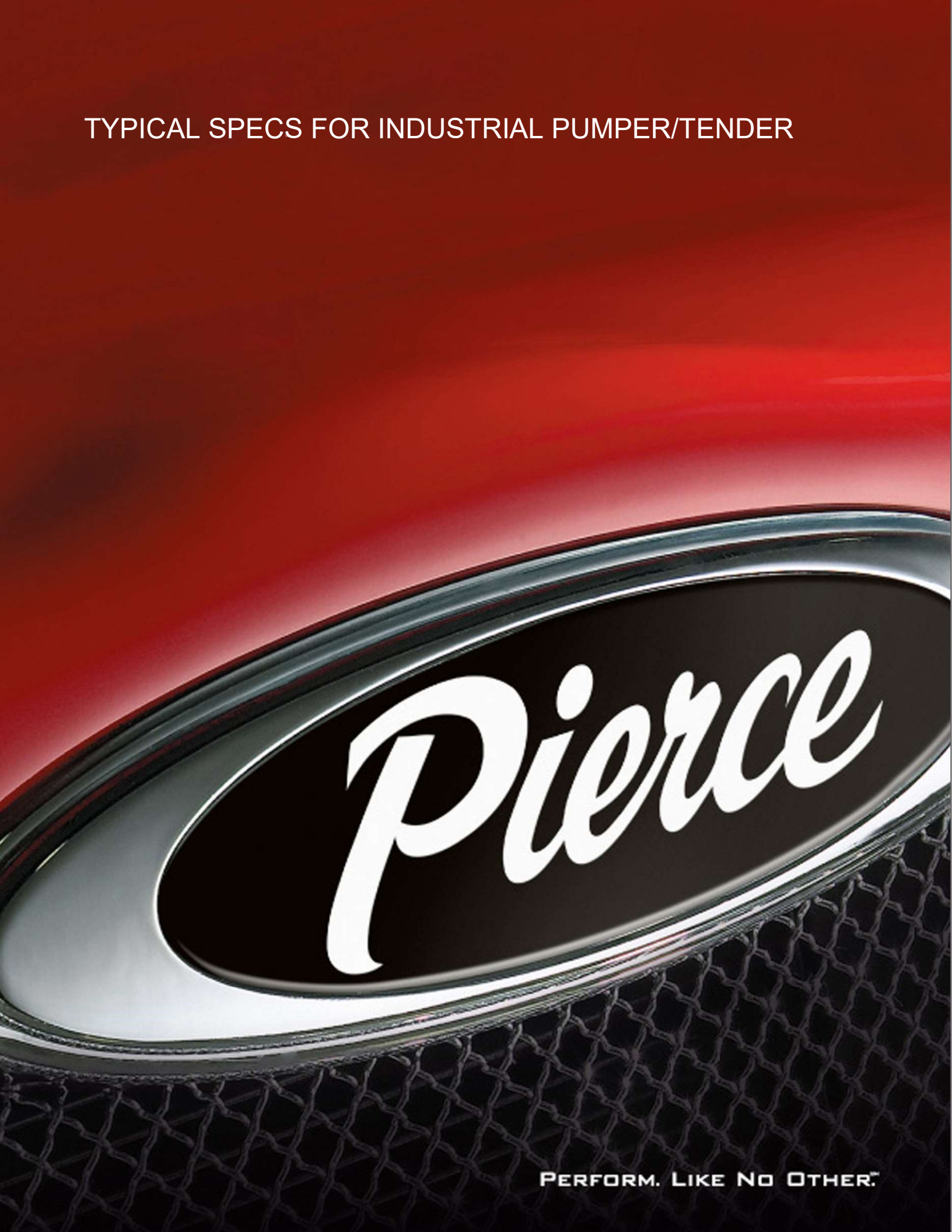
TYPICAL SPECS FOR INDUSTRIAL PUMPER/TENDER



CONTENTS

Pierce Manufacturing Inc. is pleased to submit a proposal …… for a **Pierce® triple combination pumper** per your request for quotation. The following paragraphs will describe in detail the apparatus, construction methods, and equipment proposed. This proposal will indicate size, type, model and make of components parts and equipment, providing proof of compliance with each and every item (except where noted) in the departments advertised specifications.

PIERCE MANUFACTURING was incorporated in 1913. Since then we have been building bodies with one (1) philosophy, "BUILD THE FINEST". Our skilled craftsmen take pride in their work, which is reflected, in the final product. We have been building fire apparatus since the early "forties" giving Pierce Manufacturing over 75 years of experience in the fire apparatus market. Pierce Manufacturing has built and put into service more than 28,500 apparatus on commercial chassis, and more than 33,900 on Pierce custom chassis designed and built specifically for fire and emergency applications. Our Appleton, Wisconsin facility has over 870,000 total square feet of floor space situated on approximately 105 acres of land. Our Bradenton, Florida facility has 300,000 square feet of floor space situated on approximately 38 acres of land. A multi-million dollar inventory of parts is available to keep your unit in service long after it has left the factory.

Our beliefs in high ethical standards are carried through in all of our commitments and to everyone with whom we do business. Honesty, Integrity, Accountability and Citizenship are global tenets by which we all live and work. Consequently, we neither engage in, nor have we ever been convicted of price fixing, bid rigging, or collusion in any domestic or international fire apparatus market.

Pierce has only one brand of fire apparatus "Pierce", ensuring you are receiving top of the line product that meets your specification.

In accordance with the current edition of NFPA 1901 standards, this proposal will specify whether the fire department, manufacturer, or apparatus dealership will provide required loose equipment.

Images and illustrative material in this proposal are as accurate as known at the time of publication, but are subject to change without notice. Images and illustrative material is for reference only, and may include optional equipment and accessories and may not include all standard equipment.

GENERAL DESIGN AND CONSTRUCTION

To control quality and ensure the compatibility of all the components, Pierce specifically designs the pump module, body, and electrical system to properly integrate and function with the commercial cab and chassis.

All welding, assembly and paint work will be done in Pierce owned manufacturing facilities. This includes, but not limited to the pumphouse module assembly, the body and the electrical system.

QUALITY AND WORKMANSHIP

Pierce has set the pace for quality and workmanship in the fire apparatus field. Our tradition of building the highest quality units with craftsmen second to none has been the rule right from the beginning and we demonstrate that ongoing commitment by: Ensuring all steel welding follows American Welding Society D1.1-2004 recommendations for structural steel welding. All aluminum welding follows American Welding society and ANSI D1.2-2003 requirements for structural welding of aluminum. All sheet metal welding follows American welding Society B2.1-2000 requirements for structural welding of

sheet metal. Our flux core arc welding uses alloy rods, type 7000 and is performed to American Welding Society standards A5.20-E70T1. Furthermore, all employees classified as welders are tested and certified to meet the American welding Society codes upon hire and every three (3) years thereafter. Pierce also employs and American Welding Society certified welding inspector in plant during working hours to monitor weld quality.

Pierce Manufacturing operates a Quality Management System under the requirements of ISO 9001. These standards sponsored by the International Organization for Standardization (ISO) specify the quality systems that are established by the manufacturer for design, manufacture, installation and service. A copy of the certificate of compliance is included with this proposal.

In addition to the Quality Management system, we also employ a Quality Achievement Supplier program to insure the vendors and suppliers that we utilize meet the high standards we demand. That is just part of our overall "Quality at the Source" program at Pierce.

DELIVERY

The apparatus will be delivered under its own power to insure proper break-in of all components while the apparatus is still under warranty. A qualified delivery representative shall deliver the apparatus and remain for a sufficient length of time to instruct personnel in proper operation, care and maintenance of the equipment delivered.

