

**ROANE COUNTY PURCHASING  
200 EAST RACE STREET, SUITE #3  
KINGSTON, TENNESSEE 37763  
PHONE 865-376-4317 ▪ FAX 865-376-4318**

**ADVERTISEMENT FOR BIDS**

Roane County is hereby soliciting sealed bids for the following items:

Project #59617: Rescue Truck & Mini-Pumper & Subsequent Equipment  
Under the Community Development Block Grant Program

Bids Received By: Lynn Farnham, Purchasing Agent  
Roane County Courthouse  
200 East Race Street, Suite #3  
Kingston, Tennessee 37763

Bids Received Until: 2:00 p.m. (EDT) on Tuesday, April 3, 2018

Specifications: May be obtained in the Roane County Purchasing Department or electronically by contacting the Purchasing Department at 865-376-4317 or going to the County's website [www.roanecountytn.gov](http://www.roanecountytn.gov).

This project is funded under a grant contract with the State of Tennessee. Separate sealed bids will be accepted until April 3, 2018 at which time they will be opened and read aloud. All bids must be inclusive of all delivery and handling charges. Roane County reserves the right to reject any and all bids. Bid quotes must be effective for 90 days after bid opening date. Further, the county reserves the right to contact the successful bidder for one full calendar year from award date to determine if successful bidder is willing to provide the same materials or services at the original bid price. All bidders submitting bids are required to present **ALL** the required vendor information, defined in the project specifications, as accompanying information to their bid submittal, regardless if these documents have been submitted in previous solicitations, in order for their bid submitted to be considered a valid bid. For specifications and more information contact, Lynn Farnham at (865) 376-4317 or Nichole Britt at (865) 273-6003.

All bid envelopes must be noted on outside of envelope as bid for 2017 CDBG, Roane County Fire Protection Services Project.

## INVITATION TO BID

Roane County is inviting sealed bids for the good(s) and/or service(s) listed below, subject to the terms and conditions of the Invitation to Bid (ITB), the accompanying specifications, and the Roane County Purchasing Manual.

At the appointed time bids will be publicly opened in the office of the Roane County Purchasing Agent at the address below. Bids arriving in the Purchasing Department past the appointed date and time will be considered late and will not be opened.

**Deliver Bids To:**

ROANE COUNTY PURCHASING DEPARTMENT  
200 EAST RACE STREET, SUITE #3  
KINGSTON, TENNESSEE 37763

**Bid Number: 2018-18-171**  
**RESCUE TRUCK & MINI-PUMPER & SUBSEQUENT EQUIPMENT**  
**2017 CDBG ROANE COUNTY FIRE PROTECTION SERVICES PROJECT #59617**

**Open Date & Time: APRIL 26, 2018 at 2:00 p.m. (Eastern Time Zone)**

The Bid Envelope must show the Bid Number, Name & Opening Date.

### **PURCHASING CONTACT INFORMATION**

**Lynn Farnham, CPPO, CPPB**  
**Purchasing Agent**  
**Phone: 865-376-4317**  
**Fax: 865-376-4318**  
**Email: [lynn.farnham@roanecountytn.gov](mailto:lynn.farnham@roanecountytn.gov)**

### **GENERAL TERMS & CONDITIONS**

1. Attached are instructions and conditions for submitting a bid for Roane County Government. The objective of this bid is to select suppliers in such a manner as to provide for open and free competition and comparability.

## TERMS AND CONDITIONS

1	<b>BID FORMS.</b> All bids shall be submitted on and in accordance with this form. If more space is required to furnish a description of the services offered or delivery terms, the bidder may attach a letter hereto that will be made a part of the bid. All bids shall be submitted sealed, plainly marked with the bid name, date, and time. Prices or changes shown on the outside of the envelope will not be acceptable.
2	<b>BIDS RECEIVED ON TIME.</b> Bids and amendments thereto, if received by the Roane County Purchasing Office, after the date and time specified for bid opening, will not be considered. It will be the responsibility of the bidder to see that their bid is received by the Roane County Purchasing Office by the specified time and date. There will be no exceptions. Date of postmark will not be considered. Telephone, facsimile, electronic, and verbal bids will not be accepted. Any proposal received after the opening date and time will remain unopened and on file. Roane County Purchasing will not be responsible for proposals received late because of delays by a third-party delivery service, i.e., U.S. Mail, UPS, Federal Express, etc. Date of postmark will not be considered.
3	<b>FINAL COST.</b> Prices shall be stated in units of quantity specified. No additional charges shall be passed to Roane County, including applicable taxes, delivery or fuel surcharges. Prices quoted shall be final cost to Roane County.
4	<b>TAX EXEMPT.</b> Roane County Government is a tax-exempt agency. Successful vendor will be provided with an executed copy of tax-exempt form.
5	<b>TIME OF DELIVERY.</b> The time of proposed delivery must be stated in definite terms. If the time of delivery for different services varies, the bidder shall so state.
6	<b>UNIT PRICE.</b> In case of error in the extension of prices, the unit price shall govern.
7	<b>ANTI-COLLUSION.</b> The bidder certifies by signing this document that bid is made without prior understanding, agreement, or accord with any other person submitting a bid for the same service and that this bid is in all respects bona fide, fair, and not the result of any act of fraud or collusion with another person engaged in the same line of business or commerce. Any false statement hereunder constitutes a felony and can result in a fine and imprisonment, as well as civil damages.
8	<b>FACTORS IN AWARD.</b> Award will be made to the lowest responsive and responsible bidder. The quality of the services to be supplied, their conformity with the specifications, their suitability to the requirements, the delivery terms, qualifications, and references will be taken into consideration in making an award. Length of time for delivery, as well as price, may be considered in awarding the bid.
9	<b>AWARD IN WHOLE OR IN PART.</b> Roane County reserves the right to award by item, groups of items, or total bid; to reject any and all bids in whole or in part, and to waive any informality if it is determined to be in the best interest of Roane County.
10	<b>OPEN RECORDS ACT.</b> Once a bid document submitted to Roane County Purchasing Department is opened, it constitutes a public record and is subject to open records requests pursuant to the Tennessee Open Records Act.
11	<b>PAYMENT TERMS.</b> Payment terms shall be considered in determining the low bidder. The payment terms stated herein must appear on the vendor's invoice. Failure to comply with this requirement shall result in the invoice being returned to the vendor for correction. Roane County Accounts Payable pays from original invoices. Payments are made within 30 days of the date of the invoice being received in the Roane County Accounting Department.
12	<b>RECEIPT DOES NOT CONSTITUTE AWARD.</b> Receipt of your bid by Roane County Purchasing is not to be construed as an award for services.
13	<b>CONTRACTOR DEFAULT.</b> In the event of default by the contractor, Roane County reserves the right to procure the services from other sources and hold the contractor liable for any excess cost occasioned thereby.

14	<b>AVAILABILITY OF FUNDS.</b> Obligations on those contracts that envision extended funding through successive fiscal periods shall be contingent upon actual appropriations for the following years.
15	<b>KNOWLEDGE OF LAWS AND REGULATIONS.</b> The contractor shall keep himself fully informed of all Federal, State, and Local laws, ordinances, and regulations that in any manner affect the conduct of the work. The contractor shall at all times observe and comply with all such laws, ordinances and regulations and shall protect and indemnify Roane County and its representatives against any claim or liability arising from or based on any violation of the same, whether by the contractor, his subcontractors, suppliers of materials of services, or others engaged by the contractor or the employees of any of them.
16	<b>BID ERRORS.</b> All prices and notations should be in ink or typewritten. Mistakes may be crossed out and corrections made in ink and must be initialed and dated in ink by the person signing the bid.
17	<b>AUTHORIZED SIGNATURE.</b> All bids must be signed by an authorized, responsible officer or employee having the authority to enter into contracts. Obligations assumed by such signature must be fulfilled.
18	<b>NO SUBMISSION.</b> If you do not quote, advise Roane County of your intent and state the reason. Otherwise, your name may be removed from our vendor list.
19	<b>NON-DISCRIMINATION.</b> During the performance of this contract, the contractor agrees as follows: He/she will not discriminate against any employees or applicants for employment because of race, religion, color, sex, national origin, age, disability, or any other basis prohibited by state law relating to discrimination in employment, except where one or more of these are bona fide occupational qualifications reasonably necessary to the normal operations of the contractor. The contractor agrees to post in conspicuous places available to employees and applicants for employment, notices setting forth the provisions of this non-discrimination clause. During the performance of this contract, the contractor agrees to provide a drug-free workplace.
20	<b>DIRECT CONTACT PROHIBITED.</b> Direct contact with Roane County departments, other than the Purchasing Department as it relates to purchasing on the subject of this bid, is expressly forbidden except with the foreknowledge and permission of the bid contact or their representative.
21	<b>RIGHT TO WITHDRAW.</b> Bidders have the right to request withdrawal of their bids from consideration due to error by giving notice at any time <u>before</u> and not later than two (2) days <u>after</u> bids are publicly opened.
22	<b>CLOSED FOR BUSINESS.</b> If the Roane County Courthouse is closed for business at the time scheduled for bid opening, for whatever reason, sealed bids will be accepted and opened on the next business day of the County, at the originally scheduled hour.
23	<b>ORIGINAL BID DOCUMENT.</b> The original bid document maintained by the Roane County Purchasing Department shall be considered the only official document.
24	<b>BID APPROVAL BY LEGISLATIVE BODY.</b> The County Legislative Body has approved the purchase of the equipment being bid by appropriating the funds necessary to purchase the equipment. After the bids are opened, the evaluation team will review the specifications and make their recommendation to the Purchasing Agent.
25	<b>REFERENCE TO BRAND NAMES.</b> Any reference to brand names, trade names, model numbers, catalog numbers or other descriptions peculiar to any item is made to establish a required level of quality and functional capabilities and is for reference only; it is not intended to exclude other products of that level. Please include with bid any specifications, brochures, catalogs, etc., or other data as will provide adequate basis of determining the quality and functional capabilities of the product offered.
26	<b>VENDOR POOR PERFORMANCE.</b> Roane County may cancel the contract with the vendor at any time for vendor poor performance. Cancellation shall not release the vendor from legal remedies available to Roane County.
27	<b>PURCHASE ORDERS.</b> Roane County Government utilizes purchase orders for ordering goods and/or services. An order may not be fulfilled without a purchase order number from Roane County Purchasing.

28	<b>FIRM PRICING.</b> Prices shall remain firm for the initial contract period. Roane County reserves the right to negotiate reductions in the price due to changes in market conditions during the contract period and renewals.
29	<b>MAINTENANCE AGREEMENT.</b> If applicable to the bid, vendor shall submit on the appropriate form the pricing for an annual maintenance agreement.
30	<b>QUESTIONS.</b> All questions shall be directed to the bid contact listed on the first page of this document unless otherwise stated. All communication shall be received by email to Purchasing Agent, <a href="mailto:lynn.farnham@roanecountytn.gov">lynn.farnham@roanecountytn.gov</a> unless an alternative method is provided in this document.
31	<b>VENDOR TASKS.</b> If awarded, the vendor will be required to provide Roane County with the goods and/or services as awarded by the Roane County Purchasing Agent. Any additional vendor tasks will be noted in the bid document.
32	<b>CONTRACT TERM.</b> The contract term for this bid shall span through the complete installation, testing, and training of the equipment. Maintenance agreements shall have their own contract terms.
33	<b>INTENT TO PURCHASE.</b> Roane County Government intends to purchase one (1) new rescue truck and one (1) new mini-pumper and miscellaneous equipment, including testing, and training.
34	<p><b>REQUIREMENTS FOR SEALED BID SUBMISSION.</b></p> <ol style="list-style-type: none"> <li>COMPLETE, UNBOUND, <u>ORIGINAL</u> Invitation to Bid packet. <b>Pages marked with “Bidder Initial” MUST be completed by authorized representative and are considered a part of the Invitation to Bid packet.</b></li> <li>All bids must be received in a SEALED envelope clearly marked with the bid name, date, and time <b>ON THE OUTSIDE OF THE SEALED ENVELOPE.</b></li> <li>Copy of Vendor’s IRS W-9 Form</li> <li>All certificates included in this bid packet.</li> </ol>
35	<p><b><u>RESTRICTIVE OR AMBIGUOUS SPECIFICATIONS</u></b></p> <ol style="list-style-type: none"> <li>It is the responsibility of the bidder to review the entire Invitation to Bid document and to notify the Purchasing Agent if the Invitation to Bid is formulated in a manner that would unnecessarily restrict competition or if it is ambiguous in what is being requested.</li> <li>Pursuant to TCA §12-4-126, questions regarding the specifications or bid procedures must be received by the Purchasing Agent and/or designer no less than ninety-six (96) hours before the bid opening date. No addenda will be issued within less than forty-eight (48) hours of the bid opening day, excluding weekends and legal holidays designated in §15-1-101 unless the bid opening is extended for a reasonable time as determined by the purchasing agent, which shall not be less than forty-eight (48) hours excluding weekends and legal holidays designated in §15-1-101, to allow for any necessary changes to the Invitation to Bid documents and to allow responders to resubmit their responses accordingly.</li> <li>Any questions concerning this Invitation to Bid are to be faxed to the Purchasing Department. Questions will be answered via addenda. Information obtained from any office other than the Purchasing Office is not to be considered binding.</li> </ol>
36	<p><b><u>PROTEST PROCEDURE</u></b></p> <ol style="list-style-type: none"> <li>If a prospective vendor does not agree with the bid award, they have the right to protest. Disputes arising from the award of this bid must be submitted in writing to the Roane County Purchasing Department no later than seven (7) days from date of bid award. The steps for dispute resolution may include: <ul style="list-style-type: none"> <li>A meeting with the Purchasing Agent, the requisitioning department’s manager and representatives from the disputing party to discuss and resolve the complaint.</li> <li>Information from the aforementioned meeting will be forwarded to the County Attorney for review.</li> <li>A written decision letter stating the reasons for the decision will be prepared by the Purchasing Agent and submitted in writing to the protestor and all parties involved.</li> <li>Purchases will not be allowed under this procurement until a final decision is rendered.</li> <li>In the event that purchases must be made before a final decision is rendered, the emergency purchase procedures will be used.</li> </ul> </li> </ol>

37	<p><b><u>GOVERNING LAW</u></b></p> <p>1. This contract shall be governed by the laws of the State of Tennessee, and all obligations of the parties are performable in Roane County, Tennessee. The Courts in Roane County shall have exclusive and concurrent jurisdiction of any disputes which arise hereunder.</p>
38	<p><b><u>INDEMNIFICATION/HOLD HARMLESS</u></b></p> <p>1. Contractor shall indemnify, defend, save and hold harmless all departments of Roane County Government and/or the Roane County Board of Education, its officers, agents and employees from all suits, claims, actions or damages of any nature brought because of, arising out of, or due to breach of the agreement by Contractor, its subcontractors, supplier, agents or employees or due to any negligent act or occurrence or any omission or commission of the contractor, its subcontractors, suppliers, agents or employees until the contract terminates.</p>

**BID TIMELINE**

Bid Release	April 3, 2018
Bid Opening	April 26, 2018 – 2:00 p.m.
Evaluation Team Review	April 26 2018 – May 1, 2018
Purchasing Agent Award	May 3, 2018
Anticipated Notice of Award	May 3, 2018

**Bid Number: 2018-18-171**  
**RESCUE TRUCK & MINI-PUMPER & SUBSEQUENT EQUIPMENT**  
**2017 CDBG ROANE COUNTY FIRE PROTECTION SERVICES PROJECT #59617**

**VENDOR INFORMATION SHEET**  
(Please fill out completely)

By completing and signing this form you certify that you are an authorized representative of the company for which you are submitting a bid/proposal and that you have the authority to legally bind your company. Further, by completing and signing this form you certify that you agree to all the terms and conditions of this bid/proposal.

