the front seating. The dimensions are to be discussed during the pre-build meeting.* *24. Two (2) Power bar with USB charging ports and minimum of (20) electrical outlets.* *25. The manufacturer shall install a heavy-duty plate to cover the side entrance steps.* *26. One (1) aluminum ramp shall be installed next to the side steps entrance.* *27. Two (2) storage cabinets of approximately 36'' installed on the right side of the body. Minimum of three (3) adjustable shelves per cabinet.* *28. One (1) storage rack to hold;* *- Two (2) 20 lbs Fire extinguisher* *- Two (2) 10 L Water extinguisher* *29. The remaining space of the right side of the body shall be designed for turnout gear storage bunkers.* *30. Multiple electrical outlets shall be installed inside the body and location shall be decided during the pre-build meeting.* *31. An Air Condition unit of 5000 BTU shall be installed on the front surface of the box to supply the rear compartment. It shall not increase the height of the unit.* *32. All electrical power shall be supplied from the 5000W inverter and arranged in such a way that power is not interrupted to charging equipment upon disconnection of shore power and starting of truck.*		

P. Inspection			
	a) The manufacturer shall provide progress pictures and videos on a weekly basis. *b) Final inspection of the unit shall be made at the manufacturer facilities and shall allow additional labor time for minor modifications to accommodate the Fire department.*		

*****ALL SPECIFICATION PAGES FOR THE RESCUE COMMAND VEHICLE MUST BE SUBMITTED WITH THE TENDER DOCUMENTS*****

APPENDIX B

COMMERICAL – SIDE CONTROL PUMPER SPECIFICATIONS

	SPECIFICATIONS	YES	NO	DETAILS
1.A.3	**TECHNICAL REQUIREMENTS**			
1.A.3.1	This fire apparatus shall conform to this specification, and to the most recent CAN/ULC-S515 standard. The vehicle shall meet the NFPA 1901 standard.			
1.A.3.2	The fire apparatus shall be ULC certified. A pump test shall be made by ULC at the apparatus manufacturer plant, and all costs incurred to perform this test shall be covered by the bidder. A ULC certificate shall be provided prior to delivery.			
1.A.3.3	The vehicle shall meet the Canadian Motor Vehicles Safety Standards (CMVSS).			
1.A.3.4	All components used to manufacture the vehicle shall be brand new and of high quality. The choice of all elements or all parts shall correspond to the best-recognized quality standards in the fire apparatus vehicle manufacturing industry. When a part number is specified, no substitute shall be accepted.			
1.A.3.5	The apparatus should have an overall length of approx. no more than 360” and overall height of no more than 120”.			
	DOCUMENTATION UPON DELIVERY			
1.A.3.6	One (1) hard copy and two (2) digital copies of the instruction sheet to register to web portal f or ac cess to chassis driver’s, maintenance, parts, wiring, troubleshooting and workshop manuals.			
1.A.3.7	One (1) digital copy of wiring, for the body. The diagram shall be « As Built Wiring Diagrams ».			
1.A.3.8	Two (2) digital copies of the ULC or NFPA documentation (USB flash drive).			
1.A.3.9	One (1) copy of warranties, instruction and/or maintenance manuals of equipment added to the vehicle.			

	SPECIFICATIONS	YES	NO	DETAILS
1.A.3.10	Two (2) operation manuals of the truck, including operation of the pump, the foam system and a basic troubleshooting guide.			
1.A.3.11	One (1) copy of FAMA Fire Apparatus Safety Guide			

	SPECIFICATIONS	YES	NO	DETAILS
2.1	**COMMERCIAL CHASSIS**			
2.1.1	Freightliner M2-106 commercial chassis **YEAR** : 2021 or more recent **TYPE** : Day cab			
2.1.2	The chassis shall be designed for Canada. The apparatus shall be a pumper vehicle designed for emergency service use which shall be equipped with a permanently mounted fire pump.			
2.2	**CAB**			
2.2.1	Aluminum cab, 2 doors			
2.2.2	GVWR MINIMUM: 41,600 lb			
2.3	**VEHICLE DATA RECORDER**			
2.3.1	The chassis shall have a Vehicle Data Recorder (VDR) system installed to meet NFPA 1901 requirements. The following data shall be monitored: -Vehicle speed; -Acceleration; -Deceleration; -Engine speed : RPM; -Engine throttle position : % of full throttle; -ABS Event : On/Off; -Seat occupied status : Yes/No by position; -Seat belt buckled status : Yes/No by position; -Master Optical Warning Device Switch : On/Off; -Time : 24 hour time; -Date : Year/Month/Day;			
2.4	**ENGINE**			
2.4.1	Cummins, 9 liters engine shall offer a rating of 350 HP at 2000 RPM. The torque rating shall feature 1000 lb-ft of torque at 1400 RPM.			
2.4.2	There shall be two (2) controls for the diesel particulate filter. One (1) control shall be for regeneration and one (1) control shall be for regeneration inhibit.			

	SPECIFICATIONS	YES	NO	DETAILS
2.4.3	A high idle switch shall be provided, inside the cab that shall automatically maintain a pre-set engine RPM.			
2.4.4	Cummins exhaust brake integral with Variable Geometry Turbo with ON/OFF dash switch.			
2.5	**COOLING**			
2.5.1	A Horton fan clutch shall be provided with a switch in dash			
2.5.2	The cooling package shall include Extended Life Coolant (ELC). The coolant shall contain a 50/50 mix of ethylene glycol and de-ionized water to keep the coolant from freezing to a temperature of -34oF (-37 oC).			
2.5.3	A single bundle type coolant to water heat exchanger shall be installed between the engine and the radiator. This shall allow the use of water from the discharge side of the pump to assist in cooling the engine.			
2.5.4	Gate blue stripe hose type shall be used for all engine coolant lines.			
2.6	**AIR INLET**			
2.6.1	Air intake with NFPA compliant ember screen and fire-retardant air cleaner. Chrome mounted air intake grille.			
2.7	**EXHAUST**			
2.7.1	The exhaust system shall be mounted in officer cab step with tailpipe, exit forward of right rear tires at 90 degrees with temperature mitigation system.			
2.8	**TRANSMISSION**			
2.8.1	Allison 5th generation, model EVS 3000.			
2.8.2	6-speed, with “Package 198”.			
2.8.3	The transmission fluid shall be monitored electronically.			
2.8.4	The transmission shall include a cooler system.			
2.9	**PTO**			
2.9.1	The transmission shall feature two (2) 10-bolt PTO pads located on the converter housing for future provision.			

	SPECIFICATIONS	YES	NO	DETAILS
2.10	**DRIVELINE**			
2.10.1	All drivelines shall be heavy duty metal tube and equipped with universal joints.			
2.10.2	The driveline must not be modified by the fire truck manufacturer to accommodate the split shaft pump.			
2.11	**FUEL SYSTEM**			
2.11.1	Spin-on Cummins primary filter with water separator and water-in-fuel sensor.			
2.11.2	A 50-gallon fuel tank shall be provided and mounted in the driver step			
2.11.3	Alliance fuel filter/water separator with Primer pump			
2.12	**FRONT AXLE**			
2.12.1	Front axle shall be rated at 14,600 lb.			
2.13	**FRONT SUSPENSION**			
2.13.1	The front axle shall be furnished with shock absorbers.			
2.13.2	The taper leaf front suspension spring capacity shall be rated at 14,600 lb.			
2.14	**STEERING**			
2.14.1	The steering wheel shall be 18.00" in diameter, have tilting and telescoping capabilities, and a 4-spoke design.			
2.14.2	The chassis shall have a front axle cramp angle of 48-degrees to the left and right.			
2.14.3	The power steering pump shall be a TRW			
2.15	**REAR AXLE**			
2.15.1	Rear axle shall have a rated capacity of 27,000 lb.			
2.15.2	The top speed of the vehicle shall be approximately 105 km/h +/-3 Km/h.			
2.15.3	The rear differential ratio shall be optimized by the OEM for best startability.			
2.15.4	Driver controlled traction differential - single rear axle lock, shall be provided.			

	SPECIFICATIONS	YES	NO	DETAILS
2.16	**REAR SUSPENSION**			
2.16.1	Air ride suspension shall be provided. The rear suspension capacity shall be rated at 27,000 lb.			
2.17	**TIRES**			
2.17.1	Front tires shall be Michelin XYZ-3, 315/80R-22.5, 20 Ply load range "L".			
2.17.2	Rear tires shall be Michelin XDN2-GRIP, 315/80R-22.5, 20 Ply load range "L".			
2.17.3	A RealWheels LED AirSecure™ tire alert pressure management system shall be provided. That system shall monitor each tire's pressure. A sensor shall be provided on the valve stem of each tire for a total of six (6) tires.			
2.17.4	All tires shall be balanced before delivery.			
2.18	**WHEELS**			
2.18.1	Front Accuride wheel 22.50" x 9.00"			
2.18.2	Rear Accuride wheel 22.50" x 9.00"			
2.18.3	Polished aluminum wheels (Alcoa)			
2.18.4	Front and rear wheels shall have chrome nut covers on each nut. Rear wheels shall have a “high hat” style center chrome cover.			
2.19	**BRAKE**			
2.19.1	A WABCO 4S4M air brake system with ABS shall be installed on the front and rear axles. In addition to the air brake system, a traction control system (ATC) shall be installed on the rear axle with driver-controlled switch in dash. As a complement to this system, an electronic stability control system (ESC) shall be installed on the braking system.			
2.19.2	Meritor front brakes shall be drum, dimension 16.5" x 6.00", cam operated with automatic slack adjusters.			
2.19.3	Meritor rear brakes shall be drum, dimension 16.5" x 7.00", cam operated with automatic slack adjusters.			
2.20	**AIR SYSTEM**			
2.20.1	Air compressor shall be a Cummins/WABCO with a capacity of 18.7 CFM.			

	SPECIFICATIONS	YES	NO	DETAILS
2.20.2	Automatic drain valves shall be installed on all tanks of the air supply system.			
2.20.3	The air dryer shall be a BENDIX AD-9SI, with heater.			
2.20.4	The air system on the chassis shall be plumbed with colour coded nylon tubing air lines.			
2.21	**FRAME**			
2.21.1	Each simple rail shall have yield strength of 120,000 psi.			
2.21.2	Frame components shall be painted black.			
2.22	**FRONT BUMPER**			
2.22.1	Three-piece front bumper constructed from steel, chromed finished with cut-out for the siren speaker.			
2.22.2	The bumper shall be extended 24" from front face of cab. Fabricated "U" shaped channel shall support the weight of the bumper and provide the main strength in frontal crash. A gravel pan, constructed of bright aluminum treadplate, shall be furnished between the bumper and the hood face and on the side of the bumper. The gravel pan shall be properly supported from the underside to prevent flexing and vibration of the aluminum treadplate. The front bumper shall have a compartment with a hose capacity of 150' of 1¾" double jacket cotton-polyester hose with a nozzle. Drain holes shall be provided in the bottom of hose bed. Two (2) straps shall be installed on the top to retain hoses.			
2.22.3	Two (2) painted steel tow hooks shall be installed, under the bumper and attached to the front frame members.			
2.22.4	The front and side faces of the bumper shall be covered in chevron stripes at 6” intervals to match the rear of the apparatus			
2.23	**HOOD**			
2.23.1	Fiber glass hood with chrome front grille.			
2.23.2	A LED, 32" stripe NFPA compliant light mounted under the hood for area work lighting on the engine. The light shall have a switch in the cab.			

	SPECIFICATIONS	YES	NO	DETAILS
2.23.3	Two (2) air horns « EMERGENCY TONE » above the front wheel well and controlled with two (2) footswitch controls, driver and officer.			
2.23.4	Hood liner, added firewall and floor heat insulation			
2.23.5	2½" inch fender extensions			
2.24	**WINDOWS**			
2.24.1	Tinted door glass LH and RH with tinted operating wing windows.			
2.24.2	RH and LH electric windows, passenger.			
2.24.3	Omit rear window.			
2.25	**CLIMATE CONTROL**			
2.25.1	Heater, defroster and air conditioner. Standard HVAC ducting with snow shield for fresh air intake. Denso heavy duty air conditioner compressor.			
2.25.2	Main HVAC controls with recirculation switch.			
2.25.3	Premium insulation.			
2.26	**INTERIOR**			
2.26.1	One (1) 12V, 15-amp, power point plug.			
2.26.2	Molded plastic door panel without vinyl insert with aluminum kickplate lower door.			
2.26.3	Opal gray vinyl interior.			
2.26.4	Gray/charcoal flat dash.			
2.26.5	Two (2) 12 volt positive and negative wires shall be located on the dash for future radio installation. Two (2) antenna brackets shall be installed and antenna wire shall be run to the same location.			
2.26.6	Forward roof mounted console with upper storage compartments without netting.			
2.26.7	One (1) LED Red/Clear dome light with integrated switch shall be installed in the cab.			

	SPECIFICATIONS	YES	NO	DETAILS
2.26.8	A radio AM/FM/WB WORLD TUNER RADIO WITH BLUETOOTH AND USB AND AUXILIARY INPUTS shall be provided. Two (2) speakers shall be installed in the cab.			
2.27	**SEATS**			
2.27.1	A seat belt monitoring system (SBMS) shall be provided. The SBMS shall be capable of monitoring up to ten (10) seat positions indicating the status of each seat position with a green or red LED indicator as follows: • Seat Occupied & Buckled = Green • Seat Occupied & Unbuckled = Red • No Occupant & Buckled = Red • No Occupant & Unbuckled = Not Illuminated			
2.27.2	Air ride driver seat without SCBA rack, Seats Incorporated, 911 Series.			
2.27.3	Officer seat without SCBA rack, Seats Incorporated, 911 Series.			
2.27.4	All seating positions shall be furnished with orange seat belt.			
2.27.5	All seats shall be black Cordura plus cloth.			
2.27.6	Two (2) Zico model ULLH helmet holders shall be provided.			
2.27.7	A console made of 1/8" thick aluminum and painted with black Zolatone shall be made and installed between the front seats. The console shall have two (2) compartments for binders with a hinged cover shall be maintained open by a gas cylinder.			
2.28	**CAB EXTERIOR**			
2.28.1	Windshield wiper control shall have high, low, and intermittent modes.			
2.28.2	LH and RH exterior grab handles with single rubber insert.			
2.28.3	Two (2) Door mounted mirrors dual west coast bright finish heated mirrors with lh and rh remote.			
2.28.4	Mud flaps shall be installed behind the front wheels.			
2.28.5	RH down view mirror.			
2.28.6	The original side steps on both sides of the cab shall be removed and replaced by ULC compliant monocoque side steps, made of anti-slip aluminum checkered plate with a full-length grip strut insert.			