MANUAL AND SERVICE INFORMATION

At time of delivery, complete operation and maintenance manuals covering the apparatus will be provided. A permanent plate will be mounted in the driver's compartment specifying the quantity and type of fluids required including engine oil, engine coolant, transmission, pump transmission lubrication, pump primer and drive axle.

PERFORMANCE TESTS

A road test will be conducted with the apparatus fully loaded and a continuous run of no less than ten (10) miles. During that time the apparatus will show no loss of power nor will it overheat. The transmission drive shaft or shafts and the axles will run quietly and be free of abnormal vibration or noise. The apparatus when fully loaded will not have less than 25 percent nor more than 50 percent on the front axle, and not less than 50 percent nor more than 75 percent on the rear axle. The apparatus will meet NFPA 1901 acceleration and braking requirements.

SERVICE AND WARRANTY SUPPORT

Pierce dealership support will be provided by IRP Fire & Safety Ltd. by operating a Pierce authorized service center. The service center will have factory-trained mechanics on staff versed in Pierce fire apparatus. The service facility will be located within ten (10) miles of the fire department.

In addition to the dealership, Pierce has service facilities located in both, Weyauwega, Wisconsin and Bradenton, Florida. Pierce also maintains a dedicated parts facility of over 100,000 square feet in Appleton, Wisconsin. The parts facility stocks in excess of $5,000,000 in parts dedicated to service and replacement parts. The parts facility employs a staff dedicated solely for the distribution and shipment of service and replacement parts.

Service parts for the apparatus being proposed can be found via Pierceparts.com which, is an interactive online tool that delivers information regarding your specific apparatus as well as the opportunity to register for training classes.

As a Pierce customer you have the ability to view the complete bill of materials for your specific apparatus, including assembly drawings, piece part drawings, and beneficial parts notations. You will also have the ability to search the complete Pierce item master through a parts search function which offers all Pierce SKU's and descriptions offered on all Pierce apparatus. Published component catalogs, which include proprietary systems along with an extensive operators manual library is available for easy reference.

Pierce Manufacturing maintains a dedicated service and warranty staff of over 35 personnel, dedicated to customer support, which also maintains a 24 hour 7 day a week toll free hot line, four (4) on staff EVTs, and offers hands-on repair and maintenance training classes multiple times a year.

Your apparatus will be manufactured in Bradenton, Florida.

TEXT CLARIFICATION - DRIVER'S SIDE / PASSENGER'S SIDE

The chassis will be a right hand steer / driver side as defined by the special option for the chassis. Only those options affecting the driver position, instruments and controls and front passenger position within the cab will be reoriented.

Other option titles or text within this proposal contain references to the typical US driver's side position which is on the left. These options will be constructed as indicated, and references in the proposal text indicating DRIVER'S side are to be located on the LEFT SIDE of the truck.

For example, the body compartmentation will be constructed as indicated with Driver Side as the left side of the apparatus and Passenger Side as the right side of the vehicle. Pump controls if indicated as driver's side will also be on the left.

Similarly, all other references in the proposal text indicating PASSENGER'S side are to reference the RIGHT SIDE of the truck.

(Orientation of left and right will be determined as sitting in a cab seat, facing forward.)

Exceptions to the above will be defined by specific special options and text indicating the side, location and/or orientation of the option.

NFPA COMPLIANCY

Apparatus proposed by the bidder will meet the applicable requirements of the National Fire Protection Association (NFPA) as stated in the current edition at time of contract execution. Fire Department's specifications that differ from NFPA specifications will be indicated in the proposal as "non-NFPA."

PUMP TEST

The rated water pump will be tested, approved, and certified by an ISO certified independent third party testing agency at the manufacturer's expense. The test results, along with the pump manufacturer's certification of hydrostatic test, the engine manufacturer's certified brake horsepower curve, and the manufacturer's record of pump construction details will be forwarded to the Fire Department.

APPROVAL DRAWING

A drawing of the proposed apparatus will be prepared and provided to the purchaser for approval before construction begins. The Pierce sales representative will also be provided with a copy of the same drawing. The finalized and approved drawing will become part of the contract documents. This drawing will indicate the chassis make and model, location of the lights, siren, horns, compartments, major components, etc.

A "revised" approval drawing of the apparatus will be prepared and submitted by Pierce to the purchaser showing any changes made to the approval drawing.

ELECTRICAL WIRING DIAGRAMS

Two (2) electrical wiring diagrams, prepared for the body as it interfaces with the commercial chassis, will be provided.

CHASSIS

The chassis to be used will be defined by a detailed specification from the chassis manufacturer, in their format, and will accompany this apparatus proposal.

The chassis manufacturer's specification takes precedence over the apparatus manufacturer's text for all chassis items, except where the apparatus manufacturer is required to make modifications to the chassis.

The Pierce proposal will only include text to define modifications made to the chassis by Pierce or to identify an NFPA requirement pertaining to the chassis equipment.

COMMERCIAL CHASSIS

The brand of chassis will be a International

The model of chassis will be 2020 7600 SBA 4x2 (SA647)

The chassis will be Quoted and provided by Pierce for Export market

The OCC Quote Identification number (QID) is 5309

The Date of the final accepted quote is: 3/23/2019

The quote is valid for Other - See OCC QID Form from the final quote date.

WHEELBASE

The wheelbase of the vehicle is estimated to be no greater than 215.00, CA: 104.00, Axle to Frame: 63.00.

GVW RATING

The gross vehicle weight rating will be 41,600 lb..

TIRE PRESSURE MANAGEMENT

There will be a RealWheels LED AirSecure™ tire alert pressure management system provided, that will monitor each tire's pressure. A sensor will be provided on the valve stem of each tire for a total of six (6) tires.

The sensor will calibrate to the tire pressure when installed on the valve stem for pressures between 10 and 200 psi. The sensor will activate an integral battery operated LED when the pressure of that tire drops 5 to 8 psi.

Removing the cap from the sensor will indicate the functionality of the sensor and battery. If the sensor and battery are in working condition, the LED will immediately start to flash.

CHROME LUG NUT COVERS

Chrome lug nut covers will be supplied on front and rear wheels.

MUD FLAPS

Mud flaps with a Pierce logo will be installed behind the rear wheels.

SPARE TIRE

A spare tire matching the vehicle's front tires will be provided mounted on a steel disc wheel. All wheel surfaces will be painted the same color of the existing wheels.

WHEEL CHOCKS PROVIDED BY FIRE DEPARTMENT

NFPA 1901, 2016 edition, section 5.9.4 requires two (2) or more wheel chocks mounted in readily accessible locations, that together will hold the apparatus, when loaded to its GVWR or GCWR, on a hard surface with a 20 percent grade with the transmission in neutral and the parking brake released.

The wheel chocks are not on the apparatus as manufactured. The fire department will provide and install these wheel chocks.

WHEEL CHOCK BRACKETS, PROVIDED BY FIRE DEPARTMENT

The wheel chock brackets are not on the apparatus as manufactured. The fire department will provide and install the wheel chock brackets.

AIR INLET

A single air inlet with male coupling will be provided. It will allow station air to be supplied to the apparatus brake system through a shoreline hose. The inlet will be located on the driver's side, on the lower flat area of the extended cab . A check valve will be provided to prevent reverse flow of air. The inlet will discharge into the "wet" tank of the brake system. A mating female coupling will also be provided with the loose equipment.

HIGH IDLE

A high idle switch will be provided on the instrument panel inside the cab. Activating the switch will cause the vehicle to automatically maintain a preset engine rpm.

The high idle switch will be operational only when the parking brake is on and the truck transmission is in neutral. A green indicator light will be provided adjacent to the switch. The light will be labeled "OK To Engage High Idle."

AIR INTAKE EMBER SEPARATOR

The air inlet will be equipped with a stainless steel mesh to separate water and burning embers from the air intake system such that particulate matter larger than 0.039" (1.0 mm) in diameter cannot reach the air filter element.