1. Vendor Name \_\_\_\_\_

2. Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip Code \_\_\_\_\_

3. Contact Person (Please Print) \_\_\_\_\_

4. Telephone Number \_\_\_\_\_ Fax Number \_\_\_\_\_

5. Vendor's e-mail address \_\_\_\_\_

6. Authorizing Signature \_\_\_\_\_

7. Title of Person Signing Bid \_\_\_\_\_

8. If addenda were issued, please acknowledge the receipt of: (please write "yes" if you received one)  
Addendum 1 \_\_\_\_\_ Addendum 2 \_\_\_\_\_ Addendum 3 \_\_\_\_\_ Addendum 4 \_\_\_\_\_

9. If applicable, please indicate below if discounts will be allowed for prompt payment or if there is not discount offered:

\_\_\_\_\_ % Net 10 Days; \_\_\_\_\_ % Net 20 Days; \_\_\_\_\_ % Net 30 Days; \_\_\_\_\_ No Discount

**COOPERATIVE PURCHASING** - Vendors are to indicate if it is permissible for other governmental agencies in the State of Tennessee to purchase these items or services at the same price. Freight charges may be adjusted to reflect differences in delivery costs to other locations. Please indicate the approval of Cooperative Purchasing.

\_\_\_\_\_ Yes \_\_\_\_\_ No

**Bid Number: 2018-18-171**  
**RESCUE TRUCK & MINI-PUMPER & SUBSEQUENT EQUIPMENT**  
**2017 CDBG ROANE COUNTY FIRE PROTECTION SERVICES PROJECT #59617**

**NON –COLLUSION, INDEPENDENT PRICE DETERMINATION,  
NON-DISCRIMINATION, NON-DEBARMENT & LOBBYING AFFIDAVIT**

I do hereby certify that this bid is made without prior understanding, agreement, or connection with any corporation, firm, or person submitting a bid for the same materials, supplies, or equipment, and is in all respects fair and without collusion or fraud.

I understand that collusive pricing is a violation of State and Federal law and can result in fines, prison sentences, and civil damage awards and that no collusion with another firm was used in preparation of this bid.

I also certify that this firm does not discriminate against any employee or applicant for employment on the grounds of race, color, national origin or sex; and does not and will not maintain or provide for his employees any segregated facilities at any of its establishments, and further, that the firm does not and will not permit their employees to perform their services at any location under this contract where segregated facilities are maintained.

By submission of this bid, the bidder certifies that neither it or its principals is presently debarred, suspended, proposed for debarment, declared ineligible or voluntarily excluded from participation in this transaction by any Federal or State department or agency.

I further certify that during the Invitation to Bid solicitation and/or during the performance of this contract that neither it nor its principals will participate in lobbying activities in conjunction with this project.

I agree to abide by all terms and conditions of this Invitation to Bid and certify that I am authorized to sign this affidavit for the vendor.

Please indicate which of the following apply to your company. This information is requested for information purposes only. Roane County currently has no policy that allows for set asides or preferences for woman owned or minority owned businesses.

\_\_\_\_\_ African American Owned  
\_\_\_\_\_ Caucasian Owned  
\_\_\_\_\_ Native American Owned  
\_\_\_\_\_ Other Owned

\_\_\_\_\_ Asian Owned  
\_\_\_\_\_ Hispanic Owned  
\_\_\_\_\_ Woman Owned

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Title



**Bid Number: 2018-18-171**  
**RESCUE TRUCK & MINI-PUMPER & SUBSEQUENT EQUIPMENT**  
**2017 CDBG ROANE COUNTY FIRE PROTECTION SERVICES PROJECT #59617**

**IRAN DIVESTMENT ACT COMPLIANCE**

The Iran Divestment Act of 2016, effective on July 1, 2016, is codified in Tennessee Code Annotated §12-12-101 *et seq.* The Iran Divestment Act, with certain exceptions, prohibits local governments from entering into contracts with persons or entities engaged in investment activities in the energy sector of Iran. Pursuant to the terms set forth in Tennessee Code Annotated §12-12-105, a person engages in investment activities in the energy sector of Iran if:

- 1) The person provides goods or services of twenty million dollars (\$20,000,000) or more in the energy sector of Iran, including a person that provides oil or liquified natural gas tankers, or products used to construct or maintain pipelines used to transport oil or liquified natural gas, for the energy sector of Iran; or
- 2) The person is a financial institution that extends twenty million dollars (\$20,000,000) or more in credit to another person, for forty-five (45) days or more, if that person will use the credit to provide goods or services in the energy sector in Iran and is identified on a list, created pursuant to §12-12-106, as a person engaging in investment activities in Iran as described in this section.

This Act requires the State of Tennessee’s chief procurement officer to publish on the State’s website a list of persons it determines engaged in investments activities in Iran (the “Prohibited Entities List”).

Any BIDDER that is on the Prohibited Entities List will be ineligible to contract with the COUNTY.

Pursuant to the Act, any BIDDER that attempts to contract with the COUNTY must certify, at the time the bid is submitted, that the BIDDER is not identified on the Prohibited Entities List. A bid shall not be considered for award, nor shall any award be made where the BIDDER fails to submit a signed and verified compliance certification form.

**CERTIFICATION OF COMPLIANCE**  
**IRAN DIVESTMENT ACT**

The undersigned states that he/she has legal authority to swear this on behalf of \_\_\_\_\_

(Vendor); and that the Vendor is not in any manner in violation of *Tennessee Code Annotated §12-12-101 to §12-12-106.*

By submission of this bid, each bidder and each person signing on behalf of any bidder certifies, and in the case of a joint bid each party thereto certifies as to its own organization, under penalty of perjury that to the best of its knowledge and belief that each bidder is not on the list created pursuant to the Iran Divestment Act, Tennessee Code Annotated §12-12-106.

By: \_\_\_\_\_

Title: \_\_\_\_\_

Sworn to and subscribed before me, a Notary Public, this \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_.

Notary \_\_\_\_\_ My Commission Expires \_\_\_\_\_

**Bid Number: 2018-18-171**  
**RESCUE TRUCK & MINI-PUMPER & SUBSEQUENT EQUIPMENT**  
**2017 CDBG ROANE COUNTY FIRE PROTECTION SERVICES PROJECT #59617**

**BUSINESS TAX & LICENSE AFFIDAVIT**

**Please sign the affidavit below stating that your company does have a Business License and that your Business Taxes are current. Companies located outside the State of Tennessee are required to have a Business License in Tennessee.**

The undersigned states that he/she has legal authority to swear this on behalf of \_\_\_\_\_ (Vendor); and that Vendor is not in any manner in violation of *Tennessee Code Annotated, §5-14-108(l)* which provides that “no purchase shall be made or purchase order or contract of purchase issued for tangible personal property or services by county officials or employees, acting in their official capacity, from any firm or individual whose business tax or license is delinquent”.

Affiant affirms and warrants that Contractor's licenses are currently valid and all business taxes have been paid and are current as of the date of this affidavit. Contractor is licensed and pays business taxes in \_\_\_\_\_ County, Tennessee.

**VENDOR**

By: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

Witness: \_\_\_\_\_

Date: \_\_\_\_\_

**Bid Number: 2018-18-171**  
**RESCUE TRUCK & MINI-PUMPER & SUBSEQUENT EQUIPMENT**  
**2017 CDBG ROANE COUNTY FIRE PROTECTION SERVICES PROJECT #59617**

**EXCEPTIONS**

*Bidder MUST sign the appropriate statement below, as applicable.*

---

Bidder understands and agrees to all terms, conditions, requirements and specifications stated herein.  
**NO EXCEPTIONS ARE TAKEN.**

FIRM NAME:	
AUTHORIZED REPRESENTATIVE: (printed)	
AUTHORIZED REPRESENTATIVE: (signature)	
DATE:	

Bidder TAKES EXCEPTION to the following terms, conditions, requirements and specifications stated herein.

FIRM NAME:	
AUTHORIZED REPRESENTATIVE: (printed)	
AUTHORIZED REPRESENTATIVE: (signature)	
DATE:	
EXCEPTIONS TO NOTE:	

Vendors should note that any exceptions taken from the stated terms and/or specifications may be cause for their submittal to be deemed "Non-Responsive", risking the rejection of their submittal.

**Bid Number: 2018-18-171**  
**RESCUE TRUCK & MINI-PUMPER & SUBSEQUENT EQUIPMENT**  
**2017 CDBG ROANE COUNTY FIRE PROTECTION SERVICES PROJECT #59617**

**BID FORM**

The Bidder, in compliance with the Invitation for Bid for the purchase of a Rescue Truck & Mini-Pumper & Subsequent Equipment, having examined the specifications with related documents. This price is to cover all expenses incurred in providing the equipment required under the bid documents.

The bid price must include delivery, installation, testing, and training (if required).

**RESCUE TRUCK**

Make/Model/Year of Chassis	
Warranty on Chassis	
Warranty on Workmanship	
Delivery After Receipt of Order	
Price for Rescue Truck as Specified	

**MINI-PUMPER**

Make/Model/Year of Chassis	
Warranty on Chassis	
Warranty on Workmanship	
Delivery After Receipt of Order	
Price for Mini-Pumper as Specified	

One (1) == Mini Rescue ==

Y\_\_N\_\_

One (1) 2018 RAM 5500 Chassis, 4x4 SD Crew Cab XL - Four Standard Side Doors  
**RAM 5500 CAB & CHASSIS (or approved equivalent)**

Y\_\_N\_\_

**2018 Chassis, Crew Cab**  
4x4 Crew Cab

**Powertrain**

Cummins (or approved equivalent) 6.7L 1-6 OHV diesel direct injection 24 valve intercooled turbo diesel engine \* 220 amp dual alternator \* 730 amp battery with run down protection \* Engine oil cooler, transmission oil cooler \* 6-speed electronic sequential shift control automatic transmission with overdrive, lock-up, driver selection \* Part-time four-wheel drive with manual transfer case shift, auto locking hubs \* Limited slip differential, ABS & driveline traction control, power take-off provision \* 4.88 axle ratio \* Stainless steel exhaust

**Steering and Suspension**

Hydraulic power-assist re-circulating ball steering \* 4-wheel disc brakes with front and rear vented discs \* HD ride suspension, with electronic stability \* Non-independent front suspension \* Front leading link suspension \* Front anti-roll bar \* HD front coil springs \* HD front shocks \* Rigid rear axle \* Rear leaf suspension \* HD rear anti-roll bar \* HD rear leaf springs \* HD rear shocks \* Front and rear 19.5" x 6.00" polished forged aluminum wheels with chrome hub covers \* 225/70R 19.5 BSW AS front tires \* AT rear tires

**Safety**

4-wheel anti-lock braking system \* Dual airbags, seat mounted driver and passenger side-impact airbags, airbag occupancy sensor \* Front height adjustable seatbelts with front pre-tensioners \* Sentry Key (or equivalent) immobilizer, panic alarm

**Comfort and Convenience**

Air conditioning, underseat ducts \* AM/FM/Satellite-prep, clock, seek-scan, external memory control, console mounted single remote CD, 6 speakers, fixed antenna \* Cruise control with steering wheel controls \* Power door locks with 2 stage unlock, keyfob (all doors) keyless entry, child safety rear door locks \* 2 12V DC power outlets, retained accessory power \* Analog instrumentation display includes tachometer, oil pressure gauge, engine temperature gauge, voltmeter gauge, oil temperature gauge, transmission fluid temp gauge, engine hour meter, systems monitor, redundant digital speedometer, trip computer, trip odometer \* Warning indicators include oil pressure, engine temperature, battery, low oil level, low coolant, lights on, key, low fuel, low washer fluid, lighting malfunction, door ajar, service interval, brake fluid, turn signal on, transmission fluid temp \* Steering wheel with tilt adjustment \* Power front and rear windows with light tint, driver and passenger 1-touch down \* Variable intermittent front windshield wipers \* Passenger side vanity mirror \* Day-night rearview mirror \* Interior lights include dome light with fade, illuminated entry \* Partial floor console with storage, glove box, front cupholder, instrument panel bin, dashboard storage, driver and passenger door bins, rear door bins \* Upfitter (or equivalent) switches

**Seating and Interior**

Seating capacity of 6 \* 40-20-40 split-bench front seat with adjustable head restraints, delete center seat \* 4-way adjustable driver seat \* 4-way adjustable passenger seat \* Full folding rear bench seat with fold-up cushion, 3 adjustable rear head restraints \* Vinyl faced front seats with vinyl back material \* Vinyl faced rear seats with carpet back

material \* Full cloth headliner, full vinyl/rubber floor covering, deluxe sound insulation, urethane gear shift knob

**Exterior Features**

1 skid plate, side impact beams, front license plate bracket, fully galvanized steel body material \* Black fender flares \* Black side window moldings, black front windshield molding \* Black door handles \* Chrome grille \* 4 doors \* Driver and passenger power remote black heated convex spotter folding manual extendable trailer outside mirrors with turn signal indicators \* Front chrome bumper with front tow hooks \* Aero-composite halogen fully automatic headlamps with multiple headlamps, delay-off feature \* Additional exterior lights include cab clearance lights, remote activated perimeter/approach lights \* Chrome tubular side steps \* Clearcoat monotone paint

**Warranty**

Basic ..... 36 month/36,000 miles  
Powertrain ..... 60 month/60,000 miles  
Corrosion Perforation ..... 60 month/unlimited mileage  
Roadside Assistance ..... 36 month/36,000 miles  
Diesel Engine ..... 60 month/100,000 miles

Front GAWR: 7,000 lbs  
Rear GAWR: 13,500 lbs  
GVWR: 19,500 lbs

One (1)

RAM (or approved equivalent) Standard Crew Seating

**Interior and Seating**

Seating capacity of 4

Y\_\_N\_\_

**Driver Position**

40-20-40 split-bench front seat with center seating position removed for the console.

**Crew Seating Positions**

Two (2) SCBA seats shall be installed in the rear crew seating area.

One (1)

Cab Console (Ford / RAM or approved equivalent)

The driver/officer 40-20-40 split-bench front seat center seating position is removed to allow the installation of the center console.

Y\_\_N\_\_

**CAB CONSOLE**

A heavy duty angled console shall be installed in the cab between the driver and officer seats. The console shall be finished in black powder coat for durability and low reflection. The console shall be designed with a versatile mounting rail system that accommodates commercially available panels for installation of items such as radio equipment. The design shall allow for a total of sixteen (16) inches of mounting space. This option requires the center seating position to be removed from the cab.

The console shall contain the following items as standard:

- Siren control head in a 3" Equipment Mounting Plate
- Pump Shift in a 4" custom laminate panel
- Three (3) Blank 3" Filler Plates

One (1)

Tire Pressure Monitoring Device - 2 Axles - LED Alert

**TIRE PRESSURE MONITORING DEVICE**

Y\_\_N\_\_

Each tire installed on the apparatus shall be equipped with a tire pressure monitoring device. The device shall consist of a valve stem cap to with an LED tire alert to indicate tire pressure conditions. The LED will flash when the tire drops 8 psi below the factory setting.

One (1)

Drivelines  
**DRIVELINES**

Y\_\_N\_\_

Universal joints and driveshafts shall be modified for midship pump installation. The driveshaft slip joints shall be coated to reduce sliding friction and thrust under high torque loads. Shafts shall be balanced to prevent vibration.

One (1)

Heavy Duty Front Bumper / Brush Guard / Winch Receiver  
**FRONT BUMPER/BRUSH GUARD/WINCH RECEIVER**

Y\_\_N\_\_

The front of the chassis shall be equipped with a Fab Fours (or equivalent), model number FS11-S2550- 1, heavy duty plate 'ranch' style bumper. The black painted assembly features a full replacement bumper with full grill guard and bolt on 2" receiver for portable winch operation.

One (1)

Electronic Siren  
**ELECTRONIC SIREN**

Y\_\_N\_\_

A Whelen (Or Equivalent) electronic siren control, model 295SLSA 1 full feature with 17 Scan-Lock siren tones including Radio Rebroadcast, Public Address, Manual, Wail, Yelp, Air Horn, Electronic Mechanical Siren tones and Piercer tones and hard wired microphone, shall be provided. Also included shall be the Whelen Howler System (Or Equivalent), Model # HWLUNI.

One (1)

Speaker, Siren - 100w  
**SIREN SPEAKER**

Y\_\_N\_\_

Mounted inside of the front bumper/brush guard there shall be a Whelen (Or Equivalent) Model # HWLUNI 100 watt siren speaker that shall work in conjunction with the Whelen Howler Siren (Or Equivalent).

One (1)

RAM (or equivalent) Single Color Paint  
**CAB PAINT**

Y\_\_N\_\_

The cab on the vehicle shall be painted by the factory at RAM (or approved equivalent).