	SPECIFICATIONS	YES	NO	DETAILS
2.29	**CHARGING SYSTEM**			
2.29.1	(2) DTNA genuine min 2000cca, 370rc, threaded stud batteries.			
2.29.2	One (1) set of battery jumper studs with plastic color-coded covers shall be included near the battery compartments.			
2.29.3	Delco-Remy, 275 amp, 12V alternator.			
2.30	**ELECTRICAL POWER DISTRIBUTION**			
2.30.1	A Kussmaul 1000 battery conditioner shall be supplied. The battery conditioner shall be mounted in the cab. The Kussmaul battery conditioner shall be supplied with a Deluxe red bezel display, installed near the electric shoreline.			
2.30.2	A Kussmaul 20-amp super auto-eject electrical receptacle shall be supplied with a red cover. It shall automatically eject the plug when the starter button is depressed. The electrical inlet shall be installed on the left-hand side of cab in the step.			
2.30.3	One (1) AIR INLET shall be installed in the LH cab step. The air inlet shall be plumbed to the air brake system to maintain air pressure. The inlet shall be equipped with an AIR EJECT receptacle with a yellow cover shall be installed in the LH cab step. It shall automatically eject the air cord when the starter button is released.			
2.31	**LIGHTS**			
2.31.1	Sides and front of cab shall include LED marker lights.			
2.31.2	The hood shall include two (2) integral headlight/marker assemblies with chrome bezel.			
2.32	**OPTICAL WARNING DEVICE**			
2.32.1	A LED flashing red light clearly labeled "Do Not Move Apparatus". In addition to the flashing red light, an audible alarm shall be included which shall sound while the light is activated. The flashing red light shall be located centered left to right for a better visibility.			
2.33	**BACKUP SAFETY DEVICE**			

	SPECIFICATIONS	YES	NO	DETAILS
2.33.1	A solid-state electronic audible back-up alarm that actuates when the truck is shifted into reverse shall be provided.			
2.33.2	An FRC rear-view camera with night vision shall be installed to the rear of the vehicle. The colour LCD monitor shall be installed close to the driver. A protective aluminum cover shall be installed above the camera.			
2.34	**INSTRUMENTATION**			
2.34.1	Instrumentation and gauges shall have Standard/Metric Hybrid measurement.			
2.34.2	Engine hour meter required.			
2.35	**ADDITIONAL EQUIPMENT**			
2.35.1	One (1) 2.50 lb D.O.T approved fire extinguisher with BC rating shall be shipped loose with the cab.			
2.35.2	One (1) emergency road safety kit.			
2.35.3	A total of two (2) door keys for the manual door locks.			

	SPECIFICATIONS	YES	NO	DETAILS
3.1	**PUMP**			
3.1.1	A brand-new current year HALE DSD150 pump NFPA rated at 1500 GPM. The pumping system shall have an Akron model 53 pressure relief valve. The pump shall have mechanical type seal.			
3.1.2	Pump shall be Class A and shall provide the following ratings at an altitude of less than 600 meters (2000 ft): • 1500 GPM (1250 IGPM) - 100% of rating at 165 PSI. • 1500 GPM (1250 IGPM) - 100% of rating at 150 PSI • 1050 GPM (875 IGPM) - 70% of rating at 200 PSI • 750 GPM (625 IGPM) - 50% of rating at 250 PSI			
3.2	**PUMP SHIFT**			
3.2.1	Pump shift shall be pneumatically-controlled and activated from inside the cab. All indicators lights and pump engagement shall be NFPA 1901 compliant.			
3.3	**PRESSURE GOVERNOR**			
3.3.1	A Class 1 pressure governor «TPG» shall be installed on the operator control panel. The pressure governor shall be calibrated by the manufacturer in mode « pressure/pre-set » and the pressure specified by the customer, which is about 120 PSI.			
3.4	**PRIMER**			
3.4.1	The priming system shall be a Trident AirPrime with Auto-Prime feature, 3-barrel with push button controls for all gated inlets.			
3.5	**HEAT EXCHANGER**			
3.5.1	Water flow from the fire pump shall be used to cool the engine coolant. The control, «¼ turn type» shall be located on pump panel and equipped with a ¾" valve.			

	SPECIFICATIONS	YES	NO	DETAILS
3.6	**DRAIN SYSTEM**			
3.6.1	A manual master drain valve shall be installed on the pump panel. The master pump drain assembly shall consist of a Trident Emergency bronze master drain with a rubber disc seal. The master drain shall have a rubber seal to prevent water from running out on the running board. The master drain shall provide independent ports for low point drainage of the fire pump and auxiliary devices.			
3.6.2	An Innovative Control brand ¾" bleeder valve with lift-up handle shall be provided for each inlet and discharge. The drain shall be located at lowest point drainage of the fire pump.			
3.7	**PLUMBING**			
3.7.1	All fabricated piping shall be a minimum of Schedule 10 stainless steel for superior corrosion resistance and decreased friction loss. The pump system shall utilize a stainless-steel discharge manifold system and flexible high-pressure hoses with stainless steel ends that allows a direct flow of water to discharge valves. The manifold is "foam ready" for Hale Foam Logix or FoamPro system with 3" plumbing. The foam system shall be plumbed to the two (2) speedlays, 2.5''crosslay, front bumper trash line and the rear 2.5''discharge.			
3.7.2	All the valves on the truck shall be Akron 8800 series. When flexibility is needed, a "Victaulic" fitting shall be installed.			
3.7.3	The pump and steel accessories shall be painted black. Stainless steel plumbing components are not painted.			
3.8	**INTAKES AND DISCHARGES (GENERAL)**			
3.8.1	All intake and discharge valves shall be mechanically activated from the pump operator's panel. Control handles for tank-to-pump, tank fill and all discharges shall be «push-pull» style, including a «T» handle with sufficient space to allow the valve identification. The assembly shall be Innovative Controls brand.			

	SPECIFICATIONS	YES	NO	DETAILS
3.8.2	All discharges and intake located at the sides and rear panels shall be provided with an Innovative Controls brand chrome bezel with colour identification. These bezels shall be screwed into the panel without nuts at the back.			
3.8.3	All discharges shall have a 30-degree chrome droop adapter.			
3.8.4	The hoses threads on the vehicle shall be: 1½": NPSH 2½": NS1 NOVA SCOTIA - ZONE 1 (3.234" X 5 tpi) 6": NH			
3.9	**INTAKES**			
3.9.1	Two (2) 6" diameter suction ports with 6" NH male threads and removable zinc screens shall be provided, one (1) each side. One (1) Handwheel butterfly valve with position indicator shall be provided on the left-side main pump inlet. The 6" inlet valve shall be provided with an Akron 59, adjustable pressure relief valve and a 3/4" bleeder valve shall be provided on the inlet side of the valve. A priming valve shall be installed for independent priming the inlet.			
3.9.2	One (1) 2½" suction inlet shall be installed on the left side. It shall be equipped with a strainer and a chrome plug with a retaining chain. It shall be a manual integrated control valve, “up and down” type. A ¾" bleeder valve assembly shall be installed for this intake.			

	SPECIFICATIONS	YES	NO	DETAILS
3.9.3	One (1) 6'' intake with 5" plumbing shall be provided on the front bumper. An Akron 5'' butterfly valve with an electric type controller, installed on the pump operator's panel to control this intake. The plumbing shall include an Akron 53, adjustable pressure relief valve and a 3/4" bleeder valve A priming valve shall be installed for independent priming the inlet. One (1) ¾", ¼ turn valve shall be installed on the pump operator's panel to bleed the air from the inlet and an independent priming valve shall be added to the 6" inlet. An Adapter 6'' to 4'' Storz shall be provided. With cover fitted.			
3.9.4	One (1) 6''inlet with 4" Storz adapter, 5" piping and 5'' valve shall be installed on the rear right side of the vehicle. This inlet shall provide an Akron 53 adjustable pressure relief valve. There shall be an Akron 5'' electric butterfly valve connected direct to the pump with an electric controller and installed on the pump operator's panel. One (1) ¾", ¼ turn valve shall be installed on the pump operator's panel to bleed the air from the inlet and an independent priming valve shall be added to the inlet. Connected to the rear inlet, the ELKHART or Akron device model AUTOMATIC TANK FILL uses an UNIBODY ELKHART or Akron 3'' valve. This valve shall be located in the pump compartment to avoid any freezing of the valve. When the AUTOMATIC mode is activated, this valve allows filling the tank without taking care of the controls.			
3.10	**DISCHARGES**			
3.10.1	All 2½" discharges shall be equipped with a 2½" female chrome-plated reducer to a male 1½" with a 1½" chrome plug retained by a chrome chain.			

	SPECIFICATIONS	YES	NO	DETAILS
3.10.2	Four (4) 2½" discharges, with 2½" valves, 30-degree chrome droop adapter shall be installed on each side and rear of the apparatus. These discharges shall be located as follows: • Two (2) discharges left side with manual control on pump operator's panel. • One (1) discharge right side with manual control on pump operator's panel. • One (1) discharge rear, right side with manual control on pump operator's panel.			
3.10.3	One (1) 3'' valve LDH discharge shall be located on the right side with Akron 9335 electric control on pump operator's panel with pressure in PSI indicated on the controller screen. The discharge shall have a 30 degrees elbow, 4" Storz adapter with a cap.			
3.10.4	One (1) discharge, 3" valve shall be installed on the top of the truck, for a deck gun, with Akron 9335 electric control on pump operator's panel with pressure indicated in PSI on the controller screen. Flange #ANSI 150 shall be installed on this discharge.			
3.10.5	Two (2) speedlay discharges shall be provided with manual control on pump operator's panel. Each speedlay section shall include one (1) 2" brass swivel above each hose compartment with a 1½" hose connection to allow the use of the hose from either side of the apparatus. The speedlay piping shall consist of two (2) 2" heavy duty hoses coming from the pump discharge manifold to the 2" swivel.			
3.10.6	One (1) Crosslay Preconnect discharge shall be provided on the pump compartment, above the speedlays, with manual control on pump operator's panel. The Preconnect shall include one (1) 2½" brass swivel with a 2½" hose connection.			

	SPECIFICATIONS	YES	NO	DETAILS
3.10.7	One (1) pre-connect outlet shall be located in the middle compartments of the bumper with manual control on pump operator's panel. This outlet shall provide a 2" diameter valve and a 90-degree, 1½" swivel that shall exit in the middle of the compartment. There shall be a Class 1 automatic drain installed at all lowest points in the plumbing.			
3.11	**TANK FILL AND TANK-TO-PUMP**			
3.11.1	One (1) 2" valve to fill water tank shall be provided and installed. The adapter on the tank shall be in stainless steel.			
3.11.2	One (1) 4" handwheel gear actuated butterfly valve shall be installed between the pump suction and the booster tank. The valve shall be provided with 4" piping, flex hose and stainless-steel hose clamps connected to the tank. The valve control shall be located at the pump operator`s panel and shall visually indicate the position of the valve at all times with a red/green lamp. The fire pump suction inlet shall be provided with a tank-to-pump check valve. The check valve is designed to automatically open when drafting from the on-board water tank and close if the pump suction receives water pressure from an outside source.			
3.12	**FOAM SYSTEM**			
3.12.1	A FOAMPRO 2001 12-volt electric motor drive positive displacement foam concentrate pump, rated up to 2.5 gpm (9.5 L/min) @ 150 psi with operating pressures up to 400 psi (27.6 BAR).			
3.12.2	A foam tank gauge shall be installed on pump panel. The foam level indicator shall be the same make and model as the water tank gauge.			
3.12.3	The system shall be capable of handling Class A foam. Operational tests shall be completed with PHOSCHECK WD-881 foam.			
3.12.4	A full flow stainless steel check valve shall be provided to prevent foam contamination of the fire pump and water tank as well as to prevent water contamination of the foam tank.			
3.12.5	The foam system shall be plumbed to the two (2) speedlays, 2.5''crosslay, front bumper trash line and the rear 2.5''discharge.			

	SPECIFICATIONS	YES	NO	DETAILS
3.12.6	The system shall be installed in a suitable, accessible location. The system must be installed and calibrated by the manufacturer before delivery.			
3.12.7	A label shall be placed near the foam concentrate tank fill opening that reads: “DO NOT MIX BRANDS AND TYPE OF FOAM”			
3.12.8	A Power-Fill Refill system, FOAMPRO, 12V, model 3435-0134 shall be installed in compartment R1 to fill the foam tank from the ground. The foam fill system shall include a 3-foot pick up tube.			
3.12.9	A system rating panel placard shall be installed near the foam controller.			