This will comply with NFPA 1901 and 1906 standards.

EXHAUST SYSTEM

The exhaust system will include a diesel particulate filter (DPF) and a selective catalytic reduction (SCR) device to meet current EPA standards. The DPF and SCR will be mounted horizontally outside of the frame rails in the right side front step area.

EXHAUST MODIFICATIONS

The exhaust will terminate with a horizontal tailpipe and diffuser ahead of the right side rear wheels.

A heat deflector shield will be provided where the tail pipe is routed under any side compartmentation.

All modifications will be approved by the chassis engine manufacturer and/or the chassis OEM. Exhaust treatment devices will not be altered.

AUXILIARY FUEL COOLING SYSTEM

A supplementary fuel cooling system will be provided to allow the use of water from the discharge side of the pump for cooling the chassis engine fuel. The heat exchanger will be a cylindrical type and will be a separate unit. The cooler will operate any time the pump is discharging water and will be plumbed to the master drain valve.

FRONT WINCH

A Warn Series 12, 12,000 lb electric winch will nest below the top aluminum treadplate surface of the front bumper. A 28.00" x 10.00" door for maintenance and access to the winch direction control lever and remote control plug will be provided. The cover will be provided with a mechanical stay arm hold-open device.

Winch will be mounted on a surface that will not flex when the winch is in use, since it could bind working parts of the winch.

Winch will be braced by a three (3)-point mount, as recommended by the winch manufacturer.

Winch will have 125.00' of .375" galvanneal wire rope with hook, pre-spooled on drum (14,400 lb rating).

Winch will have planetary gearing. Electric motor will have a thermal overload protection switch.

Wire cables to battery will be two (2)-gauge or larger. Speed and amperage draw of winch will be variable depending on winch load.

Winch will have a remote control cable 32.00' long.

A chrome four (4)-way roller fairlead will be supplied of sufficient strength to accommodate the winch capacity.

A label will be placed on or near the mount that states the maximum winch load rating and the maximum rope load rating that the mount can support.

BUMPER
A one (1)-piece, 10.00" high, stainless steel bumper will be attached to the front of the frame. A 9.00" channel will be mounted directly behind the bumper for additional strength. The bumper will be extended 19.00" from the front face of the cab.

GRAVEL PAN
A gravel pan, constructed of bright aluminum treadplate, will be furnished between the bumper and cab face. The gravel pan will be properly supported from the underside to prevent flexing and vibration of the aluminum treadplate.

TOW HOOKS
Two (2) chromed steel tow hooks will be installed under the bumper and attached to the front frame members. The tow hooks will be designed and positioned to allow up to a 6,000 lb straight horizontal pull in line with the centerline of the vehicle. The tow hooks will not be used for lifting of the apparatus.

SIGHT RODS
Two (2) Bores, Model 848-211, lighted sight rods will be mounted to the outside corners of the front bumper extension. The rods will be polished stainless steel.

CHASSIS CAB STEPS
The chassis cab steps will be provided by the chassis manufacturer. As constructed they do not comply with NFPA requirements.

NFPA 1901, 2016 edition, Section 15.7.1.2 states all steps will have a minimum area of 35 square inches (22,580 millimeters squared), will be of such a shape that a 5 inch (125 millimeters) diameter disk does not overlap any side when placed on the step, and will be arranged to provide at least 6 inches (150 millimeters) of clearance between the leading edge of the step and any obstruction.

This step package as provided by the manufacturer is non-NFPA compliant as some steps may not meet stepping surface requirements.

COMPARTMENT, STORAGE
A storage compartment will be provided under the crew cab in the left side step area. An aluminum treadplate drop-down door with a rubber seal will be provided on the compartment. The door will have a single pan construction.

STEP LIGHTS
There will be eight (8) white LED step lights provided. There will be two (2) lights installed at each cab and crew cab door, one (1) light per doorstep.

In order to ensure exceptional illumination, each light will provide a minimum of 25 foot-candles (fc) covering an entire 15" x 15" square placed ten (10) inches below the light and a minimum of 1.5 fc covering an entire 30" x 30" square at the same ten (10) inch distance below the light.

The lights will be activated when the adjacent door is opened.

EMBER SEPARATOR, HVAC AIR INLETS

The air inlets for the heating and air conditioning system will be equipped with a stainless steel mesh to separate burning embers from the air intake system. The separator will be designed so that particulate matter larger than 0.039 inches (1.0mm) in diameter cannot get through.

ENGINE COMPARTMENT LIGHTS

Two (2) engine compartment lights will be installed under the engine hood, of which the switches are an integral part.

STORAGE CONSOLE

There will be a console located between the front seats, with room for emergency switches and map storage. An area will be provided for switching, pump shift and siren. The console will include recessed sections for map storage. The console will be constructed of smooth aluminum and painted black.

SEATING CAPACITY

The seating capacity in the cab will be five (5).

AIR BOTTLE HOLDERS

A Ziamatic, Model ULLH, SCBA holder will be mounted in the back rest of the SCBA seat. This bracket will include a backplate, two (2) seats, a footplate and the model LLS (Load & Lock) strap to hold the bottle in the bracket. The bracket seats will be a one (1) size fits all style seat and will accommodate SCBA cylinders from the high pressure 30 minute to the high pressure 60 minute. Seats will be adjustable up and down by unbolting, relocating, and rebolting in the desired position. There will be a quantity of four (4).

HELMET STORAGE PROVIDED BY FIRE DEPARTMENT

NFPA 1901, 2016 edition, section 14.1.7.4.1 requires a location for helmet storage be provided.

There is no helmet storage on the apparatus as manufactured. The fire department will provide a location for storage of helmets.

CAB SPOTLIGHT

There will be two (2) Golight® Stryker™, Model 30**4, white LED spotlights located on the cab roof, one each side. The spotlights will be mounted on painted pedestals.

These lights may be load managed when the parking brake is applied.

SPOTLIGHT CONTROLLER

There will be one (1) wired dash mounted remote provided for each spotlight.

SPOTLIGHT CONTROLLER LOCATIONS

The remotes to control the spotlights will be located one (1) within reach of the driver and one (1) within reach of the officer.

HAND HELD SPOTLIGHT

There will be two (2) Streamlight, Model Survivor 90503, LED flashlights with chargers and AC/DC chords provided and installed next to pump panel in D3.

EMERGENCY SWITCH PANEL

The emergency switch panel will be provided in the cab, located on the floor mounted console.

PUMP PRESSURE GAUGE IN CAB

A pump pressure gauge will be provided in the cab.

The pump pressure gauge will be a silicone filled gauge.

It will be a minimum of 2.50" in diameter and will have a white face with black lettering.

Gauge will be compound type with a vacuum/pressure range of 30.00"-0-400#.

"DO NOT MOVE APPARATUS" INDICATOR

A flashing red indicator light (located in the driving compartment) will be illuminated automatically per the current edition of NFPA. The light will be labeled "Do Not Move Apparatus If Light Is On".

The same circuit that activates the Do Not Move Apparatus indicator will activate a pulsating alarm when the parking brake is released.

OPEN DOOR INDICATOR LIGHT

A red "open door" indicator light will be provided inside the cab, in clear view of the driver, to warn of an open compartment door.

VEHICLE DATA RECORDER

There will be a vehicle data recorder (VDR) capable of reading and storing vehicle information provided.

The information stored on the VDR can be downloaded through a USB port mounted in a convenient location determined by cab model. A USB cable can be used to connect the VDR to a laptop to retrieve required information. The program to download the information from the VDR will be available to download on-line.