One (1)

40 Amp - Battery Charger - ProMariner 1240 (Or Equivalent)  
**BATTERY CHARGER**

Y\_\_N\_\_

A PRO MARINER / ON BOARD SOLUTIONS, 1240, advanced electronic 4-step battery charger/power supply with a 40 amp output shall be installed, under the driver's seat.

Since shoreline power is not always stable the charger shall be equipped with Auto-Ranging AC Input to automatically accept global voltages of 90 VAC to 270 VAC at 45-440 Hz.

Field Selectable - Use with lead/acid or gel batteries (AGM factory option). Select length of absorption charge cycle based on size of batteries.

In the 4-step charging system the charger will provide the following sequence.

Step 1: Fast Charge - Charger will deliver its maximum amperage rating to the connected batteries for the fastest charge (current regulation mode) until battery voltage is raised to 14.6V (lead acid factory setting). At this time, the ProTech will shift to step 2.

Step 2: Absorption Charge - Maximizes charge and holds voltage (voltage regulation mode) at 14.6V (lead acid factory setting) for 1 to 4 hours (selectable based on battery size), while letting the batteries determine the amount of amps they can accept. This mode creates activity in the batteries, reducing sulfate buildup, and conditions the batteries for an extended life. After the programmed 1 to 4 hours have elapsed, the ProTech will shift to step 3.

Step 3: Float Mode - A precision 13.3V (lead acid factory setting) finishing voltage that maintains each battery (step-down voltage regulation mode), which is perfect for short or long storage periods and will never overcharge your batteries. ProTech will deliver its full rated output for house loads including: lighting, electronics and pumps.

Step 4: Recycle - If there are very large loads on the battery while the charger is on, the unit will recycle to the first step, ensuring that batteries stay fully charged.

One-Year Warranty - Includes lifetime repair guarantee.  
Certified to - UL Marine 1236/SA

One (1)

The charger shall be mounted on the ceiling of the L1 compartment.  
Kusssmaul (or equivalent) 20 AMP - 120v - Super Auto Eject  
**SHORELINE AUTO-EJECT**

Y\_\_N\_\_

A KUSSMAUL Super Auto Eject, model 091-55-20-120, (or equivalent) with a yellow weatherproof cover shall be provided.

The Super Auto Eject is to be completely sealed to prevent internal contamination of the working components.

The internal switch arrangement of the Super Auto Eject shall be designed to close and open the 120-volt AC circuit after the mating connector is inserted and before the connector is removed. This design shall prevent arcing at the connector contacts to provide long life.

The electrical connection shall be provided as a 120-volt AC - 20 amp type using a NEMA 5-20P connector.

The autoeject shall be mounted high on the front exterior wall of the L1 compartment.

One (1)

Body Design and Construction, Utility/Mini, Stainless Steel  
**PURCHASE INTENT**

Y\_\_N\_\_

The apparatus being purchased is expected to have an 18 to 20 year service life. Based on this requirement, the department is extremely concerned that the apparatus remains structurally sound and the outward appearance remains in a "like new" condition, with minimal maintenance and upkeep, throughout the intended service life.

Aluminum apparatus bodies and differing construction designs will be reviewed and considered ONLY if the builder / manufacture provides in the respondent specifications adequate proof that procedures and materials employed in the design prevent corrosion



over the intended service life. Burden of proof is on the bidder and final determination of acceptability will be solely determined by the department. The entire body design shall be of a laser machined, bolted design to allow for ease of removal for repair or replacement, without cutting welds.

#### **APPARATUS BODY DESIGN AND CONSTRUCTION**

The apparatus body shall be built of stainless steel and shall be designed exclusively for Fire Service use. The overall body width shall be 95 inches wide. All metal work shall be free of sharp edges, objects or corners. No exceptions are allowed to this requirement.

The body design shall be fully tested with proven engineering and test techniques such as finite element analysis, stress coating, and strain gauging. Engineering and test techniques shall have been performed with special attention given to fatigue life and structural integrity of compartments and body support system.

The apparatus body shall be designed with the use of parametric modeling engineering software to ensure proper design of panel cuts and alignment of holes in mating parts. The entire apparatus body shall be a precision laser machined, bolted construction, properly reinforced with integral flanges eliminating the need for additional structural shapes. Hose body fabrications shall be free of all internal projections which might injure personnel or fire hose.

#### **MODULAR BODY REQUIREMENTS**

The body shall be completely modular in design allowing transfer of body components to a new chassis in the event of an accident or wear. Body components shall be removable from chassis without cutting or bending. The modular design shall also facilitate ease of repair or replacement of major or minor body parts. The mounting of the apparatus body shall be separate and distinct from the water tank mounting and the pump module mounting.

All body panels are to be laser machined on a CAM controlled laser to ensure accuracy (+/- .010"). This shall greatly enhance assembly and matching of repair parts. The body compartment floors, rear walls and roof areas shall be constructed of 12-gauge stainless steel. The vertical front and rear walls are designed with 14-gauge stainless steel. These front and rear walls are designed as a structural beam with the inclusion of the design.

Interior stainless steel panels shall be #4B finish to eliminate the need for high maintenance painted surfaces in the compartments. All exterior stainless steel panels shall have #4B finish.

The entire body shall be fabricated using precision holding fixtures to ensure accurate dimensions. Body front and rear vertical flanges shall be triple broken, providing a mounting area for rear hand rails. Major body components shall consist of right and left body sides, and rear facing compartments.

#### **COMPARTMENT ROOF CONSTRUCTION**

Each compartment top shall have a bolt in 12-gauge stainless roof section for supporting roof loads of up to 250 pounds per square foot without permanent roof deformation. The stainless roof sections shall attach the compartment rear wall and compartment vertical

sides through a fastened joint creating a full perimeter compartment attachment of the stainless roof section.  
One (1) Compartment Interior Finish Y\_\_N\_\_  
**COMPARTMENT INTERIOR FINISH**

For better interior visibility, to reflect light better, ease of maintenance and prevent the masking of poor welds and questionable workmanship the interior of the body compartments shall remain uncoated.  
One (1) Frame Extension, Class IV Hitch Rear Y\_\_N\_\_  
**CHASSIS FRAME EXTENSION**

There shall be a rear three (3) inch x four (4) inch x 1/4 inch wall ASTM A-500 grade B rectangular tubing frame extension to provide frame support for the rear of the apparatus body.

Two vertical mounting plates are to be welded to the tubing to provide a drop frame connection to the truck chassis. This extension assembly is to be bolted to the truck chassis with eight (8) 1/2 grade 8 bolts with hardened flat washers to form an integral part of the truck frame assembly.

**RECEIVER HITCH**

There shall be a Class IV receiver hitch assembly as an integral part of the chassis rear frame extension that is located at the rear of the apparatus below the rear step.

**EXTENSION PAINT FINISH**

The rear frame extension assembly and hitch assembly is to be black powder coated prior to installation.  
One (1) Ext Compartment Design and Construction Y\_\_N\_\_  
**COMPARTMENT DESIGN AND CONSTRUCTION**

All compartments shall be manufactured from 12-gauge stainless steel with the vertical front and rear corner walls from 14-gauge, shall be of sweep out design and shall be bolted together. Stainless recessed round head bolts and stainless aircraft style "ESNA" nuts shall be applied with proper torque rating for each fastener. This type of construction shall greatly enhance the strength and ease of parts replacement in the event of damage and future modifications. Wherever possible, body bolts shall be hidden from plain view for appearance and ease of apparatus cleaning.

One (1) Compartment Ventilation w/Filtration Y\_\_N\_\_  
**COMPARTMENT VENTILATION**

Each compartment shall be provided with a laser cut louver to provide adequate ventilation.

**VENT FILTRATION**

There shall be filters provided for compartments L1, L3, R1, R3 and RR1. The protective louver covering the filter shall be removable to allow for filter changing.

One (1)

The filter shall be 100% virgin nylon fiber in an open web design that is USDA approved. The filter shall be chemically treated with Dimethyl Benzyl Ammonium Saccharinate to aid in the reduction of bacteria and fungi.

Mini Rescue

Y\_\_N\_\_

**COMPARTMENT DIMENSIONS**

**FORWARD OF WHEEL WELL - T1**

There shall be one (1) rescue style, full height transverse compartment at the front of the body. It shall have approximate dimensions of 32" wide x 57" high x 96" transverse.

**FORWARD OF WHEEL WELL - L1 / R1**

There shall be one (1) rescue style, full height compartment each side ahead of the rear wheels. It shall have approximate dimensions of 27" wide x 57" high x 48" deep.

**ABOVE WHEEL WELL - L2 / R2**

There shall be one (1) high side compartment each side centered over the rear wheels. It shall have approximate dimensions of 44" wide x 40" high x 48" deep.

**REAR OF WHEEL WELL - L3 / R3**

There shall be one (1) rescue style, full height compartment each side behind the rear wheels. It shall have approximate dimensions of 33" wide x 57" high x 24" deep.

**REAR COMPARTMENT - RR1**

At the rear of body there shall be a compartment with dimensions of 48" wide x 45" high x 38" deep.

One (1)

Roll Up Doors, Painted - Rescue

Y\_\_N\_\_

**ROLLUP DOOR CONSTRUCTION**

All body compartments shall be provided with Gortite (Or Equivalent) roll up doors. The roll up doors shall be constructed of double sided aluminum extrusions connected with a ball and socket joint. The extrusions shall be 1-3/8" wide x 3/8" thick and shall be painted to match the job color. A flexible EDPM extrusion shall be provided between each slat to insure a weather tight seal. Aluminum extrusions shall be individually replaceable without disassembling the entire door by removing push out clips on each end.

Side channels for each door to ride in shall be provided with santoprene seals to prevent dirt and moisture from entering the exterior compartment. A single piece top drip rail shall be provided with a santoprene seal to prevent dirt and moisture from entering the compartment when the door is fully closed. The bottom of each door shall also be provided with a santoprene seal. All nonmetallic parts shall be glass filled nylon.

The body side doors shall be painted to match the main job color and the rear door satin finish before the chevron is applied.

One (1)

Door Latches, Non-Locking Lift Bar w/Door Ajar Switch

Y\_\_N\_\_

One (1) The body door latches shall be non-locking stainless steel lift bars and shall be provided with a magnetic door ajar switch system.  
Wheel Area, Single Axle, NO SCBA Tubes Y\_\_N\_\_  
**FENDER SIDE SKIRTS**

There shall be stainless steel fender side skirts located in the area of the rear wheels. The design of the fender sides shall be a minimal length to provide maximum compartment space in the apparatus.

One (1) Roof Top and Upper Rear Compartments Y\_\_N\_\_  
**ROOF TOP AND UPPER REAR COMPARTMENTS**

A full width dunnage area shall be provided at the front of the body. This area shall be approximately 12" high x 27" wide x 40" long. If a hydraulic driven generator is installed the dunnage area will be utilized for this installation.

A full width compartment with top access shall be provided behind the dunnage area at the front of the body. The compartment shall be approximately 12" high x 96" wide x 40" long. There shall be a single vertically lifting diamond plate door for access to the compartment.

One (1) compartment shall be provided at the right top rear of the body, the compartment shall be approximately 12" high x 25-1/2" wide and 74" deep. There shall be a horizontally hinged vertically lifting diamond plate door for access to the compartment.

One (1) compartment shall be provided at the center top rear of the body, the compartment shall be approximately 12" high x 38" wide and 74" deep. There shall be a horizontally hinged vertically lifting diamond plate door for access to the compartment.

One (1) compartment shall be provided at the left top rear of the body, the compartment shall be approximately 12" high x 25-1/2" wide and 74" deep. There shall be a horizontally hinged vertically lifting diamond plate door for access to the compartment.

One (1) Fuel Fill, L/S Rear Fender w/Door, Label, Vent Line Y\_\_N\_\_  
**FUEL FILL - SIDE BODY**

The fuel fill shall be located in the rear fender area on the left side of the apparatus body. The spring loaded fuel fill door shall have "Diesel Fuel" laser cut in the face of the door. There shall be a vent line from the fuel tank to beneath the fuel cap to aid in fueling of the truck.

One (1) Urea Fill, L/S Rear Fender Y\_\_N\_\_  
**UREA FILL - SIDE BODY**

The urea tank fill shall be located in the rear fender area on the left side of the apparatus body.

One (1) Rubrail, Body, LED Strip, Armor Guard, Warning/Ground Y\_\_N\_\_  
**BODY RUBRAIL / LIGHTING SYSTEM**

The apparatus body shall have a bolt on extruded, bright anodized aluminum rub rail affixed to the side beneath each door area. Each rub rail shall be attached to the apparatus body with stand off spacers made from 1" diameter UHMW Polyethylene bar stock.

The rubrail shall be designed with an integral white LED strip light. The white LED shall be downward facing and activated with the ground light circuit.

The rubrail design shall also include a red LED strip light. The red LED strip light shall face outward and activate as a red flashing warning light when the warning lights are active.

One (1) Fenderettes and Wheel Well Liners - Stainless Y\_\_N\_\_  
**BODY FENDERS - POLISHED**

The apparatus body fenders shall be made from 16 gauge polished stainless steel and shall be rolled, die stamped and fully removable. The stainless steel fenders and stainless fender liners shall be fastened with stainless bolts and ESNA nuts to the outer fender panel.

One (1) Mud Flaps, Rear Y\_\_N\_\_  
**REAR AXLE MUD FLAPS**

Two (2) black, anti-sail, mud flaps shall be mounted behind the rear wheels.

One (1) Lights, Compartment, LED Strip, Armor Protected - White/Red Y\_\_N\_\_  
**APPARATUS COMPARTMENT LIGHTING**

Two (2) LED, armor protected, strip lights shall be provided one (1) each side of the compartment at the door frame for each body compartment. Each body door shall have an automatic compartment light switch.

There shall be a white/red color selector switch in the cab that controls the color of this lighting.

One (1) Lights, Underbody, LED Strip, Armor Protected Y\_\_N\_\_  
**UNDERBODY LIGHTING**

Underbody ground lights shall be provided under the apparatus body. These ground lights shall be LED strips mounted in armor guards. The lights shall illuminate when the parking brake is set and the apparatus is running with the master battery switch in the "ON" position..

These lights shall be installed across the rear step at the back of the body.

One (1) Steps, Folding, Rear of Body - Three Y\_\_N\_\_  
**FOLDING STEPS**

Three (3) folding steps shall be provided on the right rear of the apparatus body.

Three (3) Upgraded Folding Step with LED light Y\_\_N\_\_

The folding step(s) shall include an integrated LED light beneath each step. This light shall illuminate when the apparatus ground lights are activated. The bottom of the step and step mounting shall include white reflective material to aide in locating the step when the vehicle ground lights are not activated.

One (1) Beveled Rear Tailboard, 8", LaserGrip Stainless Steel Y\_\_N\_\_  
**BEVELED REAR TAILBOARD**

A rear tailboard 8" deep shall be provided at the rear from "Laser Grip" (or equivalent) stainless steel. The tailboard shall provide recessed for the rear ICC marker lights. It shall be bolted to the rear support structure. The corners of the rear bumper shall be beveled back to reduce the rear bumper swing of the vehicle.

One (1) Handrails, (2) 24" Vertical  
**REAR HANDRAILS** Y\_\_N\_\_

Two (2) ribbed, 1-1/4" diameter, aluminum handrails with chrome plated stanchions shall be supplied and installed at rear of the apparatus body, one (1) on each side on the rear wall.

One (1) Shelf Package, Deep - One (1) each in R1, L1, R3, L3  
**ALUMINUM SHELVES - ADJUSTABLE** Y\_\_N\_\_

Four (4) adjustable aluminum shelves shall be provided with one (1) each installed in R1, L1, R3 and L3 compartments. The shelves shall have a flange 1-1/2" deep with a minimum material thickness of .190". Each shelf shall be adjustable in height and held in place by four (4) extruded uprights.

One (1) Shelf Package, Deep - One (1) each in R2, L2  
**ALUMINUM SHELVES - ADJUSTABLE** Y\_\_N\_\_

Two (2) adjustable aluminum shelves shall be provided with one (1) each installed in R2 and L2 compartments. The shelves shall have a flange 1-1/2" deep with a minimum material thickness of .190". Each shelf shall be adjustable in height and held in place by four (4) extruded uprights.

One (1) Shelf Package, - One (1) in RR1  
**ALUMINUM SHELF - ADJUSTABLE** Y\_\_N\_\_

One (1) adjustable aluminum shelves shall be provided and installed in the RR1 compartment. The shelf shall have a flange 1-1/2" deep with a minimum material thickness of .190". The shelf shall be adjustable in height and held in place by four (4) extruded uprights.