<table>
<tr><th></th><th>SPECIFICATIONS</th><th>YES</th><th>NO</th><th>DETAILS</th></tr>
<tr><td>4.1</td><td>PUMP OPERATOR CONTROL PANEL</td><td></td><td></td><td></td></tr>
<tr><td>4.1.1</td><td>Controls and gauges shall be located on driver side.
The side intake/discharge pump panels shall be 14-gauge stainless steel with a brushed finish. Each panel shall be removable for easier maintenance access to plumbing components.
Pump operator control panel shall be an aluminum ZOLATONE painted black. The top panel section of the operator’s panel shall be hinged for easier maintenance access to electrical components.
Color coded pump panel labels shall be in accordance with the recommendations of NFPA 1901as follows:
<table>
<tr><th>Discharge</th><th>Color</th></tr>
<tr><td>Preconnect #1 or front bumper jump line</td><td>Orange</td></tr>
<tr><td>Preconnect #2</td><td>Red</td></tr>
<tr><td>Preconnect #3 or discharge #1</td><td>Yellow</td></tr>
<tr><td>Preconnect #4 or discharge #2</td><td>White</td></tr>
<tr><td>Discharge #3</td><td>Blue</td></tr>
<tr><td>Discharge #4</td><td>Black</td></tr>
<tr><td>Discharge #5</td><td>Green</td></tr>
<tr><td>Deluge/deck gun</td><td>Silver</td></tr>
<tr><td>Large-diameter hose</td><td>Yellow with white border</td></tr>
<tr><td>Foam line(s)</td><td>Red with white border</td></tr>
<tr><td>Booster reel(s)</td><td>Gray</td></tr>
<tr><td>Inlets</td><td>Burgundy</td></tr>
</table></td><td></td><td></td><td></td></tr>
<tr><td>4.1.2</td><td>Innovative Controls gauges reading DUAL-SCALE, PSI & KPA. The 4½" pressure gauges shall be filled with interlube.
There shall be one (1) 4½" diameter, 30"-0-400 PSI gauge connected to the pressure manifold and another one (1) connected at the pump inlet in a single assembly with chrome bezel and colored labels. The assembly shall include the test ports and the pump pressure governor warning buzzer.</td><td></td><td></td><td></td></tr>
</table>

	SPECIFICATIONS	YES	NO	DETAILS
4..1.3	Innovative Controls gauges reading DUAL-SCALE, PSI & KPA. The pressure gauges shall be filled with interlube. There shall also be one (1) 2½" diameter DUAL-SCALE, PSI & KPA gauge for each discharge that does not have an electronic display.			
4.1.4	Pump control panel shall include the following elements: • Instruments showing battery voltage, engine temperature, engine oil pressure and engine RPM. • An LED 4-lights CLASS 1 water level. • A vacuum and pressure port for pump performance testing. • Four (4) rocker watertight switches in a chrome switch bank for scene lights (if option selected), hose bed light, pump heater and pump lights. The heater shall have a red pilot light. • Water tank drain valve control. • Auxiliary heat exchanger control.			
4.2	**COLD PACKAGE**			
4.2.1	A 42,000 BTU heater shall be installed in the pump compartment. This heater shall use the truck coolant system. The heater shall have two (2) fans.			
4.2.2	A 2-section aluminum heat pan shall be installed below the pump house to prevent freezing and shall be removable without any tools. The heat pan shall have approximately 48'' wide x 72'' long and cover all the pump and plumbing. The front and the back of the heat pan shall be protected by an aluminum plate around the drive shaft. The clearance between ground and the heat pan shall be minimum 10''			

	SPECIFICATIONS	YES	NO	DETAILS
5.1	**TANK**			
5.1.1	A 1300-gallon (U.S.) booster tank and a 30-gallon (U.S.) foam tank shall be supplied. The booster tank shall be completely removable without disturbing or dismounting the apparatus body structure.			
5.1.2	The booster tank shall be entirely in ½" thick copolymer polypropylene with 3/8" swash partitions. The assembly shall be welded utilizing thermoplastic welding technology. The booster tank shall have lifting eyelets for facilitating the removal.			
5.1.3	The water/foam tank design shall be in accordance with CAN/ULC-S515 and NFPA 1901 requirements. The foam tank shall have one (1) air intake installed on the top of the foam tank. The tank shall provide two (2) openings, one (1) for the injection system supply and the second one to allow tank cleaning with a 1" hose with Class 1, model BV10, 1" valve.			
5.1.4	At the front, under the tank, there shall be a dirt collector with a 1½" drain and a 3" plug. The drain shall be installed at the bottom of the collector to allow fully draining of the tank. This drain control shall be on the operator pump panel, not in a compartment. The valve shall be enclosed in the heat pan assembly to prevent freezing.			
5.1.5	One (1) manual fill tower shall be located to the left forward area of the tank. The tower shall be 14"x14" and a 6" vent/overflow pipe shall be installed halfway-up the tower. This pipe shall empty behind rear wheels.			

	SPECIFICATIONS	YES	NO	DETAILS
6.1	**GENERAL (BODY AND PUMP HOUSE)**			
6.1.1	The aluminum used to build the body and pump house shall be 5052-H32 marine grade and 6061-T6/6063-T5 for aluminum extrusions. The thickness of the aluminum shall be 3/16" for the bottom and the back of each compartment and for the front and back of the body. Only the wall between compartments shall be 1/8" thick. The aluminum tread plates shall be 3003-H22, 1/8" thick and shall meet NFPA slip resistance, when specified.			
6.1.2	All joints that may corrode or degrade by calcium and water infiltration shall be sealed by a continuous welding cord outside. Where there is a possibility of water infiltration between aluminum tread plates and painted aluminum, gray silicon sealer shall be applied. All joints and welding shall be polished and so leave no sharp edge.			
6.1.3	The design of the body is such that the water tank of the truck shall not be visible outside. Any type of "WET SIDE" design shall be refused.			
6.1.4	All compartments shall be “sweep out” design, which means the floor is raised by at least 1’’ to avoid water infiltration.			
6.1.5	The aluminum components of the body and pump house shall be manufactured by using CNC (Computer Numeric Control) machine tools. Each individual assembly parts shall be cut and bended for an optimum precision.			
6.2	**PUMPHOUSE**			
6.2.1	A step shall be installed each side of the pump house, on its full width. The step shall have 11¾" in depth built from aluminum grip-strut.			
6.2.2	The top of the pump house shall be made of aluminum tread plates and shall meet ULC requirements. The front of the pump house shall be covered by tread plates.			

	SPECIFICATIONS	YES	NO	DETAILS
6.2.3	The pump module shall have a total width of 26” with one upper storage area and one crosslay compartment that shall accommodate one preconnected 2.5’’ handline (200’ of 2.5’’ hose with nozzle). The lower transverse storage area shall accommodate two preconnected handlines (200’ of 1¾’’ hose with nozzle). The bottom of this compartment shall at approx. 65” from the ground. The speedlay areas shall include two removable storage trays. The trays shall be constructed of 3/16” (.187”) smooth aluminum plate with an exterior sanded finish. The walls and floor of the tray shall be slotted to prevent the accumulation of water and allow for ventilation of wet hose. A protective strip of 0.375" UHMW Polyethylene shall be bolted to the bottom of outside edge speedlay tray. Two (2) 1” stainless steel rolls, one on each side, to facilitate the removal and insertion of the trays in this compartment. The speedlay side access shall have a restraint system consist of a vinyl tarp with Velcro along the entire perimeter. Pump service access doors shall be provided three (3) access to the pump. One (1) in L1, One (1) in R1 and one (1) on the top in front of the body. The doors shall be secured with tool-free hardware.			
6.2.4	A «P» shaped rubber gasket of about 1" shall be installed between the pumphouse and the body to avoid friction of the modules.			
6.2.5	The pumphouse shall be attached to the chassis with rubber insulation between the pump house and the chassis.			
6.2.6	The pumphouse shall have the same height as the body.			
6.3	**BODY ATTACHMENT**			
6.3.1	The main body shall be attached to the chassis frame rails with six (6) U-bolts. U-bolts shall be made of two (2) 5/8" diameter steel bolts and two (2) ½" thick x 2" width steel plates. There shall be insulation between U-bolts and body. The mounting shall allow easy removal of the body in case of major repair.			
6.3.2	There shall be a rubber insulation to avoid contact between the aluminum body and the steel frame rails.			
6.4	**BODY**			

	SPECIFICATIONS	YES	NO	DETAILS
6.4.1	The wheel well shall have monohulled fiberglass fenders.			
6.4.2	A "P" shaped fenderette shall be constructed from fiber glass with a bright black finish.			
6.4.3	The wheel well outer side face shall be made of 3/16" aluminum thick and shall be painted the same colour as the body.			
6.4.4	The body shall have rub rails mounted along the sides and at the rear. The rub rail shall be C-channel in design and constructed of 3/16" thick aluminum extrusion. The rub rail shall be 2-¼" height x 1-¼" deep and shall extend beyond the body width to protect compartment doors and the body sides. The depth shall allow marker and/or warning lights to be recessed inside for protection.			
6.4.5	The body structure shall be made from aluminum extrusion 2" x 3" x ¼" and 3" x 3" x 1/8". The body design shall allow the booster tank to be completely removable without disturbing or dismounting the apparatus body structure in case of repair.			
6.5	**HOSE BED**			
6.5.1	The hose bed shall be made above the water tank and shall have a width of at least 60", a length of at least 116" and a height of at least 11". The sides of the hose bed shall be made from aluminum tread plate. The hose bed floor shall be made of easily removable interlocking plastic tiles, minimum 5/8'' thick.			
6.5.2	Three (3) adjustable hose bed divider shall be constructed of 3/16" brushed aluminum plate with a reinforced aluminum base welded to the bottom. The rear end of the divider shall have a 3" radius corner and a handle shall be integrated to the divider.			
6.5.3	A black vinyl tarp shall cover the hose bed, retained by a Velcro strip fixed all around the hose bed. A hole shall be made around the fill tower, allowing opening of the fill tower cover freely. The tarp for the speedlays shall be made from the same black vinyl. An orange strap shall be installed to visually show where to open the tarp.			
6.6	**COMPARTMENTS**			

	SPECIFICATIONS	YES	NO	DETAILS
6.6.1	Each compartment seam shall be sealed using a permanent pliable silicone caulk. The walls of each compartment shall have openings for adequate ventilation. Each compartment shall have aluminum extrusion tracks for use with adjustable shelves. The tracks shall be vertically mounted and attached to the side and/or rear walls of the compartments. The flooring shall have drain holes to prevent the accumulation of water. The flooring shall be covered by plastic interlocking tiles 5/8" thick.			
6.6.2	The roll-up doors shall have a PAINTED finish (color to be specified) except for the rear door. Doors shall be AMDOR brand. Compartments lights switch shall be located at the top of the door. The switch shall be magnetic type AMDOR brand.			
6.6.3	The top and the front of the compartments shall be covered by 1/8" thick aluminum tread plate.			
6.6.4	Eight (8) shelves shall be provided. (locations to be finalized at pre-construction meeting) Each exterior shelf mentioned in this proposal shall be built as specified in this section unless otherwise mentioned. • Each shelf shall be as wide and deep as possible. • Maximum load capacity of at least 400 lb • Constructed of 3/16" aluminum, with a 2" lip and as deep as possible according to the size of the compartment. • Bottom of the shelves are covered by rubber tiles of at least 5/8'' thick. (Mounting locations to be confirmed at pre-construction meeting)			

	SPECIFICATIONS	YES	NO	DETAILS
6.6.5	Four (4) Slide-out trays shall be provided. (locations to be finalized at pre-construction meeting) Each slide out provided shall be built as specified below, unless specified otherwise. Each slide out shall be as wide and deep as possible. • Maximum load capacity of at least 400 lb when fully extended • Minimum exterior slide extension should be about 20". • Constructed of 3/16" aluminum, with a 2" lip and as deep as possible • Shall be maintained in open or close position with a gas cylinder or with self locking tray slides when cylinder installation is not possible. • Bottom of the shelves are covered by rubber tiles of at least 5/8'' thick. All trays installed on the bottom of the compartments shall have two (2) aluminum runners with nylon cover installed near the center to avoid the tray from collapsing. (Mounting locations to be confirmed at pre-construction meeting)			
6.7	**LEFT SIDE COMPARTMENTS**			
	(Front of rear wheels) – L1			
6.7.1	The compartment door opening shall be approximately 26” wide x 13'' deep x 61” height. This compartment is the pump panel operator.			
	(Front of rear wheels) – L2			
6.7.2	The compartment door opening shall be approximately 28” wide x 28''/14'' deep x 61” height.			
	(Above rear wheels) – L3			
6.7.3	The compartment door opening shall be approximately 58” wide x 14''deep x 27” height.			
	(Rear of rear wheels) – L4			
6.7.4	The compartment door opening shall be approximately 46” wide x 28''/14'' deep x 61” height.			
6.8	**RIGHT SIDE COMPARTMENTS**			
	(Front of rear wheels) – R1			

	SPECIFICATIONS	YES	NO	DETAILS
6.8.1	The compartment door opening shall be approximately 26" width x 28" depth x 61" height.			
	(Front of rear wheels) – R2			
6.8.2	The compartment door opening shall be approximately 42" Width x 28'' depth x 61'' height			
	(Above rear wheels) – R3			
6.8.3	The compartment door opening shall be approximately 58" width x 14" depth x 27" height.			
	(Rear of rear wheels) – R4			
6.8.4	The compartment door opening shall be approximately 46" width x 28/14" depth x 61" height.			
6.9	**REAR COMPARTMENT**			
6.9.1	The compartment door opening shall be approximately 39" width x 28" depth x 31" height.			
6.9.2	Within the back compartment shall be a painted steel 10" dump valve, with a manual actuator on the left side, manufactured by AH Stock Manufacturing Corp. A manually-actuated telescopic extension, model 4036-34, shall be installed on the valve.			
6.10	**REAR ACCESS**			
6.10.1	A full wide step shall be built above the rear compartment made of aluminum tread plate meeting NFPA requirement.			
6.10.2	A tailboard step shall be provided at the rear of the body. The tailboard shall have 11 ¾" in depth. The tailboard step shall be formed from 1/8" aluminum tread plate shall be in accordance with current ULC requirements and shall include full grip strut inserts incorporated into the diamond plate.			
6.10.3	All handrails on body and pump compartment shall be 1¼" diameter aluminum extrusion knurled, to provide a positive gripping surface. Chrome plated end stanchions shall support the handrail. Plastic gaskets shall be used between end stanchions and any painted surfaces. Drain holes shall be provided in the bottom of all vertically mounted handrails. Handrails shall be provided to meet NFPA and ULC requirements.			