The vehicle data recorder will be capable of recording the following data via hardwired and/or CAN inputs:

- Vehicle Speed - MPH
- Acceleration - MPH/sec
- Deceleration - MPH/sec
- Engine Speed - RPM
- Engine Throttle Position - % of Full Throttle
- ABS Event - On/Off
- Seat Occupied Status - Yes/No by Position
- Seat Belt Buckled Status - Yes/No by Position
- Master Optical Warning Device Switch - On/Off
- Time - 24 Hour Time
- Date - Year/Month/Day

The system will also be capable of no additional functionality required.

An additional input will be included with this system. When the VDR is active, this input will not be required.

Seat Belt Monitoring System

A seat belt monitoring system (SBMS) will be provided. The SBMS will be capable of monitoring up to six (6) seating positions indicating the status of each seat position per the following:

- Seat Occupied & Buckled = Green LED indicator illuminated
- Seat Occupied & Unbuckled = Red LED indicator with audible alarm
- No Occupant & Buckled = Red LED indicator with audible alarm
- No Occupant & Unbuckled = No indicator and no alarm

The SBMS will include an audible alarm that will warn that an unbuckled occupant condition exists and the parking brake is released, or the transmission is not in park.

RADIO ANTENNA MOUNT

There will be one (1) standard 1.125", 18 thread antenna-mounting base(s) installed on the cab roof with high efficiency, low loss, coaxial cable(s) routed to the instrument panel area. A weatherproof cap will be installed on the mount.

VIDEO SYSTEM, REAR CAMERA & 7.00" LCD DISPLAY

A Safety Vision video system with color rear view camera with built in microphone, activated with the reverse signal, and 7.00" LCD display monitor with swivel mount located in view of the driver on the dash will be provided.

The following components will be supplied:

- One (1) SV-LCD70BA 7" Color LCD
- One (1) SV-620A Color camera
- All necessary cables

ELECTRICAL

All 12-volt electrical equipment installed by the apparatus manufacturer will conform to modern automotive practices. All wiring will be high temperature crosslink type. Wiring will be run, in loom or conduit, where exposed and have grommets where wire passes through sheet metal. Automatic reset circuit breakers will be provided which conform to SAE Standards. Wiring will be color, function and number coded. Function and number codes will be continuously imprinted on all wiring harness conductors at 2.00" intervals. Exterior exposed wire connectors will be positive locking, and environmentally sealed to withstand elements such as temperature extremes, moisture and automotive fluids.

Electrical wiring and equipment will be installed utilizing the following guidelines:

(1) All holes made in the roof will be caulked with silicon, rope caulk is not acceptable. Large fender washers, liberally caulked, will be used when fastening equipment to the underside of the cab roof.

(2) Any electrical component that is installed in an exposed area will be mounted in a manner that will not allow moisture to accumulate in it. Exposed area will be defined as any location outside of the cab or body.

(3) Electrical components designed to be removed for maintenance will not be fastened with nuts and bolts. Metal screws will be used in mounting these devices. Also a coil of wire will be provided behind the appliance to allow them to be pulled away from mounting area for inspection and service work.

(4) Corrosion preventative compound will be applied to all terminal plugs located outside of the cab or body. All non-waterproof connections will require this compound in the plug to prevent corrosion and for easy separation (of the plug).

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

(6) All electrical terminals in exposed areas will have silicon applied completely over the metal portion of the terminal.

(7) All lights and reflectors, required to comply with Federal Motor Vehicle Safety Standard #108, will be furnished.

An operational test will be conducted to ensure that any equipment that is permanently attached to the electrical system is properly connected and in working order.

The results of the tests will be recorded and provided to the purchaser at time of delivery.

MASTER BATTERY SWITCH

A red lever handle master battery switch, to activate the battery system, will be provided inside the cab within easy reach of the driver.

The master battery disconnect switch will be wired between the starter solenoid and the remainder of the electrical loads on the apparatus.

A green "battery on" indicator light, visible from the driver's position will be provided.

BATTERY CHARGER

An IOTA, Model DLS-55, 55 amp battery charger will be provided.

The battery charger will be wired to the 120-volt shoreline to activate automatically when power is connected.

There will be a Kussmaul, Model 091-94-12, remote indicator.

Battery charger will be located in the front right body compartment, mounted in an upper area.

The battery charger indicator will be located in the driver's step area.

KUSSMAUL AUTO EJECT FOR SHORELINE

There will be one (1) Kussmaul Model 091-20WP-120, 20 amp 120 volt AC shoreline inlet(s) provided to operate the dedicated 120 volt AC circuits on the apparatus.

The shoreline inlet(s) will include blue weatherproof flip up cover(s).

There will be a release solenoid wired to the vehicle's starter to eject the AC connector when the engine is starting.

The shoreline(s) will be connected to battery charger.

There will be a mating connector body supplied with the loose equipment.

There will be a label installed near the inlet(s) that state the following:

- Line Voltage
- Current Ratting (amps)
- Phase
- Frequency

The shoreline receptacle will be located on the driver's side cab step area.

ELECTRONIC LOAD MANAGEMENT

There shall be a Kussmaul™, electronic load management (ELM) system will be provided that monitors the vehicles 12-volt electrical system, and automatically reduces the electrical load in the event of a low voltage condition and by doing so, ensures the integrity of the electrical system.

The ELM monitors the vehicle's voltage while at the scene (parking brake applied). It will sequentially shut down individual electrical loads when the system voltage drops below a preset value. Five (5) separate electrical loads are controlled by the load manager. The ELM will sequentially re-energize electrical loads as the system voltage recovers.

The (ELM) also includes sequencer function for the five (5) managed loads and two (2) additional.

EXTERIOR LIGHTING

Exterior lighting will meet or exceed Federal Department of Transportation, Federal Motor Vehicle Safety Standards and National Fire Protection Association requirements in effect at this time.

Front headlights will be halogen type and comply to all FMVSS requirements.

Five (5) clearance/marker lights will be installed across the leading edge of the cab.

INTERMEDIATE LIGHT

There will be two (2) Weldon, Model 9186-8580-29, amber LED turn signal marker lights furnished, one (1) each side, in the rear fender panel. The light will double as a turn signal and marker light.

REAR CLEARANCE/MARKER/ID LIGHTING

There will be three (3) Truck-Lite®, Model 35200R, LED lights used as identification lights located at the rear of the apparatus per the following:

- As close as practical to the vertical centerline
- Centers spaced not less than 6.00" or more than 12.00" apart
- Red in color
- All at the same height

There will be two (2) Truck-Lite, Model 35200R, LED lights installed at the rear of the apparatus used as clearance lights located at the rear of the apparatus per the following:

- To indicate the overall width of the vehicle
- One (1) each side of the vertical centerline
- As near the top as practical
- Red in color
- To be visible from the rear
- All at the same height

There will be two (2) Truck-Lite, Model 35200R, LED lights installed on the side of the apparatus as marker lights as close to the rear as practical per the following:

- To indicate the overall length of the vehicle
- One (1) each side of the vertical centerline
- As near the top as practical
- Red in color
- To be visible from the side
- All at the same height

There will be two (2) red reflectors located on the rear of the truck facing to the rear. One (1) each side, as far to the outside as practical, at a minimum of 15.00", but no more than 60.00", above the ground.

There will be two (2) red reflectors located on the side of the truck facing to the side. One (1) each side, as far to the rear as practical, at a minimum of 15.00", but no more than 60.00", above the ground.

Per FMVSS 108 and CMVSS 108 requirements.

REAR FMVSS LIGHTING

The rear stop/tail and directional lights will be Truck-Lite®, 4.00" round LED lamp kits. Each lamp kit will include a lamp, a gray flange and a connector plug.

The following light kits will be provided:

- Two (2) Truck-Lite, Model 44022R, red stop/tail light assemblies.
- Two (2) Truck-Lite, Model 44021Y, amber directional light assemblies.

The lights will be mounted on the rear face of the rear fender compartment.