One (1) Shelf Package, Deep - Transverse  
**ALUMINUM SHELVES - ADJUSTABLE** Y\_\_N\_\_

Two (2) adjustable aluminum shelves shall be provided with one (1) each installed on each side of the transverse compartments. The shelves shall have a flange 1-1/2" deep with a minimum material thickness of .190". Each shelf shall be adjustable in height and held in place by four (4) extruded uprights.

One (1) Body - LED  
**APPARATUS ICC MARKER LIGHTING AND REFLECTORS** Y\_\_N\_\_

Three (3) red LED clearance lights shall be supplied, mounted in the rear of the apparatus.

ICC (Or Equivalent) lighting utilized and lighting positions shall be in conformance with FMVSS 108.

There shall be a diamond shaped amber reflector mounted on each front corner of the apparatus body and a diamond shaped red reflector mounted on each rear corner of the body.

One (1) Rear Stop/Tail/Turn Y\_\_N\_\_  
**REAR STOP/TAIL/TURN/BACKUP LIGHTS**

The rear of the apparatus shall be equipped with Whelen 600 Series lights (Or Equivalent). The top light in the assembly shall be a red LED stop/tail light, Whelen model C6BTT (Or Equivalent). The middle light set shall be an amber LED lamp with a populated arrow shape, Whelen model C6T (Or Equivalent).

One (1) Back Up Alarm Y\_\_N\_\_  
**BACK-UP ALARM**

A solid state electronic backup alarm shall be installed on the rear of the apparatus and wired to the backup light circuit.

One (1) License Plate Bracket w/LED Light Y\_\_N\_\_

One (1) license plate mounting and LED light shall be provided. The light and bracket shall be located on the rear of the apparatus.

One (1) Lens Color - Both Red Y\_\_N\_\_

Both warning light lenses shall be red in color.

One (1) Lightbar, Front Y\_\_N\_\_  
**ROOF MOUNTED LIGHTBAR**

A Whelen Justice (Or Equivalent), 56" light bar system shall be supplied and permanently mounted on the lightbar mounting support on the front of the body. This light bar system shall be supplied with:

- all clear lens covers
- four (4) corner red LIN6 LED lighthead
- two (2) JDCR red CON3 Super-LED lighthead in the outboard positions
- two (2) JDCC white CON3 Super-LED lighthead in the second forward positions
- two (2) JDCR red CON3 Super-LED lighthead in the third forward positions
- two (2) rear facing JDCA amber CON3 Super-LED lighthead in the outboard

positions

One (1) Brush Guard Front Warning Y\_\_N\_\_  
**FRONT WARNING LIGHTS**

Two (2) Whelen (Or Equivalent), model LINZ6R, LED warning lights with aluminum bezels shall be mounted on the front brush guard facing forward.

Two (2) Whelen (Or Equivalent) model M4R, LED warning lights shall be mounted on the front brush guard facing forward.

One (1) Brush Guard Side Y\_\_N\_\_  
**FRONT INTERSECTION LIGHTS**

Two (2) Whelen (Or Equivalent), model LINZ6R, LED warning lights with aluminum bezels shall be mounted on each side of the front brush guard.

Two (2) Whelen (Or Equivalent) model M4R, LED warning lights shall be mounted, one (1) on each front fender.

One (1) Body Side, Forward Wheelwell Area Y\_\_N\_\_  
**BODY SIDE WARNING LIGHTS**

Two (2) Whelen (Or Equivalent), model LINZ6R, LED warning lights with aluminum bezels shall be mounted on each side of the body in the forward wheelwell area.

- One (1)      Body Side Upper, Warning / Scene Lights  
UPPER LEVEL SIDE WARNING LIGHTS      Y\_\_N\_\_
- Two (2) Whelen (Or Equivalent) warning lights, M9V2RC Series, two-in-one LED warning/scene lighheads shall be mounted on the left side of the apparatus coffin compartments toward the front and rear, facing the side, in the fixed lid area. The light heads shall be mounted in a Whelen (Or Equivalent) chrome plated flange.
- Two (2) Whelen (Or Equivalent) warning lights, M9V2RC Series, two-in-one LED warning/scene lighheads shall be mounted on the right side of the apparatus coffin compartments toward the front and rear, facing the side, in the fixed lid area. The light heads shall be mounted in a Whelen (Or Equivalent) chrome plated flange.
- One (1)      The scene lights incorporated in the M9V lightsheads shall be illuminated with a switch in the operator's area of the cab.  
Upper Rear, Warning / Scene Lights -  
REAR UPPER LEVEL WARNING/SCENE LIGHTS      Y\_\_N\_\_
- Two (2) red Whelen (Or Equivalent), model M9V2RC two-in-one lighthead chrome bezels shall be mounted on the rear of the apparatus, one (1) each side beneath the upper rear compartment doors.
- The scene lights incorporated in the M9V lightsheads shall be illuminated with a switch in the operator's area of the cab.
- These two lights fulfill the requirements for Upper Zone C upper level warning devices.
- One (1)      There shall be one (1) Whelen (Or Equivalent), LED traffic advisor model # TAD8RR. It shall be mounted facing the rear, directly above compartment RR1.  
Lower Rear, Rear Warning Lights  
REAR LOWER LEVEL WARNING LIGHTS      Y\_\_N\_\_
- Two (2) Whelen (Or Equivalent) warning lights, M6, Linear Super-LED light heads shall be mounted on the rear of the apparatus below the taillights at the lower outermost corners in vertical position with a Whelen (Or Equivalent) chrome plated flange.
- One (1)      These two (2) lights fulfill the requirements for Upper Zone C lower level warning devices.  
LF Corner - High Side  
LEFT FRONT QUARTZ LIGHT      Y\_\_N\_\_
- One (1)      The following light shall be provided mounted on the left front corner of the body:  
RF Corner - High Side  
RIGHT FRONT QUARTZ LIGHT      Y\_\_N\_\_
- One (1)      The following light shall be provided mounted on the right front corner of the body:  
FRC (Or Equivalent), Focus, 150W, 12VDC  
Fire Research (Or Equivalent) Focus model FCA100-D15 lamp head shall be provided. The lamp head mounting arm shall terminate in 3/4" NPT threads. Wiring shall extend from the lamp head mounting arm bottom.      Y\_\_N\_\_



- The lamp head shall have one (1) quartz halogen 150 watt 12 volt bulb. The bulb will draw 12.5 amps and generate 2600 lumens. The bulb shall be accessible through the front. The lamp head shall direct 50 percent of the light onto the action area while providing 50 percent to illuminate the working area. The lamp head angle of elevation shall be adjustable at a pivot in the mounting arm and the position locked with a round knurled locking knob. The lamp head shall incorporate heat-dissipating fins and be no more than 5" deep by 3 3/8" high by 10" wide. Lamp head and mounting arm shall be powder coated white. The floodlight shall be UL listed as a scene light for fire service use.
- One (1) FRC (Or Equivalent), Focus, 150W, 12VDC Y\_\_N\_\_  
 Fire Research (Or Equivalent) Focus model FCA100-D15 lamp head shall be provided. The lamp head mounting arm shall terminate in 3/4" NPT threads. Wiring shall extend from the lamp head mounting arm bottom.
- The lamp head shall have one (1) quartz halogen 150 watt 12 volt bulb. The bulb will draw 12.5 amps and generate 2600 lumens. The bulb shall be accessible through the front. The lamp head shall direct 50 percent of the light onto the action area while providing 50 percent to illuminate the working area. The lamp head angle of elevation shall be adjustable at a pivot in the mounting arm and the position locked with a round knurled locking knob. The lamp head shall incorporate heat-dissipating fins and be no more than 5" deep by 3 3/8" high by 10" wide. Lamp head and mounting arm shall be powder coated white. The floodlight shall be UL listed as a scene light for fire service use.
- One (1) Lamphead ON / OFF Switch Y\_\_N\_\_  
 Fire Research (Or Equivalent)-ON option switch shall be installed on the lamp head. The weatherproof on-off toggle switch shall be mounted on the lamp head.
- One (1) Lamphead ON / OFF Switch Y\_\_N\_\_  
 Fire Research (Or Equivalent)-ON option switch shall be installed on the lamp head. The weatherproof on-off toggle switch shall be mounted on the lamp head.
- One (1) FRC (Or Equivalent), Bottom Raise Pole - 530 Y\_\_N\_\_  
 The light head shall be mounted on a side mount push up telescopic pole. 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.
- One (1) FRC (Or Equivalent), Bottom Raise Pole - 530 Y\_\_N\_\_  
 The light head shall be mounted on a side mount push up telescopic pole. 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.
- One (1) Switch, Remote, 12 V, Mounted Cab Y\_\_N\_\_  
 One (1) 12-volt, switch(es) shall be located in the cab switch panel. The switch(es) shall control the 12-volt quartz lighting fixture(s) as selected.
- One (1) Switch, Remote, 12 V, Mounted Cab Y\_\_N\_\_  
 One (1) 12-volt, switch(es) shall be located in the cab switch panel. The switch(es) shall control the 12-volt quartz lighting fixture(s) as selected.
- One (1) Wheel Chocks, (2) Worden 7HY HD, Yellow Alum - OES Y\_\_N\_\_  
**WHEEL CHOCKS**

One pair of heavy duty, extruded aluminum wheel chocks measuring 8" high x 7" wide x 11.8" long shall be provided with the apparatus. Worden (Or Equivalent) 7HY HD Yellow Handled Extrusions are the requested chocks. The wheel chocks shall have a bright yellow powder coat finish for high visibility, safety and corrosion resistance. No exception shall be allowed to these requirements.

One (1) Two chock holders shall be provided and mounted one on each side of the apparatus just ahead of the rear tires below the front body compartment.

Striping, 4" Scotchlite (or equivalent), Reflective, Vehicle Perimeter

**REFLECTIVE SAFETY STRIPE**

Y\_\_N\_\_

One (1) A 4" wide 3M brand Scotchlite (or equivalent) reflective stripe shall be affixed to the perimeter of the vehicle. The striping shall be placed up to 60" above ground level and shall conform to NFPA reflectivity requirements. At least 60% of the perimeter length of each side and width of the rear and at least 25% of the perimeter width of the front of the vehicle shall have reflective stripe.

Base Stripe Color, White Reflective

**REFLECTIVE STRIPE COLOR**

Y\_\_N\_\_

One (1) The apparatus body striping shall be white reflective.

Chevron, Rear Body NFPA, 6"

**REAR BODY REFLECTIVE CHEVRON STRIPING**

Y\_\_N\_\_

One (1) The rear-facing vertical surfaces of the rear of the body, including the rear compartment door(s), shall be equipped with six (6) inch wide retroreflective striping in a chevron pattern sloping downward and away from the centerline of the vehicle at an angle of 45 degrees.

Chevron Color - Red and Yellow Reflective

Each stripe in the chevron shall be a single color alternating between red (3M #-82) and yellow (3M #-81).

Y\_\_N\_\_

One (1) == Mini Pumper - CrewCab (300 gal Tank)

Y\_\_N\_\_

One (1) 2018 RAM 5500 Chassis, 4x4 SD Crew Cab XL - Four Standard Side Doors  
**RAM 5500 CAB & CHASSIS(or Equivalent)**

Y\_\_N\_\_

**2018 Chassis, Crew Cab**  
4x4 Crew Cab

**Powertrain**

Cummins(or approved equivalent) 6.7L 1-6 OHV diesel direct injection 24 valve inter9ooled turbo diesel engine \* 220 amp dual alternator \* 730 amp battery with run down protection \* Engine oil cooler, transmission oil cooler \* 6-speed electronic sequential shift control automatic transmission with overdrive, lock-up, driver selection \* Part-time four-wheel drive with manual transfer case shift, auto locking hubs \* Limited slip differential, ABS & driveline traction control, power take-off provision \* 4.88 axle ratio \* Stainless steel exhaust

**Steering and Suspension**

Hydraulic power-assist re-circulating ball steering \* 4-wheel disc brakes with front and rear vented discs \* HD ride suspension, with electronic stability \* Non-independent front suspension \* Front leading link suspension \* Front anti-roll bar \* HD front coil springs \* HD front shocks \* Rigid rear axle \* Rear leaf suspension \* HD rear anti-roll bar \* HD rear leaf springs \* HD rear shocks \* Front and rear 19.5" x 6.00" polished forged aluminum wheels with chrome hub covers \* 225/70R19.5 SSWAS front tires \* AT rear tires

**Safety**

4-wheel anti-lock braking system \* Dual airbags, seat mounted driver and passenger side-impact airbags, airbag occupancy sensor \* Front height adjustable seatbelts with front pre-tensioners \* Sentry Key (or equivalent) immobilizer, panic alarm

**Comfort and Convenience**

Air conditioning, underseat ducts \* AM/FM/Satellite-prep, clock, seek-scan, external memory control, console mounted single remote CD, 6 speakers, fixed antenna \* Cruise control with steering wheel controls \* Power door locks with 2 stage unlock, keyfob (all doors) keyless entry, child safety rear door locks \* 2 12V DC power outlets, retained accessory power \* Analog instrumentation display includes tachometer, oil pressure gauge, engine temperature gauge; voltmeter gauge, oil temperature gauge, transmission fluid temp gauge, engine hour meter, systems monitor, redundant digital speedometer, trip computer, trip odometer \* Warning indicators include oil pressure, engine temperature, battery, low oil level, low coolant, lights on, key, low fuel, low washer fluid, lighting malfunction, door ajar, service interval, brake fluid, turn signal on, transmission fluid temp \* Steering wheel with tilt adjustment \* Power front and rear windows with light tint, driver and passenger .1-touch down \* Variable intermittent front windshield wipers \* Passenger side vanity mirror \* Day-night rearview mirror \* Interior lights include dome light with fade, illuminated entry \* Partial floor console with storage, glove box, front cupholder, instrument panel bin, dashboard storage, driver and passenger door bins, rear door bins \* Upfitter (or equivalent) switches

**Seating and Interior**

Seating capacity of 6 \* 40-20-40 split-bench front seat with adjustable head restraints, delete center seat \* 4-way adjustable driver seat \* 4-way adjustable passenger seat \* Full folding rear bench seat with fold-up cushion, 3 adjustable rear head restraints \* Vinyl faced front seats with vinyl back material \* Vinyl faced rear seats with carpet back

material \* Full cloth headliner, full vinyl/rubber floor covering, deluxe sound insulation, urethane gear shift knob

**Exterior Features**

1 skid plate, side impact beams, front license plate bracket, fully galvanized steel body material \* Black fender flares \* Black side window moldings, black front windshield molding \* Black door handles \* Chrome grille \* 4 doors \* Driver and passenger power remote black heated convex spotter folding manual extendable trailer outside mirrors with turn signal indicators \* Front chrome bumper with front tow hooks \* Aero-composite halogen fully automatic headlamps with multiple headlamps, delay-off feature \* Additional exterior lights include cab clearance lights, remote activated perimeter/approach lights \* Chrome tubular side steps \* Clearcoat monotone paint

**Warranty**

Basic ..... 36 month/36,000 miles  
Powertrain ..... 60 month/60,000 miles  
Corrosion Perforation ..... 60 month/unlimited mileage  
Roadside Assistance ..... 36 month/36,000 miles  
Diesel Engine ..... 60 month/100,000 miles

Front GAWR: 7,000 lbs  
Rear GAWR: 13,500 lbs  
GVWR: 19,500 lbs

One (1)

RAM Standard Crew Seating (or approved equivalent)

Y\_\_N\_\_

**Interior and Seating**

Seating capacity of 4

**Driver Position**

40-20-40 split-bench front seat with center seating position removed for the console.

**Crew Seating Positions**

Two (2) SCBA seats shall be installed in the rear crew seating area.

One (1)

Cab Console (RAM) (or approved equivalent)

Y\_\_N\_\_

The driver/officer 40-20-40 split-bench front seat center seating position is removed to allow the installation of the center console.

**CAB CONSOLE**

A heavy duty angled console shall be installed in the cab between the driver and officer seats. The console shall be finished in black powder coat for durability and low reflection. The console shall be designed with a versatile mounting rail system that accommodates commercially available panels for installation of items such as radio equipment. The design shall allow for a total of sixteen (16) inches of mounting space. This option requires the center seating position to be removed from the cab.