	SPECIFICATIONS	YES	NO	DETAILS
6.10.4	Six (6) CAST PRODUCTS with LED, 8" x 8" folding steps, shall be installed at the back, three (3) on each side to allow access to the hose bed. The step light shall be activated when the parking brake is set, or when the vehicle marker lights are activated.			
6.10.5	The rear tires shall have a set of black mud flaps mounted behind the rear chassis wheels.			
6.10.6	Two (2) heavy duty tow eyes made from steel having 2-1/2" diameter shall be mounted below the body at the rear of the vehicle to allow towing (not lifting). The tow eyes shall be painted black. There shall be a plate specifying the capacity of the assembly.			
6.11	**LADDER STORAGE**			
6.11.1	A ladder compartment shall be built on the right rear side. It shall contain one (1) 14’ hook ladder and one (1) 2-section 24’ ladder. The ladders (not supplied) shall be Duo Safety brand. This compartment door shall be covered by chevron striping.			
6.12	**SUCTION TUBE& PIKE POLE STORAGE**			
6.12.1	Two (2) compartments of about 12" height x 10" wide x 126" depth shall be built above left and right sides compartments. Each compartment shall contain one (1) 6" x 10’ suction tube Each compartment door shall be covered by chevron striping.			
6.12.2	A storage compartment for pike poles and folding ladder shall be built left rear side under the hose bed. It shall be built to contain one (1) 10’ folding attic ladder and up to two (2) 6’ pike poles with « D handles » and one (1) 8’ standard pike pole. This compartment door shall be covered by chevron striping.			
6.13	**REAR WHEELS WELL OUTFFITING**			
6.13.1	Four (4) compartments for SCBA cylinders shall be installed in the wheels well. Each compartment shall contain one (1) cylinder for a total of four (4) SCBA cylinders compartments. Each cylinder compartment shall be built with aluminum pipes and the bottom shall be covered with rubber mat according to the CAN/ULC-S515 section. Every compartment shall have an aluminum door of the same colour as the vehicle with a “compression type” latch. The doors shall be designed to avoid water and dust infiltration with reinforcement inside the door.			

	SPECIFICATIONS	YES	NO	DETAILS
7.1	**ELECTRICAL SYSTEM**			
7.1.1	The electrical system shall meet CAN/ULC S515 and NFPA 1901 requirements. The electrical system shall include the following: a) The wiring in the body shall be securely fastened with stainless steel bolts attached to all each 8"-10"; b) Electrical terminals in weather exposed areas shall have a non-conductive grease or spray applied; c) Adhesive device shall be not acceptable; d) Every electrical wiring shall be covered by a plastic split sleeve; e) Any electrical component that is installed in an exposed area shall be mounted in a manner that shall not allow moisture to accumulate in it; f) Heat shrink material and sealed connectors shall be used to protect exposed connections; g) 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; h) All lights that have their sockets in a weather exposed area shall have corrosion preventative compound added to the socket terminal area.			
7.1.2	The wiring of the body shall be colour coded and number coded at each 3".			
7.1.3	Every circuits added to the chassis shall be protected by internal electronic circuit breakers with transistor outputs. The system shall operate in accordance with the J1939 communication protocol. The system shall comprise three (3) nodes of at least 8 inputs and 16 outputs, each node shall be protected by an individual breaker GROTE model 54-852PL. They shall be located to optimize the wiring, minimum one (1) in the cab and two (2) back into the compartments. The vehicle shall have one (1) programming plug installed near the multiplex node in the cab.			
7.1.4	The switches in cab and pump panel shall have an identification meets ULC and NFPA.			

	SPECIFICATIONS	YES	NO	DETAILS
7.2	**WARNING AND EMERGENCY**			
7.2.1	Two (2) WHELEN C6 SERIES split red / white light heads, shall be provided. The lights shall include chrome flanges. The lights shall be mounted facing forward of the apparatus, in the front grille.			
7.2.2	Four (4) WHELEN C6 SERIES red light heads, red lens, shall be provided. The lights shall include chrome flanges. • Two (2) each side in the rear wheel well • Two (2) each corner of the front bumper			
7.2.3	There shall be one (1) 56.00" Whelen, Model Justice JE2NFPA, LED lightbar mounted on the cab roof. This lightbar shall include the following: • Four (4) red flashing forward facing LED modules. • Two (2) white flashing forward facing LED modules. • Two (2) red flashing front corner LED modules. • Two (2) red flashing rear corner LED modules. The lens colour shall be clear.			
7.2.4	Two (2) Whelen Rota-Beam™ R316 Series beacons shall be supplied and installed on upper of the rear body.			
7.2.5	Headlights shall be alternative on high beam position.			
7.2.6	A Whelen 295SLSA1 electronic siren shall be mounted in the cab.			
7.2.7	The siren shall feature 100-watt output, with one (1) 100w speakers.			
7.2.8	An amber directional traffic lightbar, six (6) LED light head WHELEN model TAL65 shall be recess at the rear of the body. The control shall be located in the cab.			
7.3	**LIGHTING**			
7.3.1	LED, GROTE model 47962 / 47963 clearance/marker lights.			
7.3.2	The center top rear marker lights shall be a GROTE model 253-4400-1 for marker light AND for brake light signal.			

	SPECIFICATIONS	YES	NO	DETAILS
7.3.3	Turn signal-lights, break-lights and reversing lights shall be WHELEN C6 SERIES LED lights. There shall be a total of two (2) brake lights, two (2) back-up lights, two (2) turn-signal lights and two (2) emergency lights. It shall have a dimension of 6" x 4" and shall be mounted on a WHELEN #4-position common bezel. The rear part of the lights, visible from the compartment shall be entirely covered with a protective aluminum cover which shall protect the rear part of the light and the electrical wiring. Two (2) amber, GROTE #47963 LED auxiliary turn lights one each side front of body shall be installed recessed in the rub rail.			
7.3.4	One (1) white LED GROTE #60681 licence plate light mounted at the rear of the body. The plate shall be mounted with four (4) stainless steel bolts.			
7.4	**AUXILIARY LIGHTS**			
7.4.1	Two (2) 20" AMDOR, LUMABAR # AY-9700-012 LED lights shall be mounted under the control panel light shield, one (1) each side. These lights shall automatically turn on when the pump is engaged or when the "pump light" switch is on and when the park brake is set.			
7.4.2	One (1) Amdor AY9220-032 LED light shall be installed in the pumphouse and it shall be controlled by the "pump light" switch on the pump panel.			
7.4.3	Two (2) LED lights AMDOR LUMABAR compartment light strips shall be mounted in each body compartment. Length of each light is the same as the door opening height (+/- 5").			
7.4.4	All perimeter lights under cab and body shall be Truck Lite incandescent lights, as follow: • One (1) under each cab steps • Two (2) under pumphouse steps • Two (2) under rear bumper The ground lighting shall be activated by the opening of a cab door, or when the parking brake is set and when the marker lights are turned on, or when the transmission is on reverse.			

	SPECIFICATIONS	YES	NO	DETAILS
7.4.5	A LED TecNiq model E03 light shall be installed under each 6" inlet on pump panel for steps lighting. The lights shall turn on when the parking brake is set and the marker lights are turned on or with the pump light switch.			
7.4.6	One (1) LED light GROTE # 63F61 or JETCO # 300-3161F-8 shall be used for hose bed light and for the deck gun. It shall be installed in the front of the body. The hose bed light shall turn on when the parking brake is set and when the marker lights are turned on, or with the hose bed switch.			
7.4.7	Two (2) LED light GROTE # 63F61 or JETCO # 300-3161F-8 installed at the rear, upper body, close to the beacon warning lights. The rear light lights shall turn on when the parking brake is set and the rear lights switch is "on" or when the transmission is on reverse. The rear lights switch shall be waterproof and installed in a sealed aluminum box CAST PRODUCT Son the left rear side.			
7.4.8	One (1) front brow scene light CrestLight™ LED Scene Light model CLA100-A49 with brow mounting bracket shall be provided. The lamp head shall be supplied with a brow mount that attaches to the on the cab roof. The lamp head shall have ultra-bright white LEDs to provide a low beam/ narrow flood/low beam light pattern.			
7.4.9	Four (4) FRC model SPA900-Q70 LED scene lights shall be installed on the upper body, two (2) on each side. Switches shall be located at the pump panel and in the cab, labeled LEFT SCENE, RIGHT SCENE			
7.4.10	Two (2) FRC model SPA900-Q70 LED scene lights shall be installed on the rear face of the vehicle. The control of these lights shall be as follows: • They shall turn off when the parking brake is not set; • Turn on when the transmission is on reverse and the E-Master is turned on; • Turn on with a waterproof switch, located on the rear left side of the body, when the parking brake is set. The rear lights switch shall be waterproof and installed in a sealed aluminum box CAST PRODUCTS on the left rear side.			

	SPECIFICATIONS	YES	NO	DETAILS
8.1	**BODY FINISH DETAILS**			
8.1.1	All nuts and rivets installed on the apparatus shall be stainless steel			
8.1.2	Where dissimilar metals are to be mounted together, the mounting base material shall have an isolation barrier prior to assembly to prevent dissimilar metal reaction.			
8.1.3	Caution, Warning, Danger and other safety related signs shall meet the requirement of ANSI Z535.4, Product Safety Signs and Labels.			
8.1.4	A rust preventive barrier, CCS 2020A Waterborne, shall be sprayed under the entire body and body substructure, before their installation on the chassis so that no area is left unprotected.			
8.2	**BODY AND CHASSIS PAINT**			
8.2.1	The painting shall be conducted in accordance with best practices followed in the heavy equipment industry to ensure the best protection against corrosion and abrasion.			
8.2.2	Paint and primer used shall be of good quality and type « base Coat / Clear Coat ». The painting process shall be in accordance with the paint manufacturer.			
8.2.3	All removable parts such as brackets, lights, doors, and steps shall be removed before painting the body and shall be painted separately if required.			
8.2.4	The cab shall be painted two (2) colors with a straight break line break line just below the cab window and on the side of the hood. Colors shall be determined by the customer at the appropriate time. Samples shall be provided for approval.			
8.2.5	The exterior of the pump house shall be painted RED to match the body.			
8.2.6	The interior of the compartments shall have a smooth brushed finish and shall be whitened with acid.			
8.2.7	All shelves and trays shall have a smooth brushed finish on the exterior facing.			

	SPECIFICATIONS	YES	NO	DETAILS
8.3	**LETTERING, STRIPING**			
8.3.1	A reflective stripe, straight 4” wide, shall be installed according to the ULC standard: At least 50 % of the total length of the vehicle (body and cab) each side. At least 25 % of the width of the front of the vehicle.			
8.3.2	At minimum, 50 % of the rear body visible surface shall be covered by chevron stripes according to NFPA. The stripes shall be red and yellow, 3M-983 brand, (models 72 and 71). The front bumper shall be covered by chevron, matching the pattern and colour of the rear chevrons. Reflective strips shall be 3M brand. The rear rollup door shall be covered by chevron, matching the pattern and colour of the rear chevrons. The reflective strips should be 3M brand with heat sealed edges to prevent water infiltration.			
8.3.3	A 3’’ wide chevron type stripe shall be installed on each cab door. The covering surface shall be at minimum 200 square inches.			
8.3.4	The bidder shall provide 2 logos, about 14" height and install them in a location determined by the customer. (Fire department must provide the electronic logo files in EPS or AI format)			
8.3.5	The lettering shall be provided by the bidder and must be approved by the customer. Sixty (60) printed letters and numbers on colour reflective vinyl (Avery brand, A7-reflective model), about 4" height shall be provided.			

	SPECIFICATIONS	YES	NO	DETAILS
9.1	**MISC LOOSE EQUIPMENT TO BE SUPPLIED BY BIDDER**			
9.1.1	Two (2) folding wheels chocks ZICO, 44" diameter tires with brackets shall be installed under L2 compartment.			
9.1.2	Two (2) 6" NH chrome caps for pump inlets.			
9.1.3	Two (2) NFPA compliant, KOCHEK suction hoses, 6'' x 10' long, NH threads and long handle shall be provided.			
9.1.4	One (1) 6'' barrel strainer, with NH thread shall be provided. The strainer shall be painted.			
9.1.5	One (1) DUO SAFETY, 10' attic ladder.			
9.1.6	One (1) DUO SAFETY, 14' roof ladder.			
9.1.7	One (1) DUO SAFETY, 24' 2-section ladder.			
9.1.8	One (1) 8' Flamefighter pike pole, Iron Pike Head			
9.1.9	Two (2) 6' Flamefighter pike pole, Iron Pike Head and with "D" handle.			

	SPECIFICATIONS	YES	NO	DETAILS
10.1	**WARRANTY**			
10.1.1	The warranty is effective upon delivery of the vehicle.			
10.1.2	One (1) Year, limited warranty, Material and Workmanship.			
10.1.3	The chassis manufacturer basic vehicle standard limited warranty shall be provided.			
10.1.4	A five (5) year/160,000 km limited engine warranty shall be provided.			
10.1.5	A five (5) year/unlimited km parts and labor warranty shall be provided for transmission.			
10.1.6	A two (2)-year parts and labor warranty shall be provided for front axle.			
10.1.7	A two (2)-year parts and labor warranty shall be provided for rear axle.			
10.1.8	A Wabco three (3) year parts and labor limited warranty on brake system ABS/ATC/RSC/ESC.			
10.1.9	One (1) year pro-rated limited warranty on the cab paint. This warranty shall cover the paint and perforations due to corrosion, delaminating and cracking under normal use of the vehicle.			
10.1.10	Ten (10) year limited warranty on structural integrity of the body. This warranty shall cover all the structural components of the body and cabin against defects in materials and workmanship. Excluded from this warranty is hardware, mechanical and electrical items or paint finish.			
10.1.11	Ten (10) year pro-rated limited warranty on the body paint. This warranty shall cover the paint and perforations due to corrosion, delaminating and cracking under normal use of the vehicle.			
10.1.12	The water/foam tank parts and labor warranty shall be provided for life (25 years) against any manufacturing defects.			

	SPECIFICATIONS	YES	NO	DETAILS
10.1.13	Ten (10) year pump stainless steel pluming components limited warranty. This warranty shall cover all components of the pump except the valves against defects in materials and workmanship. Excluded from this warranty are the breakage caused by freezing.			
10.1.14	A Hale, 5-year limited warranty covering parts and labor for the first two (2) years and only parts (no labor) for the remaining three (3) years of the warranty. This warranty shall cover all components of the pump except the valves against defects in materials and workmanship. Excluded from this warranty are the breakages caused by freezing.			