Two (2) Truck-Lite, Model 44045C LED backup lamp kits will be provided. Each lamp kit will include a white, back-up light and a grey flange mount.

LICENSE PLATE BRACKET

There will be one (1) license plate bracket mounted on the rear of the body.

A white LED light will illuminate the license plate. A stainless steel light shield will be provided over the light that will direct illumination downward, preventing white light to the rear.

BACK-UP ALARM

A PRECO, Model 1040, solid-state electronic audible back-up alarm that actuates when the truck is shifted into reverse will be provided. The device will sound at 60 pulses per minute and automatically adjust its volume to maintain a minimum ten (10) dBA above surrounding environmental noise levels.

CAB PERIMETER SCENE LIGHTS

There will be four (4) Truck-Lite, Model 6060C, white LED lights with grommets provided, one (1) for each cab and crew cab door.

These lights will be activated automatically when the battery switch is on and the exit doors are opened or by the same means as the body perimeter scene lights.

PUMP HOUSE PERIMETER LIGHTS

There will be two (2) TecNiq, Model T41-WC0P-1, 4.00" white 12 volt DC LED weatherproof lights with grommet and angled aluminum brackets provided under the pump panel running boards, one (1) each side.

The lights will be controlled by the same means as the body perimeter lights.

BODY PERIMETER SCENE LIGHTS

There will be two (2) Truck-Lite, Model 6060C, white LED lights with grommets provided under at the rear step area of the body, one (1) each side shining to the rear.

The perimeter scene lights will be activated when the parking brake is applied.

STEP LIGHTS

There will be two (2) white LED step lights will be provided at the rear to illuminate the tailboard/step area.

In order to ensure exceptional illumination, each light will provide a minimum of 25 foot-candles (fc) covering an entire 15" x 15" square placed ten (10) inches below the light and a minimum of 1.5 fc covering an entire 30" x 30" square at the same ten (10) inch distance below the light.

These step lights will be actuated with the perimeter scene lights.

All other steps on the apparatus will be illuminated per the current edition of NFPA 1901.

DECK LIGHTS

There will be two (2) 6.00" Unity AG, deck lights with swivel mount provided at the rear of the hose bed, one (1) each side.

One (1) light will be furnished with a 160,000 candle power halogen spot bulb and the other will be furnished with a 6,000 candle power halogen flood bulb.

WALKING SURFACE LIGHT

There will be Model FRP, 4" round black 12 volt DC LED floodlight(s) with bolt mount provided to illuminate the entire designated walking surface on top of the body.

The light(s) will be activated when the body step lights are on.

WATER TANK

Booster tank will have a capacity of 1000 gallons and be constructed of polypropylene plastic by United Plastic Fabricating, Incorporated.

Tank joints and seams will be nitrogen welded inside and out.

Tank will be baffled in accordance with NFPA Bulletin 1901 requirements.

Baffles will have vent openings at both the top and bottom to permit movement of air and water between compartments.

Longitudinal partitions will be constructed of .38" polypropylene plastic and will extend from the bottom of the tank through the top cover to allow for positive welding.

Transverse partitions will extend from 4.00" off the bottom of the tank to the underside of the top cover.

All partitions will interlock and will be welded to the tank bottom and sides.

Tank top will be constructed of .50" polypropylene. It will be recessed .38" and will be welded to the tank sides and the longitudinal partitions.

Tank top will be sufficiently supported to keep it rigid during fast filling conditions.

Construction will include 2.00" polypropylene dowels spaced no more than 30.00" apart and welded to the transverse partitions. Two (2) of the dowels will be drilled and tapped (.50" diameter, 13.00" deep) to accommodate lifting eyes.

A sump that will be sized dependent on the tank to pump plumbing will be provided at the bottom of the water tank.

Sump will include a drain plug and the tank outlet.

Tank will be installed in a fabricated cradle assembly constructed of structural steel.

Sufficient crossmembers will be provided to properly support bottom of tank. Crossmembers will be constructed of steel bar channel or rectangular tubing.

Tank will "float" in cradle to avoid torsional stress caused by chassis frame flexing. Rubber cushions, .50" thick x 3.00" wide, will be placed on all horizontal surfaces that the tank rests on.

Stops or other provision will be provided to prevent an empty tank from bouncing excessively while moving vehicle.

Mounting system will be approved by the tank manufacturer.

Fill tower will be constructed of .50" polypropylene and will be a minimum of 8.00" wide x 14.00" long.

Fill tower will be furnished with a .25" thick polypropylene screen and a hinged cover.

An overflow pipe, constructed of 4.00" schedule 40 polypropylene, will be installed approximately halfway down the fill tower and extend through the water tank and exit to the rear of the rear axle.

SLEEVE, PLUMBING, THROUGH TANK

One (1) sleeve will be provided in the water tank for a 3.00" pipe to the rear.

WATER TANK RESTRAINT

A heavy-duty water tank restraint will be provided.

DIRECT TANK FILL

There will be one (1) - 2.50" gated external tank fill(s) installed and properly labeled at the rear of the water tank, located right side, with the valve installed as low as practical for easy hose connection.

Piping, for the fill, will be routed through the rear wall of the tank and include a flow deflector to break up the stream of water entering the water tank.

A 2.50" full flow ball valve with 2.50" piping and a 2.50" (F)NST chrome swivel will be located at the inlet.

A dealer/customer furnished elbow adapter and plug will be provided for the tank fill.

HOSE BED

The hose bed will be fabricated of .125"-5052 aluminum with a nominal 38,000 psi tensile strength.

Upper and rear edges of side panels will have a double break for rigidity.

The upper inside area of the beavertails will be covered with brushed stainless steel to prevent damage to painted surface when hose is removed.

Flooring of the hose bed will be removable aluminum grating with the top surface corrugated to aid in hose aeration. The grating slats will be a minimum of 0.50" x 4.50" with spacing between slats for hose ventilation.

The inside of the hose bed will be painted . The inside of the cargo area will be painted .

Hose bed will accommodate 1500 feet of 2.50" and 400 feet of 1.50" hose.

HOSE BED DIVIDER

Two (2) adjustable hosebed dividers will be furnished for separating hose.

Each divider will be constructed of a .25" brushed aluminum sheet. Flat surfaces will be sanded for uniform appearance, or constructed of brushed aluminum.

An oval opening will be provided near the rear of the divider to be used as a hand hold and aid in accessing the hose bed.

Divider will be fully adjustable by sliding in tracks, located at the front and rear of the hose bed.

Divider will be held in place by tightening bolts, at each end.

Acorn nuts will be installed on all bolts in the hose bed which have exposed threads.

HOSE BED HOSE RESTRAINT

The hose in the hose bed will be restrained by a black nylon Velcro® strap at the top of the hosebed. At the rear of the hose bed, 2.00" black nylon webbing with a 1.50" x 4.00" box pattern will attach at the top rear outside corners with seat belt buckle fasteners. The webbing will have straps connected with seat belt buckle fasteners located at the rear body sheet below the hose bed.

A cross-divider will be provided just behind the fill tower. The divider will be bolted to the side sheet.

TAILBOARD

The tailboard will also be constructed of .125" bright aluminum treadplate and spaced .50" from the body, as well as supported by a structural steel assembly.

The rear tailboard will be 12.00" deep and full width of the body.

The exterior side will be flanged down and in.

Flanges will not be notched.

REAR WALL, SMOOTH ALUMINUM/BODY MATERIAL

The rear facing surfaces of the center rear wall will be smooth aluminum.

The bulkheads, the surface to the rear of the side body compartments, will be smooth and the same material as the body.

TOW BAR

A tow bar will be installed under the tailboard at center of truck.

Tow bar will be fabricated of 1.00" CRS bar rolled into a 3.00" radius.

Tow bar assembly will be constructed of .38" structural angle. When force is applied to the bar, it will be transmitted to the frame rail.