The console shall contain the following items as standard:

- Siren control head in a 3" Equipment Mounting Plate
- Pump Shift in a 4" custom laminate panel
- Three (3) Blank 3" Filler Plates

One (1)

Console Options

Y\_\_N\_\_

The following items shall be installed on the console:

- One (1) Cup Holders, Dual Port USS, Console Front (2)  
Two (2) cup holders in the forward flat section of the console.  
One (1) Kussmaul 091-219 (or Equivalent) Dual Port USS charging port adjacent to the cup holders. Y\_\_N\_\_
- One (1) Tire Pressure Monitoring Device - 2 Axles - LED Alert  
**TIRE PRESSURE MONITORING DEVICE** Y\_\_N\_\_
- Each tire installed on the apparatus shall be equipped with a tire pressure monitoring device. The device shall consist of a valve stem cap to with an LED tire alert to indicate tire pressure conditions. The LED will flash when the tire drops 8 psi below the factory setting.
- One (1) Drivelines  
**DRIVELINES** Y\_\_N\_\_
- Universal joints and driveshafts shall be modified for midship pump installation. The driveshaft slip joints shall be coated to reduce sliding friction and thrust under high torque loads. Shafts shall be balanced to prevent vibration.
- One (1) Heavy Duty Front Bumper / Brush Guard / Winch Receiver  
**FRONT BUMPER / BRUSH GUARD / WINCH RECEIVER** Y\_\_N\_\_
- The front of the chassis shall be equipped with a Fab Fours (Or Equivalent), model number FS11-S2550-1, heavy duty plate 'ranch' style bumper. The black painted assembly features a full replacement bumper with full grill guard and bolt on 2" receiver for portable winch operation.
- One (1) Electronic Siren  
**ELECTRONIC SIREN** Y\_\_N\_\_
- A Whelen (Or Equivalent) electronic siren control, model 295SLSA1 full feature with 17 Scan-Lock siren tones including Radio Rebroadcast, Public Address, Manual, Wail, Yelp, Air Horn, Electronic Mechanical Siren tones and Piercer tones and hardwired microphone, shall be provided. Also included shall be the Whelen (Or Equivalent), Howler System, Model# HWLUNI.
- One (1) Speaker, Siren - 100w  
**SIREN SPEAKER** Y\_\_N\_\_
- Mounted inside of the front bumper/brush guard there shall be a Whelen (Or Equivalent) Model # HWLUNI 100 watt siren speaker that shall work in conjunction with the Whelen (Or Equivalent) Howler Siren.
- One (1) RAM Single Color Paint (or approved equivalent)  
**CAB PAINT** Y\_\_N\_\_
- The cab on the vehicle shall be painted by the factory at RAM.(or approved equivalent).
- One (1) 40 Amp - Battery Charger - ProMariner (Or Equivalent) 1240  
**BATTERY CHARGER** Y\_\_N\_\_
- A PRO MARINER (Or Equivalent) / ON BOARD SOLUTIONS, 1240, advanced electronic 4-step battery charger/power supply with a 40 amp output shall be installed, under the driver's seat.
- Since shoreline power is not always stable the charger shall be equipped with Auto-Ranging AC Input to automatically accept global voltages of 90 VAC to 270 VAC at 45-440 Hz.

Field Selectable - Use with lead/acid or gel batteries (AGM factory option). Select length of absorption charge cycle based on size of batteries.

In the 4-step charging system the charger will provide the following sequence.

Step 1: Fast Charge - Charger will deliver its maximum amperage rating to the connected batteries for the fastest charge (current regulation mode) until battery voltage is raised to 14.6V (lead acid factory setting). At this time, the ProTech will shift to step 2.

Step 2: Absorption Charge - Maximizes charge and holds voltage (voltage regulation mode) at 14.6V (lead acid factory setting) for 1 to 4 hours (selectable based on battery size), while letting the batteries determine the amount of amps they can accept. This mode creates activity in the batteries, reducing sulfate buildup, and conditions the batteries for an extended life. After the programmed 1 to 4 hours have elapsed, the ProTech will shift to step 3.

Step 3: Float Mode - A precision 13.3V (lead acid factory setting) finishing voltage that maintains each battery (step-down voltage regulation mode), which is perfect for short or long storage periods and will never overcharge your batteries. ProTech will deliver its full rated output for house loads including: lighting, electronics and pumps.

Step 4: Recycle - If there are very large loads on the battery while the charger is on, the unit will recycle to the first step, ensuring that batteries stay fully charged.

One-Year Warranty - Includes lifetime repair guarantee.

Certified to - UL Marine 1236/SA

One (1)

The charger shall be mounted on the ceiling of the L1 compartment.

Kussmaul (or equivalent) 20 AMP - 120v - Super Auto Eject

**SHORELINE AUTO-EJECT**

Y\_\_N\_\_

A KUSSMAUL Super Auto Eject, model 091-55-20-120, (or equivalent) with a yellow weatherproof cover shall be provided.

The Super Auto Eject is to be completely sealed to prevent internal contamination of the working components.

The internal switch arrangement of the Super Auto Eject shall be designed to close and open the 120-volt AC circuit after the mating connector is inserted and before the connector is removed. This design shall prevent arcing at the connector contacts to provide long life.

The electrical connection shall be provided as a 120-volt AC - 20 amp type using a NEMA 5-20P connector.

The autoeject shall be mounted high on the front exterior wall of the L1 compartment.

One (1)

HydraTechnology (Or Equivalent), Pump House Design Requirement

**HYDRA TECHNOLOGY**

Y\_\_N\_\_

The pump module must employ Hydra Technology (Or Equivalent). Due to the design a pump module manufactured with Hydra Technology is compact in size; massive in performance.

Each component in the module must undergo a selection and placement analysis staff engineers. Utilizing advanced 3D software the engineers goals must provide component placements for ergonomics with a completed module that produces maximum water flow with optimum versatility. Only after the complete analysis and build of the module in the computer can the build of the hardware in the shop begin.

Pump module design beginning with a foundation; cage framework assemblies that are precision manufactured from strong corrosion free heavy wall stainless steel tubing. This framework mounts to the truck frame through a mounting design complimented with iso-mount elastomer cushions. The result shall be a mounting system that allows for the twisting movement of the truck frame without undue stress loading of the pump module.

Next assembled shall be the stainless side panels. Brushed, mirror polished or power coated the stainless steel side panels provide strength and durability. Precise engineering allows each panel to be laser machined before assembly; instead of drilling holes technicians shall spend their time on assembly techniques that provide installations that breeze through strict quality assurance.

A thorough review of the valve control placements on a control module shall result in a neat and orderly layout. Open the access door on a side control module and peer inside. The horizontal control rods appear neat and orderly. The appearance is only a portion of the requirement. The same neat and orderly appearance after countless hours of engineering design and ergonomic study provide a smooth trouble free linkage for valve operation. Another by product of the low profile control rod placement is the ability to offer ladder through the tank storage designs.

On a top control module mount valve controls are attached to the valves through high performance stainless steel aircraft type cable assemblies. Cables eliminate the inefficiencies of control rods connected to a valve. Operate a cable controlled top panel and you will feel the difference; smooth and precise across the full valve operation.

The gauge panel door shall be an expansive double wall stainless door supported by a 3/8 inch diameter hinge pin. The double wall door provides unsurpassed strength and gauge protection while thwarting the casual attempt of tinkering. Authorized servicing of the components within the door is simplified with a bolt on access panel.

Inside the access door; there shall be a clean well build appearance. Stainless steel piping, stainless steel panels, and a stainless steel framework all to provide years of trouble free service. Pipe threads are not allowed on plumbing larger than 1-1/2 inch in diameter. The pump module design shall employ Victaulic coupling connections in the pump module to save time when servicing a component. Installation of components without the use of pipe threads allows for "drop-out" maintenance of critical components without disassembly of entire piping systems. Drop in valves and manifolds with Victaulic couplings are only the start of the serviceability designed into this pump module.

One (1) Apparatus taking exception to any portion of this requirement will not be acceptable.  
 Pump Enclosure, Side Mount, 24" Wide  
**PUMP COMPARTMENT** Y\_\_N\_\_

One (1) For durability the pump compartment shall be constructed entirely of brushed stainless steel.  
 Running Boards, L/S, R/S w/Laser Grip S/S Step Surface Y\_\_N\_\_

**RUNNING BOARDS**

The running board step surface shall be covered in Laser Grip stainless steel meeting the current revision of NFPA 1901 for step requirements.

Bolt on running boards and support structure shall be provided to provide field service of the running board without major repairs to the pump compartment in the event of an accident.

One (1)

Pump Service Access

**PUMP SERVICE ACCESS**

Y\_\_N\_\_

The intake panels on the sides of the pump module shall be fastened with quick release latches to provide access to the pump at the intake piping area.

One (1)

The floor of the crosslays shall be removable for access to the top of the pump module.  
Control Panel, Side Mount Module

**PUMP CONTROL PANEL**

Y\_\_N\_\_

All pump controls and gauges shall be located at the left (street) side of the apparatus and properly identified. The layout of the pump control panel shall be ergonomically efficient and systematically organized.

All push-pull valve controls shall have quarter turn locking control rods with chrome plated zinc tee handles. Guides for the push-pull control rods shall be chrome plated zinc castings securely mounted to the pump panel. Push-pull valve controls shall be capable of locking in any position. The control rods shall pull straight out of the panel and shall be equipped with universal joints to eliminate binding.

One (1)

Identification Labels - Metal Tags

**PUMP PANEL IDENTIFICATION TAGS**

Y\_\_N\_\_

The identification tag for each valve shall be recessed in the face of the control handle. All discharges shall have color-coded metal identification tags, with each discharge having its own unique color scheme. Color-coding shall include the labeling of the outlet and the drain for each corresponding discharge.

One (1)

Pump Panel Finish, Brushed Stainless Steel

**PUMP PANEL FINISH**

Y\_\_N\_\_

All stainless panels used in the construction of the pump house shall have a brushed finish.

One (1)

Controls & Gauges, Side Mount

**CONTROLS AND GAUGES**

Y\_\_N\_\_

The following shall be provided on the pump and gauge panels in a neat and orderly fashion. The gauge panel shall include the following:

One (1)

Pressure Governor, Engine Monitor and Pressure Display

**PRESSURE GOVERNOR, MONITORING, and MASTER PRESSURE DISPLAY**

Y\_\_N\_\_

Fire Research (Or Equivalent) InControl series TGA400-A00 pressure governor and monitoring display kit shall be installed. The kit shall include a control module, intake pressure sensor, discharge pressure sensor, and cables. The control knob shall be 2" in diameter with no mechanical stops, have a serrated grip, and a red idle push button in the center. It shall not extend more than 1-3/4" from the front of the control module.



Inputs for monitored information shall be from a J1939 databus or independent sensors. Outputs for engine control shall be on the J1939 databus or engine specific wiring.

The following continuous displays shall be provided:

Pump discharge; shown with four daylight bright LED digits more than 1/2" high

Pump Intake; shown with four daylight bright LED digits more than 1/2" high

Pressure / RPM setting; shown on a dot matrix message display

Pressure and RPM operating mode LEDs

Throttle ready LED

Engine RPM; shown with four daylight bright LED digits more than 1/2" high

Check engine and stop engine warning LEDs

Oil pressure; shown on a dual color (green/red) LED bar graph display

Engine coolant temperature; shown on a dual color (green/red) LED bar graph display

Transmission Temperature; shown on a dual color (green/red) LED bar graph display

Battery voltage; shown on a dual color (green/red) LED bar graph display.

The dot-matrix message display shall show diagnostic and warning messages as they occur. It shall show monitored apparatus information, stored data, and program options when selected by the operator. All LED intensity shall be automatically adjusted for day and night time operation.

The program shall store the accumulated operating hours for the pump and engine to be displayed with the push of a button. It shall monitor inputs and support audible and visual warning alarms for the following conditions:

High Battery Voltage

Low Battery Voltage (Engine Off)

Low Battery Voltage (Engine Running)

High Transmission Temperature

Low Engine Oil Pressure

High Engine Coolant Temperature

Out of Water (visual alarm only)

No Engine Response (visual alarm only)

The program features shall be accessed via push buttons and a control knob located on the front of the control panel. There shall be a USB port located at the rear of the control module to upload future firmware enhancements.

Inputs to the control panel from the pump discharge and intake pressure sensors shall be electrical. The discharge pressure display shall show pressures from 0 to 600 psi. The intake pressure display shall show pressures from -30 in. Hg to 600 psi.

The governor shall operate in two control modes, pressure and RPM. No discharge pressure or engine RPM variation shall occur when switching between modes. A throttle ready LED shall light when the interlock signal is recognized. The governor shall start in pressure mode and set the engine RPM to idle. In pressure mode the governor shall automatically regulate the discharge pressure at the level set by the operator. In RPM mode the governor shall maintain the engine RPM at the level set by the operator except in the event of a discharge pressure increase. The governor shall limit a discharge pressure increase in RPM mode to a maximum of 30 psi. Other safety features shall include recognition of no water conditions with an automatic programmed response and a push button to return the engine to idle.

The pressure governor, monitoring and master pressure display shall be programmed to interface with a specific engine.

One (1) 2-1/2" Pressure Gauges, 0-400 psig - English Y\_\_N\_\_

**PRESSURE GAUGES**

Each line pressure gauge shall be mounted immediately above the control for the corresponding valve. The individual line pressure gauges for the discharges shall be 2-1/2" in diameter with white dial face gauges with black lettering and markings. The gauges shall be a compound style gauge with a vacuum/pressure range of 0 - 400 psig.

The gauges shall be fluid filled with pulse and vibration dampening Interlube to lubricate the internal mechanisms to prevent lens condensation and to ensure proper operation to -40 degrees F. The cases shall be temperature compensated with an internal breathing diaphragm to permit fully filled cases and to allow a rigid lens with a distortion free viewing area. The gauge accuracy for the gauge shall be plus or minus 2% mid-scale, plus or minus 3% balance, per ANSI B40.1, Grade 1A.

To prevent internal freezing and to keep contaminants from entering the gauge, the stem and bourdon tube shall be filled with low temperature oil and be sealed from the water system using an isolating diaphragm located in the stem. A bright metal bezel shall be supplied for resistance to corrosion and to protect the lens and case from damage.

All line pressure gauges shall be mounted adjacent to the corresponding discharge control tee handles.

One (1) 2-1/2" Pressure Gauge LED Lighting Y\_\_N\_\_

**LED GAUGE LIGHTING**

The 2-1/2" pressure gauges shall be equipped with LED back lighting.

One (1) Pump Panel LED Lighting - WHITE/RED Y\_\_N\_\_

**PUMP PANEL LIGHTING**

The pump operator's panel shall be supplied with a LED light system. LED strip lights with a stainless steel hood shall be mounted across the top of the pump panel gauges and controls.

LED strip lights with a stainless steel hood shall be provided on each side of the pump module above the side panels.

All pump module lighting shall illuminate when the parking brake is engaged. There shall be a white/red color selector switch in the cab that controls the color of this lighting.

One (1) Pump, Midship, 1500 GPM Y\_\_N\_\_

**PUMP MANUFACTURER AND MODEL**

The pump shall be a Hale DSD (Or Equivalent) model midship pump.

**PUMP CONSTRUCTION AND ASSEMBLY**

The entire pump, both suction and discharge passages, shall be hydrostatically tested to a pressure of 600 PSI. The pump shall be fully tested at the pump manufacturer's factory to the performance specs as outlined by the latest NFPA Pamphlet No. 1901. Pump shall be free from objectionable pulsation and vibration.

The pump body and related parts shall be of fine grain alloy cast iron, with a minimum tensile strength of 30,000 PSI. All moving metal parts in contact with water shall be of high quality bronze or stainless steel. Pump body shall be vertically split on a single plane for easy removal of entire impeller assembly including wear rings and bearings without disturbing piping or the mounting of the pump in chassis. Pump shaft to be rigidly supported by three bearings for minimum deflection. The bearings shall be heavy-duty, deep groove ball bearings in the gearbox and they shall be splash lubricated.

Pump impeller shall be hard, fine grain bronze of the mixed flow design; accurately machined, hand ground, and individually balanced. The vanes of the impeller intake eyes shall be of sufficient size and design to provide ample reserve capacity utilizing minimum horsepower.