*****ALL SPECIFICATION PAGES FOR THE COMMERCIAL – SIDE CONTROL PUMPER MUST BE SUBMITTED WITH THE TENDER DOCUMENTS*****

APPENDIX C

COMMERICAL PUMPER TANKER SPECIFICATIONS

	REQUIREMENTS AND SPECIFICATIONS DESCRIPTION	YES	NO	SPECIFICATIONS IF NECESSARY
1.A.2.4	One (1) global drawing to scale including the chassis for each view (left side, right side, rear) must accompany the tender. It should represent the proposed vehicle in its integrity. All main components shall be on the plan: • Overall dimensions, height and length • Required chassis • Dimensions of every compartment • Steps, footsteps and handles • Emergency lights with actual position			
1.A.2.5	One (1) detailed load distribution document including the center of gravity calculation with all detailed vehicle components. The weight of distributed load on the vehicle shall be 2,500 lb+1,100 lb for hoses and 150 lb for the ladders.			
1.A.2.6	Two (2) certificates from the Canadian Welding Bureau, one (1) according to CSA W47.1-M1983 standard in division 2 and one (1) according to CSA W47.2-M1987 in division 2.			
1.A.2.7	One (1) copy of the chassis manufacturer proposal.			
1.A.2.8	One (1) copy of manufacturer quality system certificate showing compliance with ISO 9001:2015 standard.			
1.A.2.9	One (1) copy of the Weldon V-MUX technician training certificate.			
1.A.2.10	Proof of Canada Motor Vehicle safety standard (C.M.V.S.S.) registration.			
1.A.2.11	Lifetime warranty certificate on parts and labor provided by the tank manufacturer against any manufacturing defects.			

	SPECIFICATIONS	YES	NO	DETAILS
1.A.3	**TECHNICAL REQUIREMENTS**			
1.A.3.1	This fire apparatus shall conform to this specification, and to the most recent CAN/ULC-S515 standard. The vehicle shall meet the NFPA 1901 standard.			
1.A.3.2	The fire apparatus shall be ULC certified. A pump test shall be made by ULC at the apparatus manufacturer plant, and all costs incurred to perform this test shall be covered by the bidder. A ULC certificate shall be provided prior to delivery.			
1.A.3.3	The vehicle shall meet the Canadian Motor Vehicles Safety Standards (CMVSS).			
1.A.3.4	All components used to manufacture the vehicle shall be brand new and of high quality. The choice of all elements or all parts shall correspond to the best-recognized quality standards in the fire apparatus vehicle manufacturing industry. When a part number is specified, no substitute shall be accepted.			
1.A.3.5	The apparatus should have an overall length of approx. no more than 368” and overall height of no more than 128”.			
	DOCUMENTATION UPON DELIVERY			
1.A.3.6	One (1) hard copy and two (2) digital copies of the instruction sheet to register to web portal f or ac cess to chassis driver’s, maintenance, parts, wiring, troubleshooting and workshop manuals.			
1.A.3.7	One (1) digital copy of wiring, for the body. The diagram shall be « As Built Wiring Diagrams ».			
1.A.3.8	Two (2) digital copies of the ULC or NFPA documentation (USB flash drive).			
1.A.3.9	One (1) copy of warranties, instruction and/or maintenance manuals of equipment added to the vehicle.			
1.A.3.10	Two (2) operation manuals of the truck, including operation of the pump, the foam system and a basic troubleshooting guide.			
1.A.3.11	One (1) copy of FAMA Fire Apparatus Safety Guide			

	SPECIFICATIONS	YES	NO	DETAILS
2.1	**COMMERCIAL CHASSIS**			
2.1.1	Freightliner commercial chassis **YEAR**: 2021 or more recent **MODEL**: M2-112			
2.1.2	The apparatus shall be a pumper vehicle designed for emergency service use which shall be equipped with a permanently mounted fire pump.			
2.1.3	GVWR: 64,000 lb			
2.2	**CAB**			
2.2.1	Aluminum cab			
2.2.2	2 doors (day cab)			
2.2.3	Air bag cab suspension			
2.3	**VEHICLE DATA RECORDER**			
2.3.1	The chassis shall have a Vehicle Data Recorder (VDR) system installed to meet NFPA 1901 REQUIREMENTS. The following data shall be monitored: -Vehicle speed; -Acceleration; -Deceleration; -Engine speed : RPM; -Engine throttle position : % of full throttle; -ABS Event : On/Off; -Seat occupied status : Yes/No by position; -Seat belt buckled status : Yes/No by position; -Master Optical Warning Device Switch : On/Off; -Time : 24 hour time; -Date : Year/Month/Day;			

	SPECIFICATIONS	YES	NO	DETAILS
2.3.2	A seat belt monitoring system (SBMS) shall be provided. The SBMS shall be capable of monitoring up to ten (10) seat positions indicating the status of each seat position with a green or red LED indicator as follows: • Seat Occupied & Buckled = Green • Seat Occupied & Unbuckled = Red • No Occupant & Buckled = Red • No Occupant & Unbuckled = Not Illuminated			
2.4	**ENGINE**			
2.4.1	Cummins, L9 engine shall offer a rating of 450 HP at 2100 RPM. The torque rating shall feature 1250 lb-ft of torque at 1200 RPM.			
2.4.2	There shall be one switch with two (2) controls for the diesel particulate filter. One (1) control shall be for regeneration and one (1) control shall be for regeneration inhibit.			
2.4.3	A high idle switch shall be provided, inside the cab that shall automatically maintain a pre-set engine RPM.			
2.4.4	Cummins exhaust brake integral with Variable Geometry Turbo with ON/OFF dash switch.			
2.4.5	A 1000-watt, 120 V block heater with automatic thermostat shall be installed. The block heater shall be connected to a 120 V outlet located in the driver step.			
2.5	**COOLING**			
2.5.1	A Horton thermostatic clutch fan shall be provided.			
2.5.2	The cooling package shall include Extended Life Coolant (ELC). The coolant shall contain a mix of ethylene glycol and de-ionized water to keep the coolant from freezing to a temperature of -34°F (-36 °C).			
2.5.3	Gates Blue Stripe™ or equivalent hose type shall be used for all engine coolant lines.			
2.6	**ENGINE AIR INTAKE**			
2.6.1	An air intake with NFPA compliant ember screen and fire-retardant air cleaner shall be provided. The intake shall include a chrome grille.			
2.7	**EXHAUST**			

	SPECIFICATIONS	YES	NO	DETAILS
2.7.1	The exhaust system shall be mounted behind the officer side cab step. The tailpipe shall terminate ahead of Date: right rear tires at 90 degrees and shall include a temperature mitigation system.			
2.8	**TRANSMISSION**			
2.8.1	Allison 5th generation, model 3000 EVS with push button shift pad.			
2.8.2	5-speed “Package 265” option.			
2.8.3	The transmission fluid shall be monitored electronically.			
2.8.4	The transmission shall include a cooler system.			
2.9	**PTO**			
2.9.1	The transmission shall feature two (2) 10-bolt PTO pads located on the converter housing for future provision.			
2.10	**DRIVELINE**			
2.10.1	All drivelines shall be heavy duty metal tube.			
2.11	**FUEL SYSTEM**			
2.11.1	One (1) filter/water separator			
2.11.2	A 50-gallon fuel tank shall be provided and mounted in the driver step			
2.11.3	A 6-gallon DEF tank shall be mounted in the driver step			
2.12	**FRONT AXLE**			
2.12.1	Front axle shall be rated at 18,000 lb.			
2.13	**FRONT SUSPENSION**			
2.13.1	The front axle shall be furnished with shock absorbers.			
2.13.2	The taper leaf front suspension spring capacity shall be rated at 18,000 lb.			
2.14	**STEERING**			
2.14.1	The steering wheel shall be 18.00" in diameter, have tilting and telescoping capabilities, and a 4-spoke design.			
2.14.2	The chassis shall have a front axle cramp angle of 45-degrees to the left and right.			

	SPECIFICATIONS	YES	NO	DETAILS
2.14.3	The power steering pump shall be a TRW TAS-85.			
2.15	**REAR AXLE**			
2.15.1	The rear axle shall have a rated capacity of 46,000 lb.			
2.15.2	The top speed of the vehicle shall be approximately 60 MPH +/- 2 MPH			
2.15.3	The rear differential ratio shall be optimized by the chassis manufacturer for the best possible startability and to reach the vehicle's top speed.			
2.15.4	A driver-controlled differential lock shall be installed on the rear axle. There shall be a Forward-Rear and Rear-Rear axle valve controls.			
2.16	**REAR SUSPENSION**			
2.16.1	Rear suspension shall be an Airliner air suspension system with a ground rating of 46,000 lbs.			
2.17	**TIRES**			
2.17.1	Front tires shall be MICHELIN 385/65R22.50 20 ply XZY-3 tread.			
2.17.2	Rear tires shall be MICHELIN 11R22.5 XDS2 treads.			
2.17.3	A RealWheels LED AirSecure™ tire alert pressure management system shall be provided. The system shall monitor each tire's pressure. A sensor shall be provided on the valve stem of each tire for a total of ten (10) tires.			
2.17.4	All tires shall be balanced prior to deliver.			
2.18	**WHEELS**			
2.18.1	Front wheels 22.50” x 12.25” shall be supplied			
2.18.2	Rear wheels 22.50” x 8.25” shall be supplied			
2.18.3	Wheels shall be polished aluminum.			
2.18.4	Front and rear wheels shall have chrome hub and lugnut covers.			
2.19	**BRAKE**			
2.19.1	A Wabco 6S6M air brake system with ABS shall be installed on the truck.			
2.19.2	Automatic traction control system (ATC) shall be installed on the rear axle.			

	SPECIFICATIONS	YES	NO	DETAILS
2.19.3	As a complement to this system, an electronic stability control system (ESC) shall be installed on the braking system.			
2.19.4	Front brakes shall be drum, 16.5" x 5.00", cam operated with automatic slack adjusters.			
2.19.5	Rear brakes shall be drum, 16.5" x 7.00", cam operated with automatic slack adjusters.			
2.19.6	The brakes shall have dust shields			
2.20	**AIR SYSTEM**			
2.20.1	Air compressor shall be a Cummins/WABCO with a capacity of 18.7 CFM.			
2.20.2	Automatic drain valves shall be installed on all tanks of the air supply system.			
2.20.3	There shall be an air dryer with heater.			
2.20.4	The air system on the chassis shall be plumbed with colour coded nylon tubing air lines.			
2.20.5	A 1/4 ‘’ air inlet connector, with cap, shall be installed in the driver step. The inlet shall be capped.			
2.21	**FRAME**			
2.21.1	Each simple rail shall have yield strength of 120,000 psi.			
2.21.2	Frame components shall be painted black.			
2.22	**FRONT BUMPER**			
2.22.1	Three-piece front bumper constructed from steel, chromed finished with cut-out for the siren speaker.			
2.22.2	Two (2) painted steel tow hooks shall be installed and attached to the front frame members.			
2.22.3	The front face of the bumper shall be covered in chevron stripes at 6” intervals to match the rear of the apparatus.			
2.23	**HOOD**			
2.23.1	Fiberglass hood with chrome front grille.			

	SPECIFICATIONS	YES	NO	DETAILS
2.23.2	One (1) NFPA compliant 32" LED strip light mounted under the hood for engine work lighting shall be provided and it shall be controlled by a magnetic or mechanic switch that shall turn on the light when the hood is opened.			
2.23.3	Two (2) air horns, 24'', shall be provided above the front wheel well and controlled with two (2) foot switches, driver and officer.			
2.23.4	Hood liner, added firewall and floor heat insulation			
2.23.5	2½" inch fender extensions shall be provided.			
2.24	**WINDOWS**			
2.24.1	Tinted door glass LH and RH with tinted operating wing windows.			
2.24.2	RH and LH door electrically controlled windows			
2.24.3	Omit rear window.			
2.25	**CLIMATE CONTROL**			
2.25.1	Heater, defroster and air conditioner. Standard chassis-OEM HVAC ducting with snow shield for fresh air intake. Denso heavy duty air conditioner compressor for the cab A/C.			
2.25.2	Main HVAC controls with recirculation switch.			
2.25.3	Premium insulation package.			
2.26	**INTERIOR**			
2.26.1	Opal gray vinyl interior.			
2.26.2	Gray/charcoal flat dash.			
2.26.4	Five (5) switch cut-outs and blanks in center panel			
2.26.5	Molded plastic door panel with aluminum kickplate.			
2.26.6	Forward roof mounted console with upper storage compartments and additional center compartment without netting			
2.26.7	Door activated dome/red map lights located under center upper storage			
2.26.8	One (1) additional LED Red/Clear dome light with integrated switch shall be installed in the cab.			