Tow bar assembly will be designed and positioned to allow up to a 30-degree upward angled pull of 17,000 lb, or a 20,000 lb straight horizontal pull in line with the centerline of the vehicle.

Tow bar design will have been fully tested and evaluated using strain gauge testing and finite element analysis techniques.

COMPARTMENTATION

Body and compartments will be fabricated of .125", 5052-H32 aluminum.

Side compartments will be an integral assembly with the rear fenders.

Circular fender liners will be provided for prevention of rust pockets and ease of maintenance.

Side compartment flooring will be of the sweep out design with the floor higher than the compartment door lip.

The side compartment door opening will be framed by flanging the edges in 1.75" and bending out again .75" to form an angle.

Drip protection will be provided above the doors by means of bright aluminum extrusion, formed bright aluminum treadplate or polished stainless steel.

The top of the compartment will be covered with bright aluminum treadplate rolled over the edges on the front, rear and outward side. These covers will have the corners welded.

Side compartment covers will be separate from the compartment tops.

Front facing compartment walls will be covered with bright aluminum treadplate.

All screws and bolts which protrude into a compartment will have acorn nuts on the ends to prevent injury.

UNDERBODY SUPPORT SYSTEM

Due to the severe loading requirements of this pumper a method of body and compartment support suitable for the intended load will be provided.

The backbone of the support system will be the chassis frame rails which is the strongest component of the chassis and is designed for sustaining maximum loads.

The support system will include .375" thick steel vertical angle supports bolted to the chassis frame rails with .625" diameter bolts.

Attached to the bottom of the steel vertical angles will be horizontal angles, with gussets welded to the vertical members, which extend to the outside edge of the body.

A steel frame will be mounted on the top of these supports to create a floating substructure which will result in a 500 lb equipment support rating per lower compartment.

The floating substructure will be separated from the horizontal members with neoprene elastomer isolators. These isolators will reduce the natural flex stress of the chassis from being transmitted to the body.

Isolators will have a broad load range, proven viability in vehicular applications, be of a fail safe design and allow for all necessary movement in three (3) transitional and rotational modes.

The neoprene isolators will be installed in a modified V three (3)-point mounting pattern to reduce the natural flex of the chassis being transmitted to the body.

AGGRESSIVE WALKING SURFACE

All exterior surfaces designated as stepping, standing, and walking areas will comply with the required average slip resistance of the current NFPA standards.

LOUVERS

Louvers will be stamped into compartment walls to provide the proper airflow inside the body compartments and to prevent water from dripping into the compartment. Where these louvers are provided, they will be formed into the metal and not added to the compartment as a separate plate.

TESTING OF BODY DESIGN

Body structural analysis has been fully tested. Proven engineering and test techniques such as finite element analysis, stress coating and strain gauging have been performed with special attention given to fatigue, life and structural integrity of the cab, body and substructure.

Body will be tested while loaded to its greatest in-service weight.

The criteria used during the testing procedure will include:

- Raising opposite corners of the vehicle tires 9.00" to simulate the twisting a truck may experience when driving over a curb.
- Making a 90 degree turn, while driving at 20 mph to simulate aggressive driving conditions.
- Driving the vehicle at 35 mph on a washboard road.
- Driving the vehicle at 55 mph on a smooth road.
- Accelerating the vehicle fully, until reaching the approximate speed of 45 mph on rough pavement.

Evidence of actual testing techniques will be made available upon request.

LEFT SIDE COMPARTMENTATION

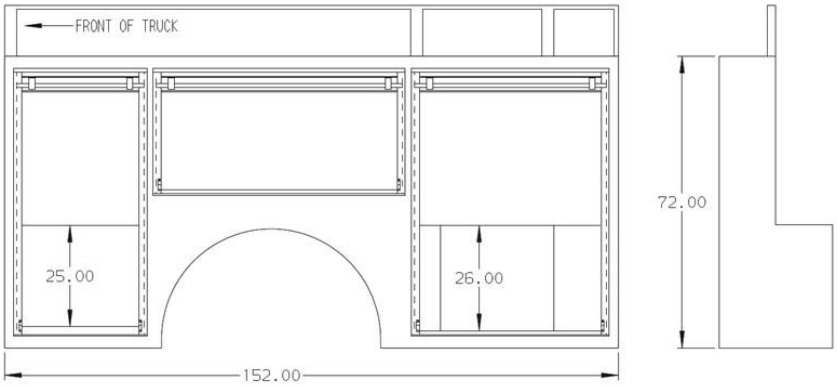
The left side compartmentation will consist of three rollup door compartments.

A full height, rollup door compartment ahead of the rear wheels will be provided. The interior dimensions of this compartment will be 34.50" wide x 66.63" high x 25.88" deep in the lower 25.00" of the compartment and 12.00" deep in the remaining upper portion. The clear door opening will be a minimum of 28.75" wide x 56.88" high.

A rollup door compartment over the rear wheels will be provided. The interior dimensions of this compartment will be 66.50" wide x 32.88" high x 12.00" deep. The clear door opening will be a minimum of 58.25" wide x 23.13" high.

A full height, rollup door compartment behind the rear wheels will be provided. The interior dimensions of this compartment will be 47.75" wide x 67.63" high x 25.88" deep in the lower 26.00" of height and

12.00" deep in the remaining upper section of the compartment. The clear door opening will be a minimum of 44.75" wide x 57.88" high.



CLEAR DOOR OPENINGS

	AMDOR		GORTITE		ROM	
COMPARTMENT	HORIZONTAL	VERTICAL	HORIZONTAL	VERTICAL	HORIZONTAL	VERTICAL
Ahead of axle	29.50	56.88	28.75	58.00	28.94	58.25
Over axle	59.00	23.13	58.25	24.25	58.44	24.50
Behind axle	45.50	57.88	44.75	59.00	44.94	59.25

The interior height of the compartments will be measured from the compartment floor to the ceiling. The spool of the rollup door at the top of the compartment takes up some usable space. The depth of the compartments will be measured from the back wall to the inside of the door frame.

Closing of the door will not require releasing, unlocking, or unlatching any mechanism and will easily be accomplished with one hand.

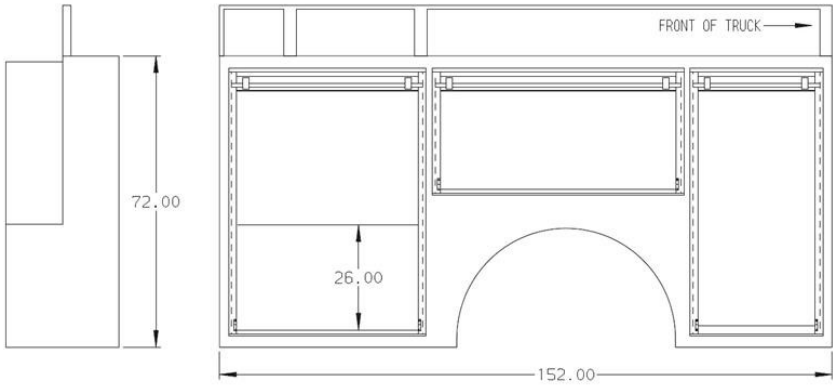
RIGHT SIDE COMPARTMENTATION

The right side compartmentation will consist of three rollup door compartments.

A full height, rollup door compartment ahead of the rear wheels will be provided. The interior dimensions of this compartment will be 34.50" wide x 65.13" high x 25.88" deep. The clear door opening will be a minimum of 28.75" wide x 56.88" high.

A rollup door compartment over the rear wheels will be provided. The interior dimensions of this compartment will be 66.50" wide x 32.88" high x 12.00" deep. The clear door opening will be a minimum of 58.25" wide x 23.13" high.