Removable, non-corrosive material clearance rings shall be provided.

The pump shaft shall be heat-treated, electric furnace, corrosion resistant stainless steel. Pump shaft must be sealed with double-lip oil seal to keep road dirt and water out of gearbox.

**PUMP TRANSMISSION**

The pump transmission shall be assembled and tested at the pump manufacturer's factory. Pump transmission shall be of sufficient size to withstand up to 16,000 lbs. ft. of torque in road operating conditions. The pump transmission shall be designed with ample capacity for lubrication reserve and to maintain the proper operating temperature.

The transmission drive shafts shall be of heat-treated chrome nickel steel and at least 2-3/4 inches in diameter on both the input and output drive shafts. They shall withstand the full torque of the engine. All gears drive and pump, shall be of highest quality electric furnace chrome nickel steel. Bores shall be ground to size and teeth integrated, shaved, hardened and ground to give an extremely accurate gear for long life, smooth quiet running, and higher load carrying capability. An accurately cut spur design shall be provided to eliminate all possible end thrust.

The pump ratio shall be selected by the apparatus manufacturer to give maximum performance with the engine and transmission selected. If gearbox is equipped with a power shift, the shifting mechanism shall be a heat-treated, hard-anodized aluminum power cylinder, with stainless steel shaft. An in-cab control for rapid shift shall be provided that locks in road or pump.

Three green warning lights shall be provided to indicate to the operator when the pump has completed the shift from Road to Pump position. Two green lights to be located in the truck driving compartment and one green light on pump operator's panel adjacent to the throttle control. All lights to have appropriate identification/instruction plates.

Pump Rating, 1500 GPM

**PUMP RATING AND TEST REQUIREMENTS**

The pump shall be of a size and design to mount on the chassis rails of commercial and custom truck chassis, and have the capacity of 1500 gallons per minute (U.S. GPM), NFPA 1901 rated performance. The pump shall deliver the percentage of rated discharge at pressures indicated below:

One (1)

Y \_\_\_ N \_\_\_

100 percent of rated capacity at 150 pounds net pressure  
70 percent of rated capacity at 200 pounds net pressure  
50 percent of rated capacity at 250 pounds net pressure  
100 percent of rated capacity at 165 pounds net pressure

The entire pump shall be assembled and tested at the pump manufacturer's factory. The pump shall be driven by a driveline from the truck transmission. The engine shall provide sufficient horsepower and RPM to enable pump to meet and exceed its rated performance.

One (1)

Altitude Requirements, 0' to 2000 Feet Above Sea Level

Y\_\_N\_\_

**ALTITUDE REQUIREMENTS**

The apparatus shall be designed to meet the specified rating at 0 to 2000' altitude.

One (1)

Direct Injection 2.6 GPM - Class A Only

Y\_\_N\_\_

**FOAM SYSTEM, DIRECT INJECTION**

Fire Research TurboFoam (Or Equivalent) model TFC226-030 direct injection foam proportioning system shall be installed. The system kit shall include a control module, a foam concentrate pump assembly with an electric motor, a discharge flow sensor with mount for a 3.0" pipe, check valves, foam concentrate strainer, cables, and instruction plates including operations, system diagram, and specifications.

The system shall provide the following capabilities:

Foam concentrate pump: 2.6 GPM

Maximum injection pressure: 400 PSI

A Foam Program

Proportioning ratio: 0.1 to 1.0 %

The microprocessor controlled system shall automatically maintain a selected foam percent mixture at the pump discharge regardless of water flow fluctuations. It shall monitor the water flow through the discharge and control the flow rate of foam concentrate from the foam tank. The pump shall inject concentrate under pressure into the discharge side of the pump to create the correct foam solution. Foam concentrate percent shall be displayed. Discharge flow rate, total water flow, and total foam concentrate flow shall be displayed with the push of a button.

The control module shall be pump panel mounted, waterproof, and have dimensions not to exceed 4 1/4" high by 4 1/4" wide by 1 7/8" deep. The push button controls, digital display, and LED indicators shall be located on the front of the control module. A USB port shall be accessed from the rear.

The foam pump assembly shall have an overall length less than 19 1/2", width less than 10", and a height less than 8 7/8". The components of the assembly shall be mounted to a base and include a pump control box, a pump with an electric motor, a pressure relief valve, and a calibration bypass valve. The pump shall be a triplex plunger pump constructed of a die-cast body with cooling fins, a forged brass head, solid ceramic plungers, and viton seals. The pump shall have a custom electric washguard motor specifically designed for wet environments. The 1/2 hp pump motor shall operate at 12 volts DC and draw 55 amps.

**LOW TANK LEVEL SWITCH**

A low tank level switch shall be installed in the foam concentrate tank. The low tank level sensor shall be connected to the foam proportioning system to provide protection against dry running of the foam pump. The low tank level sensor shall be mounted on the side of the foam concentrate tank. The low tank level sensor and electrical connections shall be sealed to prevent infusion of foam concentrate into the wiring and possible short circuit of the tank level sensor.

One (1)

Class 'A' Foam Operation Only

Y\_\_N\_\_

**FOAM SYSTEM TYPE**

The foam system will operate as a Class A system.

Proportioning ratio: A Foam Program  
0.1 to 1.0%

One (1)

Foam Tank Refill System

Y\_\_N\_\_

**SINGLE TANK FOAM TANK REFILL SYSTEM**

A truck mounted 12-volt foam tank refill system shall be provided and installed on the apparatus. The refill system shall provide the ability to automatically refill the foam tank from the ground without carrying foam solution up to the foam cell in the hosebed.

The refill system shall be activated by an on/off rocker switch provided on a control panel installed on the pump panel. The foam refill system will automatically shut off when the foam tank is full. The refill system quick connection shall be located beneath the pump panel running board to prevent foam from spilling onto the running board during connection operations.

**System features:**

- Weather proof on/off rocker switch with integral green power on indicator light
- Red refill PUMP ON indicator light
- Automatic tank fill shutoff, vertical or side mount float switches
- Thermally protected 12-volt motor
- Relay operated motor power circuit
- 5 gpm capacity @ 8 foot lift
- Self priming pump, can run dry and re-prime itself automatically
- Composite pump head with Buna-N diaphragm
- All corrosion resistant components
- Compatible with Class A or Class B foam concentrates
- Quick connect inlet hose with wand
- Suction inlet strainer

One (1)

Foam System Outlets - Mini Pumper

Y\_\_N\_\_

**FOAM SYSTEM OUTLETS**

The foam system shall be distributed into the following discharge outlets:

- Two (2) 1-1/2" crosslays
- The left side 2-1/2" discharge
- The right side 3" discharge

One (1)

Primer, Oil-less

Y\_\_N\_\_

**PRIMING PUMP**

The priming pump shall be a positive displacement vane type, oil-less, electrically driven, and conform to standards outlined in NFPA 1901. One priming control shall both start the priming motor and open the priming valve.

One (1)

Pump Shift, Pneumatic w/Label, Indicator Lights, Mounted Cab/Pump Panel  
**PNEUMATIC PUMP SHIFT**

Y\_\_N\_\_

The pump shift shall be air operated and shall incorporate an air double action piston to shift from road to pump and back. A manual or electric operated pump shift mechanism is not acceptable. The pump shift switch shall be mounted in the cab and identified as "AIR PUMP SHIFT" and include instructions permanently inscribed on the pump shift switch plate. The in-cab operating valve uses a spring loaded locking collar to prevent it from accidentally being moved.

The pump shift control assembly shall incorporate an indicating light system, which will notify the operator when the shift has been completed to PUMP and when the chassis transmission is in correct pumping gear.

The switch that activates the lights must be mounted on the pump transmission and positioned so that the pump shift arm activates the switch only when the shift arm has completed its full travel into PUMP position. An additional indicator light shall be provided adjacent to the throttle control at the pump operator's panel to indicate a completion of the pump shift.

One (1)

Mechanical Seal, Inboard Side, Spring Loaded, Self Adjusting  
**MECHANICAL SEAL**

Y\_\_N\_\_

The fire pump shall be provided with a mechanical pump seal. One (1) only required on the suction, inboard, side of the pump. The mechanical seal shall be two inches in diameter and shall be spring loaded, maintenance free and self-adjusting. Mechanical seal construction shall be a carbon sealing ring, stainless steel coil spring, Viton rubber boot, and a tungsten carbide seat with Teflon backup seal.

One (1)

Anode, Water Pump, Indicator Weep Hole  
**ANODE SYSTEM**

Y\_\_N\_\_

To reduce the effect of galvanic action the pump shall be equipped with two alloy (2) anodes. One anode is to be installed on the inlet (suction) side of the system and one anode is to be installed on the pressure (outlet) side of the system.

The anode brass cap is to be drilled with a 1/8" diameter hole to provide an indicator when the anode alloy element is to be replaced.

One (1)

Intake Pressure Relief Valve,  
**SUCTION PRESSURE RELIEF VALVE**

Y\_\_N\_\_

Task Force Tips (Or Equivalent) model #A1820 pressure relief valve shall be provided. The valve shall have an easy to read adjustment range from 90 to 300 PSI in 90, 125, 150, 200, 250, 300 PSI increments. For corrosion resistance the cast aluminum valve

shall be hardcoat anodized with a powder coat interior and exterior finish. The valve shall be configured for either a Waterous or Hale pump, and have a 2" male NPT threaded discharge outlet. The unit shall be covered by a five-year warranty.

The discharge side of the intake relief valve shall be plumbed to the right side below the running boards, away from but, visible to the pump operator, and shall terminate with an unthreaded pipe. The adjustment control shall be located behind the street side pump panel.

- |  |  |        |
|--|--|--------|
| One (1)  | Master Drain, Manual Mounted Pump Panel<br><b><u>MASTER DRAIN</u></b>  | Y__N__ |
| <p>The apparatus shall be equipped with a Class 1 Manual Master Pump Drain (Or Equivalent) for draining of the lower pump cavities, volute and selected water-carrying lines and accessories. The all brass and stainless steel construction allows for operation up to 600 psi.</p> |  |        |
| One (1)  | Certified NFPA Pump Test, Completed Apparatus Certificate<br><b><u>PUMP CERTIFICATION TEST</u></b>   | Y__N__ |
| <p>The pump shall undergo pump test with line and/or low voltage requirements of NFPA 1901 prior to delivery of the completed apparatus. The certificate shall be furnished with the apparatus on delivery.</p>  |  |        |
| One (1)  | Pump Warranty, Five Year<br><b><u>FIRE PUMP WARRANTY</u></b>   | Y__N__ |
| <p>Standard 5 year warranty (Parts and Labor for the first two years, parts only years 3 - 5) See Hale (Or Equivalent) warranty for full details.</p>  |  |        |
| One (1)  | Electronic Manuals, Pump Service and Operation<br><b><u>ELECTRONIC PUMP MANUALS</u></b>  | Y__N__ |
| <p>Two (2) sets of electronic fire pump service and operation manuals shall be provided with the completed apparatus.</p>  |  |        |
| One (1)  | Steamer Inlet, 6" NST Thread, L/S w/Strainer - No Intake Valves<br><b><u>LEFT SIDE STEAMER INLET</u></b>                                     | Y__N__ |
| <p>There shall be one (1) steamer inlet furnished on the left side pump panel. The suction inlet shall have 6" NST thread. The suction inlet shall have a removable strainer provided inside the external inlet.</p>   |  |        |
| One (1)  | Steamer Inlet, 6" NST Thread, R/S w/Strainer - No Intake Valves<br><b><u>RIGHT SIDE STEAMER INLET</u></b>                                    | Y__N__ |
| <p>There shall be one (1) steamer inlet furnished on the right side pump panel. The suction inlet shall have 6" NST thread. The suction inlet shall have a removable strainer provided inside the external inlet.</p>  |  |        |
| One (1)  | Pump Side Intake, Left Side<br><b><u>LEFT SIDE INTAKE</u></b>  | Y__N__ |
| One (1)  | There shall be an intake located on the left (street) side of the pump and shall contain:<br>Suction Inlet, Side 2.5" - Side Operated Module | Y__N__ |

- A 2-1/2" intake shall be provided. The inlet shall have a 2-1/2" quarter-turn swing-out valve. The inlet shall be provided with a 2-1/2" NST female swivel that extends through the pump panel.
- One (1) Suction Valve Control, Swing Type, Side, Adjacent To Valve Y\_\_N\_\_  
The inlet valve shall have a swing type control handle located adjacent to the valve.
- One (1) Discharge, Left Side Y\_\_N\_\_  
**LEFT SIDE DISCHARGE #2**
- The second from the forward discharge on the left (street) side of the pump panel shall contain:
- One (1) Discharge, Right Side Front Y\_\_N\_\_  
**RIGHT SIDE FRONT DISCHARGE**
- One (1) The forward discharge on the right (curb) side of the pump panel shall contain:  
Discharge, Right Side Rear Y\_\_N\_\_  
**RIGHT SIDE REAR DISCHARGE**
- One (1) The second from the forward discharge on the right (curb) side of the pump panel shall contain:  
Discharge, Side, 2.5" - 30 degree Elbow - Manual Control Y\_\_N\_\_  
A 2-1/2" discharge shall be provided. The discharge outlet shall have a 2-1/2" quarter-turn swing-out valve. The discharge shall be provided with chrome plated 30-degree discharge elbow with 2-1/2" NST male threads that extends through the pump panel.
- One (1) Discharge, Side, 3" - 30 degree Elbow - Manual Control Y\_\_N\_\_  
A 3" discharge shall be provided. The discharge outlet shall have a 3" quarter-turn swing-out valve. The discharge shall be provided with chrome plated 30-degree discharge elbow with 3" NST male threads that extends through the pump panel.
- One (1) Discharge, Side, 4" - Straight - Electric Control Y\_\_N\_\_  
A 4" discharge shall be provided. The discharge outlet shall have a 4" quarter-turn swing-out valve. The discharge shall be provided with chrome plated straight discharge with 4" NST male threads that extends through the pump panel.
- Control of the outlet shall be accomplished using an electric controller. There shall be an LED indicator on the controller to indicate the valve position.
- One (1) Pump House Crosslay, (2) Beds, 1-1/2 double stacks Y\_\_N\_\_  
**PUMP CROSSLAYS**

There shall be two (2) hose storage crosslay areas mounted on top of the pump module. They shall be arranged in a double stack design with a divider in the center. Each hose storage area shall be provided with dimensions of 9" wide x 57" deep x 13" tall [4 cu. ft. each].

**DISCHARGE VALVES**

There shall be one (1) discharge outlet in each hose storage compartment.

The discharge outlet shall have a 2" quarter-turn swing-out valve with a push pull type control handle adjacent to the valve. The discharge shall be provided with a swivel head with 1-1/2" NH male threads that extend through the hose compartment floor.



**CROSSLAY HOSE GUIDES**

One (1) Brushed stainless steel hose guides shall be provided on the left and right side of each hose bed.  
Cover, Crosslay, Vinyl w/End Flaps Y\_\_N\_\_  
**CROSSLAY HOSEBED COVER**

One (1) A vinyl coated nylon hosebed cover shall be provided over the crosslay hosebeds.  
Cover Color, Crosslay, Vinyl, Midnight Black Y\_\_N\_\_

One (1) The vinyl crosslay cover shall be Midnight Black in color.  
Ball Valves, Brass Y\_\_N\_\_  
**ELKHART BALL VALVES**

One (1) All discharge ball valves shall be Elkhart (Or Equivalent) heavy duty swing out valve with stainless steel ball unless specified otherwise.  
Tank Fill Tower, 8" x 8", w/4" Vent Y\_\_N\_\_  
**TANK LID & FILL TOWER**

The tank shall have a combination vent and fill tower. The fill tower shall be constructed of 1/2" thick Polyprene & Mac226 and shall be a minimum dimension of 8"x 8" outer perimeter. The tower shall be located in the center front the tank unless otherwise specified by the purchaser. The tower shall have a 1/4" thick removable Polyprene & Mac226; screen and a Polyprene & Mac226 hinged-type cover. Inside the fill tower, there shall be a combination vent overflow pipe. The vent overflow shall be a minimum of schedule 40 pipe with a minimum ID of 4" that is designed to run through the tank, and shall be piped behind the rear axle beneath the tank.