	SPECIFICATIONS	YES	NO	DETAILS
2.26.9	A console made of 1/8" thick aluminum and painted with black Zolatone shall be made and installed between the front seats. The hinged cover shall be held open by a gas cylinder. The console shall have four compartments for binders and 2 compartments for maps.			
2.26.10	A radio AM/FM/WB WORLD TUNER RADIO WITH BLUETOOTH AND USB AND AUXILIARY INPUTS shall be provided. Two (2) speakers shall be installed in the cab.			
2.27	**SEATS**			
2.27.1	Seats Inc 911 Universal Series high back air suspension driver seat with NFPA 1901-2016 compliant seat sensor			
2.27.2	Seats Inc 911 Universal Series high back non suspension passenger seat with underseat storage and NFPA 1901-2016 compliant seat sensor			
2.27.3	All seats shall be black Cordura plus cloth.			
2.27.4	LH and RH integral door panel armrests			
2.27.5	All seating positions shall be furnished with three (3)-point shoulder type orange seat belt.			
2.27.6	Two (2) Zico UHH-1 helmet holders shall be installed in the cab, on the rear wall.			
2.28	**CAB EXTERIOR**			
2.28.1	Windshield wiper control shall have high, low, and intermittent modes.			
2.28.2	No composite exterior sun visor.			
2.28.3	LH and RH exterior grab handles with single rubber insert.			
2.28.4	Two (2), door mounted, mirrors dual west coast bright finish. The mirrors shall be heated mirrors and shall be LH and RH remote with control on driver side.			
2.28.5	Mud flaps shall be installed behind the front wheels.			
2.28.6	RH down view mirror.			
2.28.7	OEM Dual level cab entry steps on both sides, plain painted step finish.			
2.29	**12 VOLT ELECTRIC SYSTEM**			

	SPECIFICATIONS	YES	NO	DETAILS
2.29.1	Battery system maintenance-free, (2) 12-volt 2000 CCA total. The batterie shall be located above the water tank, in the front of the body.			
2.29.2	One (1) set of battery jumper studs with plastic color-coded covers shall be included near the front wheel well.			
2.29.3	DELCO REMY, 275 amp, 12V alternator			
2.29.4	Master battery disconnect switch located close to the driver seat. NFPA compliant with a green indicator light in the dash.			
2.29.5	There shall be two (2) pairs of 12-gauge wires, positive and a negative, installed on the apparatus for radio. These wires shall have the following features: • The positive wire shall be connected to the ignition power • The negative wire shall be connected directly to battery ground • Wires shall be protected to 15 amps at 12 volts DC • Power and ground shall terminate butt spliced and located in center dash area for future radio installation			
2.29.6	There shall be two (2) antenna mounts installed on the roof and wires shall be run to the center dash area for future radio installation.			
2.29.7	There shall be one (1) pair of 14-gauge wires, positive and a negative, installed on the apparatus. The above wires shall have the following features: • The positive wire shall be connected directly to the battery power • Wires shall be protected to 7.5 amps at 12 volts DC • Power and ground shall terminate center dash area • Termination shall be a dual USB connector with rubber cover			
2.30	**CHARGING SYSTEM**			
2.30.1	A Kussmaul model 1000 battery charger/conditioner shall be provided. The charger shall be connected to the vehicle batteries and it shall be located in the cab, behind the driver seat. A Kussmaul battery indicator shall be installed on the front, driver side.			

	SPECIFICATIONS	YES	NO	DETAILS
2.30.2	One (1) 20-amp SUPER AUTO EJECT waterproof electrical receptacle with a red cover shall be installed in the LH cab step. It shall automatically eject the electrical plug when the starter button is released.			
2.30.3	One (1) AIR INLET shall be installed in the LH cab step. The air inlet shall be plumbed to the air brake system to maintain air pressure. The inlet shall be equipped with an AIR EJECT receptacle with a yellow cover shall be installed in the LH cab step. It shall automatically eject the air cord when the starter button is released.			
2.31	**LIGHTS**			
2.31.1	The cab shall include LED marker lights.			
2.31.2	The hood shall include two (2) integral headlight/marker assemblies with chrome bezel.			
2.31.3	At least one (1) LED lights shall be installed in each door for cab steps lighting			
2.32	**OPTICAL WARNING DEVICE**			
2.32.1	A LED flashing red light clearly labeled "Do Not Move Apparatus". In addition to the flashing red light, an audible alarm shall be included which shall sound while the light is activated. The flashing red light shall be located centered left to right for better visibility.			
2.33	**BACKUP SAFETY DEVICE**			
2.33.1	A solid-state electronic audible back-up alarm that actuates when the truck is shifted into reverse shall be provided.			
2.33.2	An FRC rear-view camera with night vision shall be installed to the rear of the vehicle. The colour LCD monitor shall be installed close to the driver. A protective aluminum cover shall be installed above the camera.			
2.34	**INSTRUMENTATION**			
2.34.1	Instrumentation and gauges shall have Standard measurement.			
2.34.2	Engine hour meter required.			
2.34.3	Non removable key.			

	SPECIFICATIONS	YES	NO	DETAILS
3.1	**PUMP**			
3.1.1	A brand-new current year DARLEY model PSP 1250 pump or equivalent, NFPA rated at 1250 GPM. The pump shall have mechanical type seal.			
3.1.2	Pump shall provide the following ratings at an altitude of less than 600 meters (2000 ft): • 1250 GPM - 100% of rating at 165 PSI. • 1250 GPM - 100% of rating at 150 PSI • 875 GPM - 70% of rating at 200 PSI • 625 GPM - 50% of rating at 250 PSI			
3.2	**PUMP SHIFT**			
3.2.1	The Pump shall be driven by a PTO, Chelsea 870 series.			
3.2.2	All indicators lights and pump engagement interlocks shall be NFPA 1901-2016 compliant for stationary pumping operation.			
3.3	**PRESSURE GOVERNOR**			
3.3.1	A Class 1 pressure governor «TPG» shall be installed on the operator control panel. The pressure governor shall be calibrated by the manufacturer in mode « pressure/pre-set » and the pressure specified by the customer, which is about 120 PSI.			
3.4	**PRIMER**			
3.4.1	The priming system shall be a Trident AirPrime, AutoPrime, 3-barrel with push button control and automatic function.			
3.5	**COOLER**			
3.5.1	A ¾'' ball valve shall be installed between pump and water tank as a pump cooler valve.			
3.6	**DRAIN SYSTEM**			
3.6.1	An air actuated master drain valve shall be installed on the pump panel with a toggle switch. The master drain shall provide independent ports for low point drainage of the fire pump and auxiliary devices.			
3.6.2	An Innovative Control brand ¾" bleeder valve with lift-up handle shall be provided for each inlet and discharge. The drain shall be located at lowest point drainage of the fire pump.			

	SPECIFICATIONS	YES	NO	DETAILS
3.7	**PLUMBING**			
3.7.1	All fabricated piping shall be a minimum of Schedule 10 stainless steel for superior corrosion resistance and decreased friction loss.			
3.7.2	The pumping system shall have an Akron model 53 pressure relief valve.			
3.7.3	All the valves on the truck shall be AKRON 8800 series, except where other else specified. When flexibility is needed, a "Victaulic" fitting shall be installed.			
3.7.4	The pump and steel accessories shall be painted black. Stainless steel plumbing components are not painted.			
3.7.5	All discharges, except the 1½" and 2" discharges shall have a 30-degree chrome droop adapter.			
3.7.6	All 2½" discharges shall be equipped with a 2½" female chrome-plated reducer to a male 1½" with a 1½" chrome plug retained by a chrome chain. All caps shall be Pressure Relieving hose cap NFPA compliant.			
3.7.7	The hoses threads on the vehicle shall be: 1½": NPSH 2½": NS1 NOVA SCOTIA - ZONE 1 (3.234" X 5 tpi) 6": NH			
3.7.8	All Storz connections on the vehicle shall be 4'' in diameter, all elbows and caps shall be anodized.			
3.8	**PUMP CONTROLS**			
3.8.1	Control handles for discharges that shall not be electric, shall be push-pull «T» style or valve-direct lift-up lever type controls. The control levers shall be connected directly to their respective valve by a 0.718" OD rod to form a direct linkage control system. The push-pull valve controllers shall be a chrome push-pull locking "T" handle located at the pump operator`s panel and shall visibly indicate the position of the valves at all times. The control shall be located directly adjacent to one another and shall be mounted in line so they are in the same position when shut off.			

<table>
<tr><th></th><th>SPECIFICATIONS</th><th>YES</th><th>NO</th><th>DETAILS</th></tr>
<tr><td>3.8.2</td><td>All discharges and intake located at the side and rear shall be provided with Innovative Controls brand, chrome bezel with colour identification.
These bezels shall be screwed into the panel without nuts at the back.</td><td></td><td></td><td></td></tr>
<tr><td>3.8.3</td><td>Color coded pump panel labels shall be in accordance with the NFPA standard as follows:
<table>
<tr><td>Discharge</td><td>Color</td></tr>
<tr><td>Preconnect #1</td><td>Orange</td></tr>
<tr><td>Preconnect #2</td><td>Red</td></tr>
<tr><td>Discharge #1</td><td>Yellow</td></tr>
<tr><td>Discharge #2</td><td>White</td></tr>
<tr><td>Discharge #3</td><td>Blue</td></tr>
<tr><td>Discharge #4</td><td>Black</td></tr>
<tr><td>Deluge/deck gun</td><td>Silver</td></tr>
<tr><td>Large-diameter hose</td><td>Yellow with white border</td></tr>
<tr><td>Front Bumper Monitor</td><td>Brown</td></tr>
<tr><td>Inlets</td><td>Burgundy</td></tr>
</table></td><td></td><td></td><td></td></tr>
<tr><td>3.9</td><td>INTAKES</td><td></td><td></td><td></td></tr>
<tr><td>3.9.1</td><td>One (1) 6" diameter suction port with 6" NH male threads and removable zinc screen shall be provided.</td><td></td><td></td><td></td></tr>
<tr><td>3.9.2</td><td>One (1) 2½" suction intake shall be installed on the left side with a manual lever control integrated to the valve. It shall be equipped with a strainer and a chrome plug with a retaining chain.
A ¾" bleeder valve assembly shall be installed for this intake.</td><td></td><td></td><td></td></tr>
<tr><td>3.9.3</td><td>One (1) 6" rear intake with a 5" plumbing shall be provided on rear left side of the truck. An Akron 5" butterfly valve with an electric type controller installed on the pump operator’s panel to control this intake.
The plumbing shall include an Akron 53, adjustable pressure relief valve and a 3/4" bleeder valve.
A priming valve shall be installed for independent priming of the inlet.
The intake shall be equipped with a 4” Storz, 30-deg. elbow and a cap.</td><td></td><td></td><td></td></tr>
<tr><td>3.10</td><td>DISCHARGES</td><td></td><td></td><td></td></tr>
</table>

	SPECIFICATIONS	YES	NO	DETAILS
3.10.1	Two (2) 2½" discharges, with 2½" valves, 30-degree chrome elbow adapter shall be installed at the pump panel.			
	Two (2) speedlay discharges shall be provided. Each speedlay section shall include one (1) 2" brass swivel above each hose compartment with a 1½" hose connection to allow the use of the hose from either side of the apparatus. The electric valve controller for these discharges shall be an Akron Model 9335, with integrated pressure gauge only, and shall be located at the pump panel. The speedlay piping shall consist of two (2) 2" heavy duty hoses coming from the pump discharge manifold to the 2" swivel. The speedlay areas shall include two storage trays that shall accommodate 150 feet of double jack et hose with nozzle. The trays shall be constructed of 1/8" smooth aluminum plate with an exterior brushed finish. The walls and floor of the tray shall be slotted to prevent the accumulation of water and allow for ventilation of wet hose. A protective strip of 0.375" UHMW Polyethylene shall be bolted to the bottom of outside edge speedlay trays. Two (2) 1" stainless-steel rolls, one on each side, to facilitate the removal and insertion of the trays in this compartment.			
3.10.3	One (1) right-side discharge with 2½" electric valve shall be installed, right side. The electric valve controller for this discharge shall be an Akron Model 9335, displaying pressure, located at the pump panel.			
3.10.2	One (1) right-side LDH discharge with a 4" valve and a 30-degree chrome swivel elbow shall be installed on the right side inside the R1 compartment. The electric valve controller for this discharge shall be an Akron Model 9335, displaying pressure, located at the pump panel.			
3.11	**TANK FILL AND TANK-TO-PUMP**			
3.11.1	One (1) 2" manual tank fill valve shall be provided and installed. The adapter on the tank shall be in stainless steel.			

	SPECIFICATIONS	YES	NO	DETAILS
3.11.2	One (1) 4" handwheel gear-actuated butterfly valve shall be installed between the pump suction and the booster tank. The valve shall be provided with 4" piping, flex hose and stainless-steel hose clamps connected to the tank. The valve control shall be located at the pump operator`s panel and shall visually indicate the position of the valve at all times with a red/green lamp. The fire pump suction inlet shall be provided with a tank-to-pump check valve. The check valve is designed to automatically open when drafting from the on-board water tank and close if the pump suction receives water pressure from an outside source.			
3.12	**FOAM SYSTEM**			
3.12.1	A FOAMPRO 2001 12-volt electric motor drive positive displacement foam concentrate pump, rated up to 2.5 gpm (9.5 L/min) @ 150 psi with operating pressures up to 400 psi (27.6 BAR).			
3.12.2	A foam tank gauge shall be installed on pump panel. The foam level indicator shall be the same make and model as the water tank gauge.			
3.12.3	The system shall be capable of handling Class A foam. Operational tests shall be completed with PHOSCHECK WD-881 foam.			
3.12.4	A full flow stainless steel check valve shall be provided to prevent foam contamination of the fire pump and water tank as well as to prevent water contamination of the foam tank.			
3.12.5	The foam system shall be plumbed to the two (2) speedlays, right 2.5’’discharge and the rear 2.5’’discharge.			
3.12.6	The system shall be installed in a suitable, accessible location. The system must be installed and calibrated by the manufacturer before delivery.			
3.12.7	A label shall be placed near the foam concentrate tank fill opening that reads: “DO NOT MIX BRANDS AND TYPE OF FOAM”			
3.12.8	A Power-Fill Refill system, FOAMPRO, 12V, model 3435-0134 shall be installed in compartment R1 to fill the foam tank from the ground. The foam fill system shall include a 3-foot pick up tube.			
3.12.9	A system rating panel placard shall be installed near the foam controller.			

	SPECIFICATIONS	YES	NO	DETAILS
4.1	**PUMP OPERATOR CONTROL PANEL**			
4.1.1	Controls and gauges shall be located in the L1 compartment. Pump operator control panel shall be an aluminum ZOLATONE painted black. The top panel section of the operator's panel shall be hinged for easier maintenance access to electrical components.			
4.1.2	Innovative Controls gauges reading DUAL-SCALE, PSI & KPA. The 4½" pressure gauges shall be filled with interlube. There shall be one (1) 4½" diameter, 30"-0-400 PSI gauge connected to the pressure manifold and another one (1) connected at the pump inlet in a single assembly with chrome bezel and colored labels. The assembly shall include the test ports and the pump pressure governor warning buzzer.			
4.1.3	Innovative Controls gauges reading DUAL-SCALE, PSI & KPA. The pressure gauges shall be filled with interlube. There shall also be one (1) 2½" diameter DUAL-SCALE, PSI & KPA gauge for each discharge that does not have an electronic display.			
4.1.4	A FRC water level model WLA300 shall be installed on the pump panel.			
4.1.5	A vacuum and pressure port for annual pump performance testing and checking the accuracy of pump panel gauges.			
4.1.6	A backlit switch-bank assembly for rocker switches shall be used for the pump panel controls.			
4.2	**COLD WEATHER PACKAGE**			
4.2.1	A 42,000 BTU heater shall be installed in the pump compartment. This heater shall be connected to the vehicle engine radiator. The electric fan shall be activated with a switch located on the pump operator panel.			
4.2.2	An aluminum heat pan shall be installed below the pump house to prevent freezing and shall be removable without any tools. This assembly shall maximize the coverage of the bottom and side of the pump compartment to cover around 90% of it.			