A full height, rollup door compartment behind the rear wheels will be provided. The interior dimensions of this compartment will be 47.75" wide x 67.63" high x 25.88" deep in the lower 26.00" of height and 12.00" deep in the remaining upper section of the compartment. The clear door opening will be a minimum of 44.75" wide x 57.88" high.



CLEAR DOOR OPENINGS

	AMDOR		GORTITE		ROM	
COMPARTMENT	HORIZONTAL	VERTICAL	HORIZONTAL	VERTICAL	HORIZONTAL	VERTICAL
Ahead of axle	29.50	56.88	28.75	58.00	28.94	58.25
Over axle	59.00	23.13	58.25	24.25	58.44	24.50
Behind axle	45.50	57.88	44.75	59.00	44.94	59.25

The interior height of the compartments shall be measured from the compartment floor to the ceiling. The spool of the rollup door at the top of the compartment takes up some usable space. The depth of the compartments shall be measured from the back wall to the inside of the door frame.

Closing of the door will not require releasing, unlocking, or unlatching any mechanism and will easily be accomplished with one hand.

SIDE COMPARTMENT ROLLUP DOOR(S)

There will be six (6) compartment doors installed on the side compartments. The doors will be double faced aluminum construction, painted one (1) color to match the lower portion of the body and manufactured by Gortite®.

Lath sections will be an interlocking rib design and will be individually replaceable without complete disassembly of door.

Between each slat at the pivoting joint will be a PVC inner seal to prevent metal to metal contact and prevent dirt or moisture from entering the compartments. Seals will allow door to operate in extreme temperatures ranging from 180 to -40 degrees Fahrenheit. Side, top and bottom seals will be provided to resist ingress of dirt and weather and be made of Santoprene.

All hinges, barrel clips and end pieces will be nylon 66. All nylon components will withstand temperatures from 300 to -40 degrees Fahrenheit.

A polished stainless steel lift bar to be provided for each roll-up door. Lift bar will be located at the bottom of door and have latches on the outer extrusion of the doors frame. A ledge will be supplied over lift bar for additional area to aid in closing the door.

Doors will be constructed from an aluminum box section. The exterior surface of each slat will be flat. The interior surfaces will be concave to provide strength and prevent loose equipment from jamming the door from inside.

To conserve space in the compartments, the spring roller assembly will not exceed 3.00" in diameter.

The header for the rollup door assembly will not exceed 4.00".

A heavy-duty magnetic switch will be used for control of open compartment door warning lights.

REAR COMPARTMENTATION

A roll-up door compartment above the rear tailboard will be provided.

The interior dimensions of this compartment will be 40.00" wide x 54.13" high x 25.88" deep. The interior height of the compartments will be measured from the compartment floor to the ceiling. The spool of the rollup door at the top of the compartment takes up some usable space. The depth of the compartments will be measured from the back wall to the inside of the door frame.

A louvered, removable access panel will be furnished on the back wall of the compartment.

The rear compartment will be open into the rear side compartments.

The clear door opening of this compartment will be a minimum of 33.25" wide x 44.38" high.

Closing of the door will not require releasing, unlocking, or unlatching any mechanism and will easily be accomplished with one hand.

ROLLUP REAR COMPARTMENT DOOR

There will be a rear rollup door. The door will be double faced aluminum construction, an anodized satin finish and manufactured by Gortite®.

Lath sections will be an interlocking rib design and will be individually replaceable without complete disassembly of door.

Between each slat at the pivoting joint will be a PVC inner seal to prevent metal to metal contact and prevent dirt or moisture from entering the compartments. Seals will allow door to operate in extreme temperatures ranging from 180 to -40 degrees Fahrenheit. Side, top and bottom seals will be provided to resist ingress of dirt and weather and be made of Santoprene.

All hinges, barrel clips and end pieces will be nylon 66. All nylon components will withstand temperatures from 300 to -40 degrees Fahrenheit.

A polished stainless steel lift bar to be provided for each roll-up door. Lift bar will be located at the bottom of door and have latches on the outer extrusion of the doors frame. A ledge will be supplied over lift bar for additional area to aid in closing the door.

Door will be constructed from an aluminum box section. The exterior surface of each slat will be flat. The interior surface will be concave to provide strength and prevent loose equipment from jamming the door from inside.

To conserve space in the compartments, the spring roller assembly will not exceed 3.00" in diameter.

The header for the rollup door assembly will not exceed 4.00".

A heavy-duty magnetic switch will be used for control of open compartment door warning lights.

COMPARTMENT LIGHTING

There will be seven (7) compartment(s) with two (2) white 12 volt DC LED compartment light strips. The dual light strips will be centered vertically along each side of the door framing. There will be two (2) light strips per compartment.The dual light strips will be in all body compartment(s).

Any remaining compartments without light strips will have a 6.00" diameter Truck-Lite, Model: 79384 light. Each light will have a number 1076 one filament, two wire bulb.

Opening the compartment door will automatically turn the compartment lighting on.

MOUNTING TRACKS

There will be seven (7) sets of tracks for mounting shelf(s) in LS1, LS2, LS3, RS1, RS2, RS3 and B1. These tracks will be installed vertically to support the adjustable shelf(s), and will be full height of the compartment. The tracks will be painted to match the compartment interior.

ADJUSTABLE SHELVES

There will be seven (7) shelves with a capacity of 500 lb provided.

The shelf construction will consist of .188" aluminum painted spatter gray with 2.00" sides.

Each shelf will be infinitely adjustable by means of a threaded fastener, which slides in a track.

The shelves will be held in place by .12" thick stamped plated brackets and bolts.

The location(s) will be in RS1 centered between the floor and the ceiling, in RS2 in the lower third, in RS2 in the upper third, in LS1 centered between the floor and ceiling, in LS3 centered between the floor and ceiling, in LS2 in the lower third and in LS2 in the upper third.

SLIDE-OUT FLOOR MOUNTED TRAY

There will be one (1) floor mounted slide-out tray(s) provided P3 for the sole purpose of supporting a dry chemical tank. Each tray will be rated for up to 1000lb in the extended position. The tray(s) will be constructed of 10 gauge steel and have a painted finish. The tray will be flat with no sides and have slight upturned flanges at the front and rear of the tray.

There will be four undermount-roller bearing type slides rated at 250lb each provided. The pair of slides will have a safety factor rating of 2.

To ensure years of dependable service, the slides will be coated with a finish that is tested to withstand a minimum of 1,000 hours of salt spray per ASTM B117.

To ensure years of easy operation, the slides will require no more than a 50lb force for push-in or pull-out movement when fully loaded after having been subjected to a 40 hour vibration (shaker) test under full load. The vibration drive file will have been generated from accelerometer data collected from a

heavy truck chassis driven over rough gravel roads in an unloaded condition. Proof of compliance will be provided upon request.

Automatic locks will be provided for both the "in" and "out" positions. The trip mechanism for the locks will be located at the front of the tray for ease of use with a gloved hand.

SLIDE-OUT FLOOR MOUNTED TRAY

There will be one (1) floor mounted slide-out tray(s) provided.

Each tray will have 2.00" high sides and a minimum capacity rating of 500 lb in the extended position.

Each tray will be constructed of aluminum painted spatter gray

There will be two undermount-roller bearing type slides rated at 250lb each provided. The pair of slides will have a safety factor rating of 2.

To ensure years of dependable service, the slides will be coated with a finish that is tested to withstand a minimum of 1,000 hours of salt spray per ASTM B117.

To ensure years of easy operation, the slides will require no more than a 50lb force for push-in or pull-out movement when fully loaded after having been subjected to a 40 hour vibration (shaker) test under full load. The vibration drive file will have been generated from accelerometer data collected from a heavy truck chassis driven over rough gravel roads in an unloaded condition. Proof of compliance will be provided upon request.