The tank cover shall be constructed of recessed 1/2" thick Polyprene & Mac226, stress relieved, UV stabilized material. A minimum of two lifting dowels shall be drilled and tapped to accommodate the lifting eyes.

**OVERFLOW AND VENT PIPE**

One (1) The fill tower shall be fitted with an integral 4" ID, Schedule 40 PVC combination overflow/vent pipe running from the fill tower through the tank to a 4" coupling flush mounted into the bottom of the tank to allow water to overflow beneath the chassis.  
Water Tank Capacity, T-Tank, 300 US Gallons Y\_\_N\_\_  
**WATER TANK CAPACITY**

One (1) The water tank shall be rectangular shaped and shall have a capacity of 300 US gallons.  
Cubic Ft, Body 139/Hosebed 40, Hosebed Height, 44", 108" OAL Y\_\_N\_\_  
**BODY MODULE CAPACITIES AND HOSEBED HEIGHT**

The total capacity of the body module exterior compartments shall be 139 cubic feet.

The total capacity of the body hosebed shall be approximately 40 cubic feet.

The hosebed shall be approximately 44" from the bumper.

One (1) The body shall have an overall length of 108".  
Foam Tank, (1) 15 Gallons, Class A, Tank Internal Y\_\_N\_\_  
**INTERNAL FOAM TANK**

A minimum fifteen (15) gallon foam concentrate tank shall be furnished as an internal component of the booster tank. Mounted to the left side of the fill tower in the hosebed area. The foam tank shall be equipped with a pressure/vacuum vent cap.

The foam tank shall be plumbed to the on board "Class A" foam system. A drain valve shall be provided at the lowest point of the foam tank. The foam tank shall drain shall directly to the surface below the apparatus without contacting other body or chassis components. The following labels shall be attached to the foam tank:

One (1) "CLASS A FOAM TANK FILL"  
"WARNING: DO NOT MIX BRANDS AND TYPES OF FOAM"  
Piping, Tank To Pump, 3" w/3" Air Operated Ball Valve Y\_\_N\_\_  
**TANK TO PUMP**

The tank to pump piping shall be capable of delivering water to the pump at a rate of five hundred (500) gallons per minute. This flow shall be sustained while pumping to a minimum of 80% of the certified tank capacity with the apparatus on level ground.

One (1) The tank to pump line shall run from the pump to the front face of the water tank and down into the tank sump. A rubber coupling shall be included in this line to prevent damage from vibration or chassis flexing. The tank to pump line shall be 3" I.D. piping with a 3" ball valve.  
Tank Refill, 2" Line w/ 1/4 Turn Ball Valve Y\_\_N\_\_  
**TANK REFILL**

A 2" tank refill line shall be provided using a 2" quarter-turn full flow ball valve controlled from the pump operator's panel with a manual locking handle. The tank refill shall be plumbed with high pressure flexible piping and high pressure flexible piping stainless steel couplings.

One (1) Gauge, (1) Water Tank Level Y\_\_N\_\_  
**WATER TANK INDICATOR**

Fire Research TankVision (Or Equivalent) model WLA300-A00 tank indicator kit shall be installed. The kit shall include an electronic indicator module, a pressure sensor, and a 10' sensor cable. The indicator shall show the volume of water in the tank on nine (9) easy to see super bright LEDs. A wide view lens over the LEDs shall provide for a viewing angle of 180 degrees. The indicator case shall be waterproof, manufactured of aluminum, and have a distinctive blue label.

The program features shall be accessed from the front of the indicator module. The program shall support self-diagnostics capabilities, self-calibration, and a data link to connect remote indicators. Low water warnings shall include flashing LEDs at 1/4 tank, down chasing LEDs when the tank is almost empty, and an output for an audio alarm.

The indicator shall receive an input signal from an electronic pressure sensor. The sensor shall be mounted from the outside of the water tank near the bottom. No probe shall place on the interior of the tank. Wiring shall be weather resistant and have automotive type plug-in connectors.

One (1) Cap, 6" Long Handle Y\_\_N\_\_  
**LARGE DIAMETER CAP**

One (1) A six (6) inch chrome plated cap with long handles shall be supplied. The cap shall be capable of withstanding 500 PSI and be trimmed with the apparatus manufacturer's logo in the center of the cap.  
 Cap, 6" Long Handle  
**LARGE DIAMETER CAP** Y\_\_N\_\_

One (1) A six (6) inch chrome plated cap with long handles shall be supplied. The cap shall be capable of withstanding 500 PSI and be trimmed with the apparatus manufacturer's logo in the center of the cap.  
 Intake Plug, (Qty) 2.5" w/Cap & Chain Y\_\_N\_\_

One (1) One (1) 2-1/2" chrome plated rocker lug plug with chain shall be supplied. 4" NST F to 5" Storz (or equivalent) - 30degree - Swivel  
**STORZ ADAPTER** Y\_\_N\_\_

One (1) One (1) 4" NST Female swivel thread 30-degree down to 5" Storz (or equivalent) hard coated aluminum adapter shall be provided.  
 (Qty) 5" Storz (or equivalent) w/cap & lanyard Y\_\_N\_\_

One (1) One (1) 5" Storz (or equivalent) cap and lanyard with a suction gasket shall be provided. Discharge Cap, (Qty) 2.5" Chrome Vented Rocker Lug w/Chain  
**DISCHARGE CAP** Y\_\_N\_\_

One (1) One (1) chrome plated, Class 1, 2-1/2" rocker lug cap with lug vent and chain shall be furnished.  
 Discharge Cap, (Qty) 3" Chrome Vented Rocker Lug w/Chain  
**DISCHARGE CAP** Y\_\_N\_\_

One (1) One (1) chrome plated, Class 1, 3" rocker lug cap with lug vent and chain shall be furnished.  
 Body Design and Construction, Utility/Mini, Stainless Steel  
**PURCHASE INTENT** Y\_\_N\_\_

The apparatus being purchased is expected to have an 18 to 20 year service life. Based on this requirement, the department is extremely concerned that the apparatus remains structurally sound and the outward appearance remains in a "like new" condition, with minimal maintenance and upkeep, throughout the intended service life.

Aluminum apparatus bodies and differing construction designs will be reviewed and considered ONLY if the builder / manufacture provides in the respondent specifications adequate proof that procedures and materials employed in the design prevent corrosion over the intended service life. Burden of proof is on the bidder and final determination of acceptability will be solely determined by the department.

The entire body design shall be of a laser machined, bolted design to allow for ease of removal for repair or replacement, without cutting welds.

**APPARATUS BODY DESIGN AND CONSTRUCTION**

The apparatus body shall be built of stainless steel and shall be designed exclusively for Fire Service use. The overall body width shall be 95 inches wide. All metal work shall be free of sharp edges, objects or corners. No exceptions are allowed to this requirement.

The body design shall be fully tested with proven engineering and test techniques such as finite element analysis, stress coating, and strain gauging. Engineering and test techniques shall have been performed with special attention given to fatigue life and structural integrity of compartments and body support system.

The apparatus body shall be designed with the use of parametric modeling engineering software to ensure proper design of panel cuts and alignment of holes in mating parts. The entire apparatus body shall be a precision laser machined, bolted construction, properly reinforced with integral flanges eliminating the need for additional structural shapes. Hose body fabrications shall be free of all internal projections which might injure personnel or fire hose.

**MODULAR BODY REQUIREMENTS**

The body shall be completely modular in design allowing transfer of body components to a new chassis in the event of an accident or wear. Body components shall be removable from chassis without cutting or bending. The modular design shall also facilitate ease of repair or replacement of major or minor body parts. The mounting of the apparatus body shall be separate and distinct from the water tank mounting and the pump module mounting.

All body panels are to be laser machined on a CAM controlled laser to ensure accuracy (+/- .010"). This shall greatly enhance assembly and matching of repair parts. The body compartment floors, rear walls and roof areas shall be constructed of 12-gauge stainless steel. The vertical front and rear walls are designed with 14-gauge stainless steel. These front and rear walls are designed as a structural beam with the inclusion of the design.

Interior stainless steel panels shall be #4B finish to eliminate the need for high maintenance painted surfaces in the compartments. All exterior stainless steel panels shall have #4B finish.

The entire body shall be fabricated using precision holding fixtures to ensure accurate dimensions. Body front and rear vertical flanges shall be triple broken, providing a mounting area for rear hand rails. Major body components shall consist of right and left body sides, and rear facing compartments.

**COMPARTMENT ROOF CONSTRUCTION**

Each compartment top shall have a bolt in 12-gauge stainless roof section for supporting roof loads of up to 500 pounds per square foot without permanent roof deformation. The stainless roof sections shall attach the compartment rear wall and compartment vertical sides through a fastened joint creating a full perimeter compartment attachment of the stainless roof section.

One (1)

Compartment Interior Finish

Y\_\_N\_\_

**COMPARTMENT INTERIOR FINISH**

For better interior visibility, to reflect light better, ease of maintenance and prevent the masking of poor welds and questionable workmanship the interior of the body compartments shall remain uncoated.

One (1)

Hosebed, S/S w/5" Extended Sides/Removable HD Ext Aluminum Floorboards

Y\_\_N\_\_

**APPARATUS BODY HOSEBED**

The hose bed shall be constructed in such a manner that will prevent damage to fire hose. The hosebed shall comply with the current NFPA requirements. The interior of the hosebed shall be free of projections such as nuts, sharp edges or brackets that may damage hose. The hosebed and walls shall be manufactured from stainless steel. No exceptions to this requirement are allowed.

An aluminum extrusion shall be installed over the rear opening of the hosebed to protect the body from wear. The hosebed bottom shall be fitted with removable slatted, ribbed 6" heavy-duty extruded aluminum floorboards.

One (1) Divider, Hosebed, Adjustable, Smooth Aluminum w/Radius Corner  
**ADJUSTABLE HOSE BED DIVIDERS**

Y\_\_N\_\_

An adjustable hosebed divider shall be provided. The divider shall be fabricated from .250" thick smooth aluminum plate, 5052-H32 alloy. The rear end of each divider shall have a 3" radius corner and shall be sanded and deburred to prevent damage to hose.

There shall be two hand hold openings provided. One (1) at the rear in a vertical position and one (1) approximately 24 inches in from the rear in a horizontal position.

One (1) Hosebed Cover, Black  
**HOSEBED COVER**

Y\_\_N\_\_

A black vinyl hosebed cover shall be provided and designed to cover the entire main hosebed area. The cover shall be installed with "stretch cord type" fasteners along each side of the hosebed. A weighted flap shall be incorporated into the rear edge of the cover.

The hosebed cover rear flap shall have a positive locking device to meet the requirements of NFPA.

One (1) Frame Extension, Class IV Hitch Rear  
**CHASSIS FRAME EXTENSION**

Y\_\_N\_\_

There shall be a rear three (3) inch x four (4) inch x 1/4 inch wall ASTM A-500 grade B rectangular tubing frame extension to provide frame support for the rear of the apparatus body.

Two vertical mounting plates are to be welded to the tubing to provide a drop frame connection to the truck chassis. This extension assembly is to be bolted to the truck chassis with eight (8) 1/2 grade 8 bolts with hardened flat washers to form an integral part of the truck frame assembly.

**RECEIVER HITCH**

There shall be a Class IV receiver hitch assembly as an integral part of the chassis rear frame extension that is located at the rear of the apparatus below the rear step.

**EXTENSION PAINT FINISH**

The rear frame extension assembly and hitch assembly is to be black powder coated prior to installation.

One (1) Ext Compartment Design and Construction  
**COMPARTMENT DESIGN AND CONSTRUCTION**

Y\_\_N\_\_

All compartments shall be manufactured from 12-gauge stainless steel with the vertical front and rear corner walls from 14-gauge, shall be of sweep out design and shall be bolted together. Stainless recessed round head bolts and stainless aircraft style "ESNA" nuts shall be applied with proper torque rating for each fastener. This type of construction shall greatly enhance the strength and ease of parts replacement in the event of damage and future modifications. Wherever possible, body bolts shall be hidden from plain view for appearance and ease of apparatus cleaning.

One (1)

Compartment Ventilation w/Filtration

Y\_\_N\_\_

**COMPARTMENT VENTILATION**

Each compartment shall be provided with a laser cut louver to provide adequate ventilation.

**VENT FILTRATION**

There shall be filters provided for compartments L1, L3, R1, R3 and RR1. The protective louver covering the filter shall be removable to allow for filter changing.

The filter shall be 100% virgin nylon fiber in an open web design that is USDA approved. The filter shall be chemically treated with Dimethyl Benzyl Ammonium Saccharinate to aid in the reduction of bacteria and fungi.

One (1)

Compartment Body - 300 gallon - Mini Pumper

Y\_\_N\_\_

One (1)

Left Side Compartments - Mini Pumper

Y\_\_N\_\_

**LEFT SIDE COMPARTMENT DIMENSIONS**

**FORWARD OF WHEEL WELL**

There shall be one (1) rescue style, full height, full depth compartment ahead of the rear wheels. The compartment dimensions shall be 35-1/2" wide x 57" high x 22" deep with the door closed. The door opening shall be 26-1/2" wide x 49-1/2" tall.

**ABOVE WHEEL WELL**

There shall be one (1) high side full depth compartment centered over the rear wheels. The compartment dimensions shall be 44" wide x 40" high x 22" deep with the door closed. The door opening shall be 42" wide x 34-1/2" tall.

**REAR OF WHEEL WELL**

There shall be one (1) rescue style, full height, full depth compartment behind the rear wheels. The compartment dimensions shall be 23-1/2" wide x 57" high x 22" deep with the door closed. The door opening shall be 19" wide x 49-1/2" tall.

One (1)

Roll Up Doors, L/S, Painted Finish - Mini Pumper

Y\_\_N\_\_

**ROLLUP DOOR CONSTRUCTION - LEFT SIDE**

All left side compartments shall be provided with Gortite (Or Equivalent) roll up doors. The roll up doors shall be constructed of double sided aluminum extrusions connected with a ball and socket joint. The extrusions shall be 1-3/8" wide x 3/8" thick and shall be painted to match the job color. A flexible EDPM extrusion shall be provided between each slat to insure a weather tight seal. Aluminum extrusions shall be individually

replaceable without disassembling the entire door by removing push out clips on each end.

Side channels for each door to ride in shall be provided with santoprene seals to prevent dirt and moisture from entering the exterior compartment. A single piece top drip rail shall be provided with a santoprene seal to prevent dirt and moisture from entering the compartment when the door is fully closed. The bottom of each door shall also be provided with a santoprene seal. All nonmetallic parts shall be glass filled nylon.

One (1) Door Latches, L/S, Non-Locking Lift Bar w/Door Ajar Switch Y\_\_N\_\_

The left side door latches shall be non-locking stainless steel lift bars and shall be provided with a magnetic door ajar switch system.

One (1) Door Latches, L/S, Non-Locking Lift Bar w/Door Ajar Switch Y\_\_N\_\_

The left side door latches shall be non-locking stainless steel lift bars and shall be provided with a magnetic door ajar switch system.

One (1) Wheel Area, Single Axle Y\_\_N\_\_

**FENDER SIDE SKIRTS**

There shall be stainless steel fender side skirts located in the area of the rear wheels. The design of the fender sides shall be a minimal length to provide maximum compartment space in the apparatus.

One (1) Right Side Compartments - Mini Pumper Y\_\_N\_\_

**RIGHT SIDE COMPARTMENT DIMENSIONS**

**FORWARD OF WHEEL WELL**

There shall be one (1) rescue style, full height, full depth compartment ahead of the rear wheels. The compartment dimensions shall be 35-1/2" wide x 57" high x 22" deep with the door closed. The door opening shall be 26-1/2" wide x 49-1/2" tall.

**ABOVE WHEEL WELL**

There shall be one (1) high side full depth compartment centered over the rear wheels. The compartment dimensions shall be 44" wide x 40" high x 22" deep with the door closed. The door opening shall be 42" wide x 34-1/2" tall.

**REAR OF WHEEL WELL**

There shall be one (1) rescue style, full height, full depth compartment behind the rear wheels. The compartment dimensions shall be 23-1/2" wide x 57" high x 22" deep with the door closed. The door opening shall be 19" wide x 49-1/2" tall.