	SPECIFICATIONS	YES	NO	DETAILS
5.1	**TANK**			
5.1.1	A 3000 US-gallon booster tank shall be supplied with an integrated 30 US gallon foam cell. The booster tank shall be completely removable without disassembling or dismounting the apparatus body structure.			
5.1.2	The booster tank shall be entirely in ½" thick copolymer polypropylene with 3/8" tank baffles. The assembly shall be welded utilizing thermoplastic welding technology. The booster tank shall have lifting eyelets for facilitating removal of the tank should it become necessary			
5.1.3	The water tank design shall be in accordance with NFPA 1901 requirements.			
5.1.4	At the front, under the tank, there shall be a dirt collector with a 1½" drain and a 3" plug. The drain shall be installed at the bottom of the collector to allow fully draining of the tank. This drain control shall be on the operator pump panel, not in a compartment. The valve shall be enclosed in the heat pan assembly to prevent freezing.			
5.1.5	One (1) manual fill tower shall be located to the left forward area of the tank. The tower shall be 14"x14" and a 6" vent/overflow pipe shall be installed halfway-up the tower. This pipe shall empty behind rear wheels.			
5.2	**TANK FILL**			
5.2.1	One (1) 4" inlet for direct tank fill shall be installed at the rear, as low as possible and clearly labeled. This inlet shall be equipped with a 4" valve-less Fireman's Friend device with a 30-degree elbow with a Storz connection & filter, cap and retention cable. Piping, for the fill, shall be routed through the rear wall and include a flow deflector to avoid the breaking of the tank when it is being filled.			
5.2.2	Three (3) Whelen model PSTANK water level gauges, with LED lights shall be provided. One (1) shall be located at the rear of the vehicle and one (1) on each side of the body.			

	SPECIFICATIONS	YES	NO	DETAILS
6.1	**ALUMINUM BODY**			
6.1.1	The aluminum used to build the body shall be 5052-H32 marine grade and 6061-T6/6063-T5 for aluminum extrusions. The thickness of the aluminum shall be 3/16" for the bottom and the back of each compartment and for the front and back of the body. Only the wall between compartments shall be 1/8" thick. The aluminum tread plates shall be 3003-H22, 1/8" thick and shall meet NFPA slip resistance, when specified.			
6.1.2	The fabrication of the body shall be formed sheet metal and the body sub-structure shall be made from square aluminum tubing extrusion 2" x 3" x ¼" and 3" x 3" 3/16''. Formed and welded components shall allow the Fire Department to have the body repaired locally in the case where any object has struck the body and caused damage. The use of proprietary extrusions shall prevent the Fire Department from such repair and shall NOT be used.			
6.1.3	All joints that may corrode or degrade by calcium and water infiltration shall be sealed by a continuous welding cord outside. Where there is a possibility of water infiltration between aluminum tread plates and painted aluminum, gray silicon sealer shall be applied. All joints and welding shall be polished and so leave no sharp edge.			
6.1.4	The aluminum components of the body and pump house shall be manufactured by using CNC (Computer Numeric Control) machine tools. Each individual assembly parts shall be cut and bended for an optimum precision.			
6.2	**CONFIGURATION**			
6.2.1	The design of the body is such that the water tank of the truck shall not be visible outside. Any type of "WET SIDE" design shall be refused.			
6.2.2	All compartments shall be “sweep out” design, which means the floor is raised by at least 1'' to avoid water infiltration.			
6.3	**BODY ATTACHMENT**			

	SPECIFICATIONS	YES	NO	DETAILS
6.3.1	The main body shall be attached to the chassis frame rails with six (6) U-bolts. U-bolts shall be made of two (2) 5/8" diameter steel bolts and two (2) ½" thick x 2" width steel plates. There shall be insulation between U-bolts and body. The mounting shall allow easy removal of the body in case of major repair.			
6.3.2	There shall be a rubber insulation to avoid contact between the aluminum body and the steel frame rails.			
6.4	**BODY**			
6.4.1	Two (2) heavy duty tow eyes made from 2-1/2" diameter steel shall be mounted below the body at the rear of the vehicle to allow towing (not lifting). The tow eyes and subframe assembly shall be painted black. There shall be a plate specifying the capacity of the assembly.			
6.4.2	The top and the front of the body compartments shall be covered by 1/8" thick aluminum bright finish tread plate.			
6.4.3	The wheel well outer face shall be made of 3/16" thick aluminum and shall be painted the same colour as the body.			
6.4.4	The wheel well shall have monohull composite full depth wheel well liner.			
6.4.5	A "P" shaped fenderette shall be made from fiberglass with a bright black finish.			
6.4.6	Rub rails shall be mounted along both sides of the body and at the rear. The rub rail shall be C- channel in design and constructed of 3/16" aluminum extrusions. The rub rails shall be 2.25" high x 1.25" deep and shall extend beyond the width of the body to protect the lower compartment doors and body sides. The depth of the rub rails shall allow for the installation of marker and/or warning lights for their protection.			
6.4.7	The rear tires shall have a set of black mud flaps mounted behind the rear tires.			
6.5	**HOSE BED**			

	SPECIFICATIONS	YES	NO	DETAILS
6.5.1	The hose bed shall be built above the water tank and shall be approximately 48" wide x 201" long and 11" high. It shall be slightly offset to the left side of the body. The sides of the hose bed shall be made from aluminum tread plate. The hose bed floor shall be covered with easily removable interlocking plastic tiles, minimum 5/8'' thick for breathability and maximum drainage.			
6.5.2	Two (2) adjustable hose bed dividers shall be provided, constructed of 3/16" brushed aluminum plate with a reinforced aluminum base welded to the bottom. The rear end of the divider shall have a 3" radius corner and a handle shall be integrated to the divider.			
6.5.3	A black vinyl tarp shall cover the main hose bed, retained by a Velcro tape affixed all around the hose bed. A hole shall be made around the fill tower, to allow the cover to be opened freely. An orange strap shall be installed to visually show where to open the tarp.			
6.6	**COMPARTMENTS**			
6.6.1	Each compartment seam shall be sealed using a permanent pliable silicone caulk. The walls of each compartment shall have openings for adequate ventilation. Each compartment shall have aluminum extrusion tracks for use with adjustable shelves. The tracks shall be vertically mounted and attached to the side and/or rear walls of the compartments. The flooring shall have drain holes to prevent the accumulation of water. The flooring shall be covered by plastic interlocking tiles 5/8" thick.			
6.6.2	Compartments doors shall be roll-up type with anodized aluminum finish. Doors shall be AMDOR brand. All doors shall be painted to match the body. Compartments lights switch shall be located at the top of the door. The switch shall be magnetic type AMDOR brand.			
6.6.3	The compartments above the rear wheels shall have a double pan lap style door. The door shall include a non-locking D-ring latch. The door shall be constructed of smooth aluminum. The exterior door shall be painted to match the body color.			

	SPECIFICATIONS	YES	NO	DETAILS
6.6.4	Four (4) adjustable shelves shall be provided. Each shelf provided shall be built as specified below, unless specified otherwise. • Each shelf shall be as wide and deep as possible. • Maximum load capacity of at least 400 lb • Constructed of 3/16" aluminum, with a 2" lip and as deep as possible • Bottom of the shelves are covered by rubber tiles of at least 5/8'' thick. (Mounting locations to be confirmed at pre-construction meeting)			
6.6.5	Four (4) slide-out trays shall be provided. Each slide out provided shall be built as specified below, unless specified otherwise. Each slide out shall be as wide and deep as possible. • Maximum load capacity of at least 400 lb when fully extended • Minimum exterior slide extension should be about 20". • Constructed of 3/16" aluminum, with a 2" lip and as deep as possible • Shall be maintained in open or close position with a gas cylinder or with self locking tray slides when cylinder installation is not possible. • Bottom of the shelves are covered by rubber tiles of at least 5/8'' thick. All trays installed on the bottom of the compartments shall have two (2) aluminum runners with nylon cover installed near the center to avoid the tray from collapsing. (Mounting locations to be confirmed at pre-construction meeting)			
6.7	**LEFT SIDE COMPARTMENTS**			
6.7.1	**(Front of rear wheels-Pump panel) – L1** The compartment opening shall be approximately 52" wide x 64" high x 10" deep. This compartment contains the pump operator's panel and is protected by a roll-up door.			
6.7.2	**(Front of rear wheels) – L2** The compartment door opening shall be approximately 24" wide x 64" high x 28/14" deep.			

	SPECIFICATIONS	YES	NO	DETAILS
6.7.3	**(Above rear wheels) – L3** The compartment door opening shall be approximately 54" wide x 14" deep x 34" high.			
6.7.4	**(Above rear wheels) – L4** The compartment door opening shall be approximately 54" wide x 14" deep x 34" high.			
6.7.5	**(Rear of rear wheels) – L5** The compartment door opening shall be approximately 32" wide x 64" high x 28/14" deep.			
6.8	**RIGHT SIDE COMPARTMENTS**			
6.8.1	**(Front of rear wheels) – R1** The compartment door opening shall be approximately 65" wide x 42" high x 28/14" deep.			
6.8.2	**(Above rear wheels) – R2 – Pan door** The compartment door opening shall be approximately 108" wide x 14" deep x 16" high.			
6.8.3	**(Rear of rear wheels) – R3** The compartment door opening shall be approximately 22" wide x 42" high x 28/14" deep.			
6.9	**REAR OF THE BODY**			
6.9.1	The back of the vehicle shall be supplied with a stainless steel 10" dump valve, with left side manual actuator, stainless steel swivel chute model 6012 and stainless-steel telescopic chute model 4036, all manufactured by AH Stock Manufacturing Corp. The dump valve and the swiveling chute shall have a "NO STEP" label on the top.			
6.10	**REAR ACCESS**			
6.10.1	A minimum 44" wide, 10" deep recessed step shall be built into the body above the rear dump valve. It shall be made from aggressive grip aluminum.			

	SPECIFICATIONS	YES	NO	DETAILS
6.10.2	A tailboard step shall be provided at the rear of the body. The tailboard shall have 19" in depth. The tailboard step shall be formed from 1/8" aluminum tread plate shall be in accordance with current NFPA REQUIREMENTS and shall include a full-width grip-strut insert.			
6.10.3	All handrails on the rear face of the body shall be 1¼" diameter knurled extruded aluminum to provide a positive gripping surface. Chrome plated end stanchions shall support the handrails and plastic gaskets shall be used between end stanchions and any painted surfaces. Drain holes shall be provided in the bottom of all vertically mounted handrails. Handrails shall be provided to meet NFPA REQUIREMENTS. There shall be at least two (2) 42'' long vertical handrails and two (2) 30'' long horizontal handrails below the hose bed. The bidder shall add handrail if necessary, to climb on the hose bed.			
6.10.4	At least six (6) Innovative Controls bright finished and aggressive grip, folding steps shall be provided at the rear three (3) on each side to allow access to the hose bed. Each step shall incorporate two (2) LED light, chrome bezel, to illuminate the stepping surface, below and above the steps. The steps can be used as a hand hold with built-in openings wide enough for a gloved hand. The step light shall be activated when the parking brake is set, or when the vehicle marker lights are activated. The bidder shall add step if necessary, to climb on the hose bed.			
6.11	**LADDER, PORTABLE TANK, SUCTION STORAGE**			
6.11.1	A rack for mounting ground ladders, suction tubes and a portable tank shall be installed above the right side of the body in a specially designed swing-down cradle. This cradle shall be electric/hydraulic operated. The system design shall have been life cycle tested for at least 10 years of dependable service. The rack is designed to provide lifting capabilities up to 750lbs. The rack shall be made of extruded aluminum and has two hydraulic cylinders, one in a front and another at the rear. A grease point shall be installed on each cylinder pivot. This shall allow for easier access from ground level and shall allow the ladder to be stowed parallel to the body.			

	SPECIFICATIONS	YES	NO	DETAILS
	The system shall be equipped with 2 electric actuators, one on each arm. Everything interlocked as stipulated in the ULC-S515 standard. An independent hydraulic pump powered by a 12-volt electric motor shall operate the hydraulics. Operation of the hydraulic system for the ladder rack by an engine-powered pump shall be totally unacceptable. The hydraulic pump shall be powered by a high gauge wire adequately protected by a 200-amp fuse easily accessible.			
6.11.2	The system is built to be able to contain: - up to two suction tubes 6 "x10' - one compartment for up to a 3500 US-gallon portable tank - one up to 28-foot 2-section ladder - one up to 16-foot roof ladder. Ladders shall be secured to the brackets with two (2) ZICO locks retaining the roof ladder and the extension ladder. The fully enclosed compartment for the portable tank shall be made from 1/8'' aluminum. Two (2) covers, made from one-piece aluminum treadplate, shall open on the side. Each door shall have approximately 16" in height and 136" in length. The top cover shall open with 2 gas cylinders. A strap shall be installed in the compartment to secure the tank.			
6.11.3	The maximum height of the ladders from the ground in the lowered position shall be no more than 64.00". When extended the extremity of the rack shall protrude no more than 60" from the body.			
6.11.4	Three (3) red flashing LED lights shall be installed to indicate that the hydraulic rack is ajar. Two (2) lights shall be installed at each end of the rack and the third light in the vehicle cab. An audible alarm shall also be installed on that cab light. A FEDERAL SIGNAL 97-decibel alarm, model 210331will be installed outside the vehicle and shall operate only when the rack is in motion.			
6.11.5	Controls of the rack shall be placed at the rear of the vehicle. The switch shall be in a CAST PRODUCTS weatherproof aluminum box. An interlock shall be provided to prevent operation of the ladder rack unless the apparatus parking brake has been activated			
6.12	**ATTIC LADDER AND PIKE POLE STORAGE**			
6.12.1	A hatch compartment accessible from the rear of the apparatus shall be fabricated below the ladders when in the stowed position. The			

	SPECIFICATIONS	YES	NO	DETAILS
	diamond-plate hatch door of this compartment shall remain open using a gas shock and remain closed using a paddle latch.			
6.13	**SUCTION STORAGE**			
6.13.1	Brackets shall be mounted to the hydraulic ladder-rack for stowage of two (2) 6" x 10' hard suction hoses.			
6.13.2	A hatch compartment accessible from the rear of the apparatus shall be fabricated on the upper-right side of the apparatus for storage of two (2) 4" x 10' hard suction hoses. The chevroned hatch door of this compartment shall remain open using a gas shock and remain closed using a paddle latch.			
6.14	**PORTABLE TANK STORAGE**			
6.14.1	Portable tank storage is mounted to the hydraulic rack system.			