One (1) Roll Up Doors, R/S, Painted Finish - Mini Pumper Y\_\_N\_\_

**ROLLUP DOOR CONSTRUCTION - RIGHT SIDE**

All right side compartments shall be provided with Gortite (Or Equivalent) roll up doors. The roll up doors shall be constructed of double sided aluminum extrusions connected with a ball and socket joint. The extrusions shall be 1-3/8" wide x 3/8" thick and shall be painted to match the job color. A flexible EDPM extrusion shall be provided between each slat to insure a weather tight seal. Aluminum extrusions shall be individually replaceable without disassembling the entire door by removing push out clips on each end.

- Side channels for each door to ride in shall be provided with santoprene seals to prevent dirt and moisture from entering the exterior compartment. A single piece top drip rail shall be provided with a santoprene seal to prevent dirt and moisture from entering the compartment when the door is fully closed. The bottom of each door shall also be provided with a santoprene seal. All nonmetallic parts shall be glass filled nylon.
- One (1) RR1, Exterior Compartment, Rear, 33-1/2" H x 48" W x 42" D, Full Height Y\_\_N\_\_  
REAR COMPARTMENT DIMENSIONS
- There shall be one (1) full height compartment at the rear of the body. It shall have approximate dimensions of 48" wide x 33-1/2" high x 42" deep. The door opening shall be 45-1/2" x 24" tall.
- One (1) Roll Up Door, Rear, Satin Anodized Finish, Full Height Y\_\_N\_\_  
ROLLUP DOOR CONSTRUCTION - REAR
- The rear compartment shall be provided with a Gortite (Or Equivalent) roll up door that shall be constructed of double sided aluminum extrusions connected with a ball and socket joint. The extrusions shall be 1-3/8" wide x 3/8" thick with satin anodized finishing. A flexible EDPM extrusion shall be provided between each slat to insure a weather tight seal. Aluminum extrusions shall be individually replaceable without disassembling the entire door by removing push out clips on each end.
- Side channels for the rear door to ride in shall be provided with santoprene seals to prevent dirt and moisture from entering the exterior compartment. A single piece top drip rail shall be provided with a santoprene seal to prevent dirt and moisture from entering the compartment when the door is fully closed. The bottom of the door shall also be provided with a santoprene seal. All nonmetallic parts shall be glass filled nylon.
- One (1) Door Latch, Rear, Non-Locking Lift Bar w/Door Ajar Switch Y\_\_N\_\_  
The rear door latch shall be a non-locking stainless steel lift bar and shall be provided with a magnetic door ajar switch system.
- One (1) Fuel Fill, L/S Rear Fender w/Door, Label Y\_\_N\_\_  
FUEL FILL - SIDE BODY
- The fuel fill shall be located in the rear fender area on the left side of the apparatus body. The spring loaded fuel fill door shall have "Diesel Fuel" laser cut in the face of the door.
- One (1) Fenderettes and Wheel Well Liners - Stainless Y\_\_N\_\_  
BODY FENDERS - POLISHED
- The apparatus body fenders shall be made from 16 gauge polished stainless steel and shall be rolled, die stamped and fully removable. The stainless steel fenders and stainless fender liners shall be fastened with stainless bolts and ESNA nuts to the outer fender panel.
- One (1) Mud Flaps, Rear Y\_\_N\_\_  
REAR AXLE MUD FLAPS
- Two (2) black, anti-sail, mud flaps shall be mounted behind the rear wheels.
- One (1) Tray, (2) 9' Suction, L/S, Above Compartment - Utility Y\_\_N\_\_  
HARD SUCTION TRAYS - LEFT SIDE
- Two (2) stainless steel hard suction trays shall be installed on the top of the compartment on the left (driver's) side of the apparatus.



Each tray shall be designed to accommodate hard suction hose in a nine (9) foot length. The suction shall be held in place with straps attached to the tray with footman loops.

One (1) Lights, Compartment, LED Strip, Armor Protected - White/Red Y\_\_N\_\_  
**APPARATUS COMPARTMENT LIGHTING**

Two (2) LED, armor protected, strip lights shall be provided one (1) each side of the compartment at the door frame for each body compartment. Each body door shall have an automatic compartment light switch.

There shall be a white/red color selector switch in the cab that controls the color of this lighting.

One (1) Steps, Folding, Rear of Body - Three Y\_\_N\_\_  
**FOLDING STEPS**

Three (3) folding steps shall be provided on the left rear of the apparatus body.

Three (3) Upgraded Folding Step with LED light Y\_\_N\_\_  
The folding step(s) shall include an integrated LED light beneath each step. This light shall illuminate when the apparatus ground lights are activated. The bottom of the step and step mounting shall include white reflective material to aide in locating the step when the vehicle ground lights are not activated.

One (1) Beveled Rear Tailboard, 8", LaserGrip Stainless Steel Y\_\_N\_\_  
**BEVELED REAR TAILBOARD**

A rear tailboard 8" deep shall be provided at the rear from "Laser Grip" stainless steel. The tailboard shall provide recessed for the rear ICC marker lights. It shall be bolted to the rear support structure. The corners of the rear bumper shall be beveled back to reduce the rear bumper swing of the vehicle.

One (1) STANDARD Shelf, Tray, Toolboard Package Y\_\_N\_\_

One (1) Shelf Package, Deep - One (1) each in R1, L1, R3, L3 Y\_\_N\_\_  
**ALUMINUM SHELVES - ADJUSTABLE**

Four (4) adjustable aluminum shelves shall be provided with one (1) each installed in R1, L1, and R3 compartments. The shelves shall have a flange 1-1/2" deep with a minimum material thickness of .190". Each shelf shall be adjustable in height and held in place by four (4) extruded uprights.

One (1) Compartment L3 shall have two (2) vertically mounted, slide out, tool boards. Y\_\_N\_\_  
Shelf Package, Deep - One (1) each in R2, L2  
**ALUMINUM SHELVES - ADJUSTABLE**

Two (2) adjustable aluminum shelves shall be provided with one (1) each installed in R2 and L2 compartments. The shelves shall have a flange 1-1/2" deep with a minimum material thickness of .190". Each shelf shall be adjustable in height and held in place by four (4) extruded uprights.

One (1) Shelf Package, - One (1) in RR1 Y\_\_N\_\_  
**ALUMINUM SHELF - ADJUSTABLE**



The ground light shall consist of three white Super-LEDs installed at 45° angle with a TIR reflector for supreme radiance.

One (1)

There shall be two (2) Whelen (Or Equivalent) M4 Series Model # M4R Super LED warning lights mounted on the front brush guard facing forward.

Brush Guard Side Warning- LED Package

**COMBINATION FRONT WARNING AND GROUND LIGHT**

Y\_\_N\_\_

There shall be two (2) Whelen (Or Equivalent) M4 Series Model # M4V2R combination 180° warning/ground lights mounted on the front brush guard facing to the side.

The warning light shall consist of two V-series Super-LEDs with clear TIR reflectors maximum illumination.

The ground light shall consist of three white Super-LEDs installed at 45° angle with a TIR reflector for supreme radiance.

There shall be two (2) Whelen (Or Equivalent) M4 Series Model # M4R Super LED warning lights mounted, one (1) on each front fender, facing each side.

One (1)

Body Side Warning- LED Package

**COMBINATION FRONT WARNING AND GROUND LIGHT**

Y\_\_N\_\_

There shall be two (2) Whelen (Or Equivalent) M4 Series Model # M4V2R combination 180° warning/ground lights mounted on each side of the body in the forward wheelwell area.

The warning light shall consist of two V-series Super-LEDs with clear TIR reflectors maximum illumination.

The ground light shall consist of three white Super-LEDs installed at 45° angle with a TIR reflector for supreme radiance.

One (1)

Upper Rear- LED Package

**REAR UPPER LEVEL WARNING / PERIMETER LIGHTS**

Y\_\_N\_\_

There shall be two (2) Whelen (Or Equivalent) M4 Series Model # M4V2R combination 180° warning/perimeter lights mounted facing the rear, one (1) each side of the body in the upper position.

The warning light shall consist of two V-series Super-LEDs with clear TIR reflectors maximum illumination.

The perimeter light shall consist of three white Super-LEDs installed at 45° angle with a TIR reflector for supreme radiance. Perimeter lighting is switched with the ground lighting.

There shall be two (2) Whelen (Or Equivalent) M4 Series, Model # M4R warning lights mounted facing the rear, one (1) each side of the body.

- One (1) There shall be one (1) Whelen (Or Equivalent) Super LED traffic advisor, Model # TAD8RR, mounted facing the rear. It shall be directly above compartment RR1.  
Lower Rear- LED Package  
**REAR LOWER LEVEL WARNING / PERIMETER LIGHTS** Y\_\_N\_\_
- There shall be two (2) Whelen (Or Equivalent) M4 Series Model # M4V2R combination 180° warning/perimeter lights mounted facing the rear, one (1) each side of the body in the lower position.
- The warning light shall consist of two V-series Super-LEDs with clear TIR reflectors maximum illumination.
- The perimeter light shall consist of three white Super-LEDs installed at 45° angle with a TIR reflector for supreme radiance. Perimeter lighting is switched with the ground lighting.
- One (1) (2) Mounted Front Body Top  
**BODY LED WORKLIGHTS** Y\_\_N\_\_
- One (1) Two (2) Maxxima (Or Equivalent) MWBL-1 15 LED 1.450 lumen adjustable hosebed floodlights shall be provided. One (1) mounted at the front right corner and one (1) on the front left corner of the body.  
Left Front Corner - Utility  
**LEFT FRONT QUARTZ LIGHT** Y\_\_N\_\_
- One (1) The following light shall be provided mounted on the left front corner of the body:  
Right Front Corner - Utility  
**RIGHT FRONT QUARTZ LIGHT** Y\_\_N\_\_
- One (1) The following light shall be provided mounted on the right front corner of the body:  
150W, 12VDC  
Fire Research (Or Equivalent) Focus model FCA100-D15 lamp head shall be provided. The lamp head mounting arm shall terminate in 3/4" NPT threads. Wiring shall extend from the lamp head mounting arm bottom. Y\_\_N\_\_
- One (1) The lamp head shall have one (1) quartz halogen 150 watt 12 volt bulb. The bulb will draw 12.5 amps and generate 2600 lumens. The bulb shall be accessible through the front. The lamp head shall direct 50 percent of the light onto the action area while providing 50 percent to illuminate the working area. The lamp head angle of elevation shall be adjustable at a pivot in the mounting arm and the position locked with a round knurled locking knob. The lamp head shall incorporate heat-dissipating fins and be no more than 5" deep by 3 3/8" high by 10" wide. Lamp head and mounting arm shall be powder coated white. The floodlight shall be UL listed as a scene light for fire service use.  
150W, 12VDC  
Fire Research (Or Equivalent) Focus model FCA100-D15 lamp head shall be provided. The lamp head mounting arm shall terminate in 3/4" NPT threads. Wiring shall extend from the lamp head mounting arm bottom. Y\_\_N\_\_

The lamp head shall have one (1) quartz halogen 150 watt 12 volt bulb. The bulb will draw 12.5 amps and generate 2600 lumens. The bulb shall be accessible through the front. The lamp head shall direct 50 percent of the light onto the action area while providing 50 percent to illuminate the working area. The lamp head angle of elevation shall be adjustable at a pivot in the mounting arm and the position locked with a round knurled locking knob. The lamp head shall incorporate heat-dissipating fins and be no more than 5" deep by 3 3/8" high by 10" wide. Lamp head and mounting arm shall be powder coated white. The floodlight shall be UL listed as a scene light for fire service use.

- |         |  |        |
|---------|--|--------|
| One (1) | Lamphead ON / OFF Switch<br>Fire Research (Or Equivalent)-ON option switch shall be installed on the lamp head. The weatherproof on-off toggle switch shall be mounted on the lamp head.   | Y__N__ |
| One (1) | Lamphead ON / OFF Switch<br>Fire Research (Or Equivalent)-ON option switch shall be installed on the lamp head. The weatherproof on-off toggle switch shall be mounted on the lamp head.   | Y__N__ |
| One (1) | FRC (Or Equivalent), Bottom Raise Pole -530<br>The light head shall be mounted on a side mount push up telescopic pole. 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.  | Y__N__ |
| One (1) | FRC (Or Equivalent), Bottom Raise Pole - 530<br>The light head shall be mounted on a side mount push up telescopic pole. 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. | Y__N__ |
| One (1) | Switch, Remote, 12 V, Mounted Cab<br>One (1) 12-volt, switch(es) shall be located in the cab switch panel. The switch(es) shall control the 12-volt quartz lighting fixture(s) as selected.  | Y__N__ |
| One (1) | Switch, Remote, 12 V, Mounted Cab<br>One (1) 12-volt, switch(es) shall be located in the cab switch panel. The switch(es) shall control the 12-volt quartz lighting fixture(s) as selected.  | Y__N__ |
| One (1) | Wheel Chocks, (2) Worden (Or Equivalent) 7HY HD, Yellow Alum - OES<br><b><u>WHEEL CHOCKS</u></b><br><br>One pair of heavy duty, extruded aluminum wheel chocks measuring 8" high x 7" wide x 11.8" long shall be provided with the apparatus. Worden (Or Equivalent) 7HY HD Yellow Handled Extrusions are the requested chocks. The wheel chocks shall have a bright yellow powder coat finish for high visibility, safety and corrosion resistance. No exception shall be allowed to these requirements.                    | Y__N__ |
| One (1) | Two chock holders shall be provided and mounted one on each side of the apparatus just ahead of the rear tires below the front body compartment.<br>Compartment Top Ladder Group - 8-Fold, 8-Roof, 14-2 Sec  | Y__N__ |
| One (1) | Ladder, 8', Aluminum<br><b><u>ROOF LADDER</u></b>  | Y__N__ |

- One (1) One (1) 8' Duo-Safety (Or Equivalent) model 775-A, aluminum channel rail roof ladder with folding roof hooks shall be provided with the apparatus.  
Ladder, 8' Folding Attic, Aluminum  
**ATTIC LADDER** Y\_\_N\_\_
- One (1) One (1) 8' Duo-Safety (Or Equivalent) model 585-A aluminum folding attic ladder shall be provided with the apparatus.  
Ladder, 14' Two-Sect Ext, Solid Beam Aluminum  
**EXTENSION LADDER** Y\_\_N\_\_
- One (1) One (1) 14' two-section Duo-Safety (Or Equivalent) model 1000A solid beam, aluminum extension ladder shall be provided with the apparatus.  
Striping, 4" Scotchlite (or equivalent), Reflective, Vehicle Perimeter  
**REFLECTIVE SAFETY STRIPE** Y\_\_N\_\_
- One (1) A 4" wide 3M brand Scotchlite (Or Equivalent) reflective stripe shall be affixed to the perimeter of the vehicle. The striping shall be placed up to 60" above ground level and shall conform to NFPA reflectivity requirements. At least 60% of the perimeter length of each side and width of the rear and at least 25% of the perimeter width of the front of the vehicle shall have reflective stripe.  
Base Stripe Color, White Reflective  
**REFLECTIVE STRIPE COLOR** Y\_\_N\_\_
- One (1) The apparatus body striping shall be white reflective.  
Chevron, Rear Body NFPA, 6" - Pumper Tall Rear Door  
**REAR BODY REFLECTIVE CHEVRON STRIPING** Y\_\_N\_\_
- One (1) The rear-facing vertical surfaces of the rear taillight panels and the rear body inset area beside the full height rear door(s), visible from the rear of the apparatus, including the rear compartment door(s), shall be equipped with six (6) inch wide retroreflective striping in a chevron pattern sloping downward and away from the centerline of the vehicle at an angle of 45 degrees.  
Chevron Color - Red and Yellow Reflective  
Each stripe in the chevron shall be a single color alternating between red (3M #-82) and yellow (3M #-81). Y\_\_N\_\_
- One (1) Water Tank Warranty - Service Life  
**WATER TANK WARRANTY** Y\_\_N\_\_
- The water tank is to be free from defects in material and workmanship for the normal service life of the apparatus in which the water tank is installed.
- If a tank has a defect in material or workmanship covered by the warranty, the tank manufacturer shall repair at their cost, by authorized personnel or authorized third parties. The tank manufacturer shall make an effort to effectuate repair within 48 hours following initial notification of a covered defect. The tank manufacturer shall make a reasonable effort to repair tank at most convenient location to end user.
- The tank manufacturer shall reimburse all reasonable costs associated with rendering the tank accessible for repair, including, but not limited to, removal and reassembly of the hose bed floor.