	SPECIFICATIONS	YES	NO	DETAILS
7.1	**ELECTRICAL SYSTEM**			
7.1.1	The electrical system shall meet NFPA 1901 REQUIREMENTS. The electrical system shall also include the following: a) The wiring in the body shall be securely fastened with stainless steel bolts attached to all each 8"-10"; b) Electrical terminals in weather exposed areas shall have a non-conductive grease or spray applied; c) Self adhesive device shall be not acceptable; d) Every electrical wiring shall be covered by a plastic split sleeve; e) Any electrical component that is installed in an exposed area shall be mounted in a manner that shall not allow moisture to accumulate in it; f) Heat shrink material and sealed connectors shall be used to protect exposed connections; g) 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; h) All lights that have their sockets in a weather exposed area shall have corrosion preventative compound added to the socket terminal area.			
7.1.2	The wiring of the body shall be colour coded and number coded.			
7.1.3	Where applicable, the wiring and permanently connected devices and equipment shall be subject to a dielectric voltage withstand test of 900 volts for one minute. The testing shall be performed after all body work has been completed. The electric polarity of all permanently wired equipment, cord reels, and receptacles shall be tested to verify that wiring connections have been properly made.			
7.1.4	Every circuits added to the chassis shall be protected by internal electronic circuit breakers with transistor outputs. The system shall operate in accordance with the J1939 communication protocol. The system shall have at least two (2) nodes. Each node shall have at least 8 inputs and 16 outputs, each node shall be protected by an individual breaker GROTE model 54-852PL. They shall be located to optimize the wiring, one (1) in the body and one (1) in the cab. The vehicle shall have one (1) programming plug installed near the multiplex node in the cab.			

	SPECIFICATIONS	YES	NO	DETAILS
7.1.5	The switches in cab and pump panel shall have an identification meets NFPA. A single Emergency Master switch which controls all emergency warning lights including lightbars, cab warning lights, body warning lights and high beam flash if applicable.			
7.2	**WARNING AND EMERGENCY**			
7.2.1	Two (2) WHELEN C6 SERIES red light heads, clear lens, shall be provided and installed on the lower zone of the front grille. The lights shall include chrome flanges.			
7.2.2	Two (2) WHELEN M4 SERIES red light heads, red lens, shall be provided and installed, one (1) each side, on lower zone of the front corner of the apparatus. The lights shall include chrome flanges.			
7.2.3	Two (2) WHELEN C6 SERIES red light heads, red lens, shall be provided and installed in the rear light module, one (1) each side, on the lower zone.			
7.2.4	Four (4) WHELEN C6 SERIES red light heads, red lens, shall be provided and installed, Two (2) each side at the rear in the wheel well, lower zone of the apparatus. The lights shall include chrome flanges.			
7.2.5	There shall be one (1) 56.00" Whelen, Model Justice JE2NFPA, LED lightbar mounted on the cab roof. The lens colour shall be clear.			
7.2.6	Two (2) LED beacon Whelen RotoBeam R316 shall be supplied and installed on upper of the rear body.			
7.2.7	The headlights shall alternate on high beam position when the headlight flasher switch is activated.			
7.2.8	A Whelen 295S electronic siren shall be installed in the cab, on the center ceiling console. A push button shall be installed in the dash, on the officer side.			
7.2.9	The siren shall feature 100-watt output, with one (1) 100w speaker.			
7.2.10	An amber directional traffic advisor, six (6) LED light head Whelen model #TAL65 shall be provided and recessed at the rear of the body. The control shall be located in the cab.			
7.3	**LIGHTING**			
7.3.1	LED, GROTE model 47962 / 47963 clearance/marker lights.			

	SPECIFICATIONS	YES	NO	DETAILS
7.3.2	The center top rear marker lights shall be a GROTE model 253-4400-1 for marker light AND for brake light signal.			
7.3.3	Turn signal-lights, break-lights and backup lights shall be same series as the emergency lights, and shall be LED lights. There shall be a total of two (2) brake lights, two (2) back-up lights and two (2) turn-signal lights. It shall be mounted on a 4 space lights bezel with the emergency lights. The rear part of the lights, visible from the compartment shall be entirely covered with a protective aluminum cover which shall protect the rear part of the light and the electrical wiring.			
7.3.4	Two (2) amber, GROTE #47963 LED auxiliary turn lights one each side front of body shall be installed recessed in the rub rail.			
7.3.5	One (1) white LED GROTE #60681 licence plate light mounted at the rear of the body. The plate shall be mounted with four (4) stainless steel bolts.			
7.4	**AUXILIARY LIGHTS**			
7.4.1	Two (2) LED lights AMDOR LUMABAR compartment light strips shall be mounted in each body compartment. Length of each light is the same as the door opening height less 5".			
7.4.2	Two (2) LED lights AMDOR LUMABAR compartment light strips shall be mounted on the sides of the pump compartment. Length of each light is the same as the opening height. These lights shall automatically turn on when the pump is engaged or when the "pump light" switch is on and when the park brake is set.			
7.4.3	One (1) Amdor AY9220-032 LED light shall be installed in the pumphouse and it shall be controlled by the "pump light" switch on the pump panel.			
7.4.4	All perimeter lights, LED, under cab and body shall be Truck Lite brand, as follows: • Two (2) under cab and crew cab steps • One (1) under pump compartment • Two (2) under rear bumper The ground lighting shall be activated by the opening of a cab door, or when the parking brake is set and when the marker lights are turned on, or when the transmission is on reverse.			

	SPECIFICATIONS	YES	NO	DETAILS
7.4.5	One (1) LED light JETCO # 300-600F-8 shall be used for hose bed light. It shall be installed in the front of the body. The hose bed light shall turn on when the parking brake is set and when the hose bed switch is turned on.			
7.4.6	Two (2) LED light JETCO # 300-3161F-8 installed at the rear, upper body, close to the beacon warning lights. The rear light lights shall turn on when the parking brake is set and the rear lights switch is turned on or when the transmission is on reverse and the emergency lights are turned on. The rear lights switch shall be waterproof and installed in a sealed aluminum box CAST PRODUCTS on the left rear side.			
7.4.7	One (1) front brow scene light CrestLight™ LED Scene Light model CLA100-A49 with brow mounting bracket shall be provided. The lamp head shall be supplied with a brow mount that attaches to the on the cab roof. The lamp head shall have ultra-bright white LEDs to provide a low beam/ narrow flood/low beam light pattern.			
7.4.8	Two (2) FRC telescopic lights model Evolution II #FCA530V20, 20,000 lumens shall be installed on the front of the body, one each side. The switches shall be located near the base of each light.			
7.4.9	Two (2) FRC model SPA900-Q70 LED scene lights shall be installed on the rear face of the vehicle. The control of these lights shall be as follows: - They shall turn off when the parking brake is not set; - Turn on when the transmission is on reverse and the E-Master is turned on; - Turn on with a waterproof switch, located on the rear left side of the body, when the parking brake is set. The rear lights switch shall be waterproof and installed in a sealed aluminum box CAST PRODUCTS on the left rear side.			

	SPECIFICATIONS	YES	NO	DETAILS
8.1	**BODY FINISH DETAILS**			
8.1.1	All nuts and rivets installed on the apparatus shall be stainless steel unless a superior strength is required.			
8.1.2	Where dissimilar metals are to be mounted together, the mounting base material shall have an isolation barrier prior to assembly to prevent dissimilar metal reaction.			
8.1.3	All Caution, Warning, Danger and other safety related signs shall meet the REQUIREMENTS of the FAMA Standard Product Safety Signs for Automotive Fire Apparatus issued October 2015 or more recent.			
8.1.4	A Corrosion Control Systems 2020A Waterborne rust preventive barrier shall be sprayed under the entire body and body substructure, before their installation on the chassis so that no area shall be left unprotected.			
8.1.5	The steel sub-frame structure shall be painted black.			
8.2	**BODY PAINT**			
8.2.1	The painting shall be conducted in accordance with best practices followed in the heavy equipment industry to ensure the best protection against corrosion and abrasion.			
8.2.2	Paint and primer used shall be of good quality and type « base Coat/Clear Coat ». The painting process shall be in accordance with the paint manufacturer.			
8.2.3	All removable parts such as brackets, lights, doors, and steps shall be removed before painting the body and shall be painted separately if required.			
8.2.4	The cab shall be painted two (2) colors (black and red) with a straight break line break line just below the cab window and on the side of the hood. Colors shall be determined by the customer at the appropriate time. Samples shall be provided for approval.			
8.2.5	The exterior of the pump house shall be painted RED to match the body.			
8.2.6	The interior of the compartments shall have a smooth brushed finish and shall be whitened with acid.			
8.2.7	All shelves and trays shall have a smooth brushed finish on the exterior facing surface.			

	SPECIFICATIONS	YES	NO	DETAILS
8.3	**LETTERING, STRIPING**			
8.3.1	A reflective stripe, straight 4” wide, shall be installed according to the ULC standard: At least 50 % of the total length of the vehicle (body and cab) each side. At least 25 % of the width of the front of the vehicle.			
8.3.2	At minimum, 50 % of the rear body visible surface shall be covered by chevron stripes according to NFPA. The stripes shall be red and yellow, 3M-983 brand, (models 72 and 71). The front bumper shall be covered by chevron, matching the pattern and colour of the rear chevrons. Reflective strips shall be 3M brand. The rear rollup door shall be covered by chevron, matching the pattern and colour of the rear chevrons. The reflective strips should be 3M brand with heat sealed edges to prevent water infiltration.			
8.3.3	A 3’’ wide chevron type stripe shall be installed on each cab door. The covering surface shall be at minimum 200 square inches.			
8.3.4	The bidder shall provide 2 logos, about 14" height and install them in a location determined by the customer. (Fire department must provide the electronic logo files in EPS or AI format)			
8.3.5	The lettering shall be provided by the bidder and must be approved by the customer. Sixty (60) printed letters and numbers on colour reflective vinyl (Avery brand, A7-reflective model), about 4" height shall be provided.			

	SPECIFICATIONS	YES	NO	DETAILS
9.1	**LOOSE EQUIPEMENT TO BE SUPPLIED BY BIDDER**			
9.1.1	Two (2) folding wheels chocks ZICO, 44" diameter tires with brackets shall be installed under L2 compartment.			
9.1.2	One (1) NH chrome cap for pump inlet.			
9.1.3	One (1) 2.50 lb D.O.T approved fire extinguisher with BC rating.			
9.1.4	One (1) emergency safety triangle kit.			
9.1.5	Three (3) road flares.			
9.1.6	One (1) 10-foot Duo-Safety folding attic ladder			
9.1.7	One (1) 14-foot Duo-Safety roof ladder			
9.1.8	One (1) 24-foot Duo-Safety 2-section ladder			
9.1.9	Two (2) 6” x 10’ Kocheck hard suction hoses with long handles			
9.1.11	One (1) 6’’ barrel strainer, with NH threads shall be provided. The strainer shall be painted.			
9.1.12	One (1) 3500 US-gallon Husky aluminum-framed folding portable tank. (Vinyl colours to be confirmed at pre-construction meeting)			

	SPECIFICATIONS	YES	NO	DETAILS
10.1	**WARRANTY**			
10.1.1	The warranty is effective upon delivery of the vehicle.			
10.1.2	One (1) Year, limited warranty, Material and Workmanship.			
10.1.3	The chassis manufacturer basic vehicle standard limited warranty shall be provided.			
10.1.4	A five (5) year/160,000 km limited engine warranty shall be provided.			
10.1.5	A five (5) year/unlimited km parts and labor warranty shall be provided for transmission.			
10.1.6	Ten (10) year pump stainless steel pluming components limited warranty. This warranty shall cover all components of the pump except the valves against defects in materials and workmanship. Excluded from this warranty are the breakage caused by freezing.			
10.1.7	A Darley, 6-year limited warranty covering parts and labor for the first three (3) years and only parts (no labor) for the remaining three (3) years of the warranty. This warranty shall cover all components of the pump except the valves against defects in materials and workmanship. Excluded from this warranty are the breakages caused by freezing.			
10.1.8	The water/foam tank parts and labor warranty shall be provided for life (25 years) against any manufacturing defects.			
10.1.9	One (1) year pro-rated limited warranty on the cab paint. This warranty shall cover the paint and perforations due to corrosion, delaminating and cracking under normal use of the vehicle.			
10.1.10	Ten (10) year limited warranty on structural integrity of the body. This warranty shall cover all the structural components of the body and cabin against defects in materials and workmanship. Excluded from this warranty is hardware, mechanical and electrical items or paint finish.			
10.1.11	Ten (10) year pro-rated limited warranty on the body. This warranty shall cover the paint and perforations due to corrosion, delaminating and cracking under normal use of the vehicle.			

*****ALL SPECIFICATION PAGES FOR THE COMMERICAL PUMPER TANKER MUST BE SUBMITTED WITH THE TENDER DOCUMENTS*****