Automatic locks will be provided for both the "in" and "out" positions. The trip mechanism for the locks will be located at the front of the tray for ease of use with a gloved hand.

The location(s) will be B1.

RUB RAIL

Bottom edge of the side compartments will be trimmed with a bright aluminum extruded rub rail.

Trim will be 2.12" high with 1.38" flanges turned outward for rigidity.

The rub rails will not be an integral part of the body construction, which allows replacement in the event of damage.

BODY FENDER CROWNS

Polished stainless steel fender crowns will be provided around the rear wheel openings with a dielectric barrier will be provided between the fender crown and the fender sheet metal to prevent corrosion.

The fender crowns will be held in place with stainless steel screws that thread directly into a composite nut and not directly into the parent body sheet metal to eliminate dissimilar metals contact and greatly reduce the chance for corrosion. Rubber welting will be provided between the body and crown.

BODY FENDER LINER

A painted fender liner will be provided. The liners will be removable to aid in the maintenance of rear suspension components.

HARD SUCTION HOSE

Two (2) lengths of 6.00" clear corrugated PVC hard suction hose, 10' in length, will be provided. The hose will be equipped with a long handle female coupling on one (1) end and a rocker lug male coupling on the other end. Couplings will be hard coated aluminum.

HOSE TROUGHS

Hard suction hose will be carried in two (2) V-shaped troughs, one (1) each side, and held in place by chrome plated, quarter turn, spring loaded clamps.

Troughs will be constructed of aluminum and painted job color.

HANDRAILS

The handrails will be 1.25" diameter anodized aluminum extrusion, with a ribbed design, to provide a positive gripping surface.

Chrome plated end stanchions will support the handrail. Plastic gaskets will be used between end stanchions and any painted surfaces.

Drain holes will be provided in the bottom of all vertically mounted handrails.

Handrails will be provided to meet NFPA 1901 section 15.8 requirements. The handrails will be installed as noted on the sales drawing.

- One (1) vertical handrail will be located on each rear bulkhead.
- One (1) full width horizontal handrail will be provided below the hose bed at the rear of the apparatus.

AIR BOTTLE STORAGE

A total of four (4) air bottle compartments will be provided, two (2) each side of the body. The air bottle compartment will be in the form of a PVC round tube to accommodate different size air bottles. The inside diameter of the tube will be approximately 7.63" in diameter x 26.00" deep. Drain holes will be provided at the bottom of the tubes to prevent water collection.

A Cast Products door with latch will be provided to contain the air bottle.

EXTENSION LADDERS PROVIDED BY DEALER

NFPA 1901, 2016 edition, section 5.8.1.2 requires an extension ladder.

The extension ladder is not on the apparatus as manufactured. There will be one (1) extension ladder(s) provided and installed by the dealer. The ladder(s) will be a 20' Duo-Safety 912-100, three (3)-section.

ROOF LADDER PROVIDED BY DEALER

NFPA 1901, 2016 edition, section 5.8.1.2 requires a minimum of one roof ladder.

The roof ladder is not on the apparatus as manufactured. There will be one (1) roof ladder(s) provided and installed by the dealer. The ladder(s) will be a 10' Duo-Safety 775-A.

LADDER STORAGE

The ladders will be stored inside the hose bed, on the right side. Each ladder will lie flat in a separate stainless steel storage trough. Rear of ladder storage area will have a retaining strap to contain the ladders.

PIKE POLE 8 FT, PROVIDED BY DEALER

NFPA 1901, 2009 edition, Section 5.8.3 requires one (1) 8 ft or longer pike pole mounted in a bracket fastened to the apparatus.

The pike pole is not on the apparatus as manufactured. The dealer will provide and mount the pike pole.

REAR STEPS

Bright aluminum treadplate wedge steps, 8.00" wide x 8.00" deep, will be provided at the rear. All steps will provide adequate surface for stepping.

STEP, PULL-OUT/DROP DOWN

One (1) pull-out step will be provided. Each step will be 26" wide x 8.00" deep and will pull out and drop down to provide easy access.

A pullout and down (camper style) step will be installed below the body. The step surface, when pulled out from its nested position, will be 9.00" below the body. The stepping surface will be bright aluminum treadplate. Slotted side support pieces of the pullout portion of step to be made out of .25" aluminum.

The step will be located on the rear tailboard, centered.

DRY CHEMICAL SYSTEM

A 500 pound capacity dry chemical system will be provided. The system's powder vessel will be located on the right side front full depth compartment of the apparatus. The system will have one (1) 300 cu. ft. Nitrogen cylinder propellant tank. The cylinder will be located in the hosebed. The dimensions of the powder vessel will be approximately 22.00" diameter x 46.00" tall. The chemical vessel will be able to be refillable from the top. If the powder vessel is mounted inside a compartment, a slide out tray arrangement to facilitate filling is highly recommended.

A dry chemical powder refill funnel will be included in loose equipment for refilling the powder vessel.

The Nitrogen propellant will be supplied through a regulator and a control valve to the powder vessel. The control valve will be a remote controlled electric over air arrangement.

The powder vessel will be ASME coded and will include an ASME safety valve to prevent over pressurization. A analog pressure gauge will be installed near the pressure vessel fill opening to notify the operator if there is pressure inside the powder vessel before filling. The system will include indicator lights at each activation switch to indicate pressurization of the vessel.

Manual valves for blowout of the dry chemical discharge piping will be included and clearly marked.

The system will be capable of discharging into multiple devices such as bumper turrets, hose reels, or master turrets. The control of these discharges will be electric over air with an ON/OFF indication system.

There will be One (1) discharge provided and routed to hose reel.

There will be one (1) control switch control switches provided and placed next to hose reel.

PUMP

Pump will be a Waterous CXPA, 1250 gpm, single (1) stage, power take off (PTO) driven midship mounted centrifugal type.

Pump will be the class "A" type.

Pump will deliver the percentage of rated discharge at pressures indicated below:

- 100% of rated capacity at 150 psi net pump pressure.

-70% of rated capacity at 200 psi net pump pressure.

-50% of rated capacity at 250 psi net pump pressure.

Pump casting will be a two (2) piece, vertically split design and will be constructed of high tensile, close grain gray iron.

Impeller shaft will be stainless steel, heat treated, accurately ground to size, and polished under the shaft seal. It will be supported by oil lubricated ball bearings.

Bearings will be protected from water and sediment by suitable stuffing boxes, flinger rings, and oil seals. No special or sleeve type bearings will be used.

MECHANICAL SEAL ON PUMP

Pump will be equipped with a self-adjusting, maintenance-free, mechanical shaft seal.

The mechanical seal will consist of a flat, highly polished, spring fed carbon ring that rotates with the impeller shaft. The carbon ring will press against a highly polished stainless steel stationary ring that is sealed within the pump body.

In addition, a throttling ring will be pressed into the steel chamber cover, providing a very small clearance around the rotating shaft in the event of a mechanical seal failure. The pump performance will not deteriorate, nor will the pump lose prime, while drafting if the seal fails during pump operation.

Wear rings will be bronze and easily replaceable to restore original pump efficiency and eliminate the need to replace the entire pump casing due to wear.

PUMP TRANSMISSION

The pump transmission will be made of light weight aluminum casing. Power transfer to pump will be through a pressure lubricated, Morse HY-VO drive chain.

Drive shafts will be a minimum of 1.50" diameter hardened and ground alloy steel. All shafts will be ball bearing supported. The case will be designed as to eliminate the need for water cooling.

The water pump will be driven by a special heavy duty ten (10)-bolt hot shift PTO. It will be located on the left side of the chassis transmission. This PTO will be designed specifically for the torque required to drive a 1250 gpm or larger water pump.

PUMPING MODE

An interlock system will be provided to ensure that the pump drive system components are properly engaged so that the apparatus can be safely operated. The interlock system will be designed to allow stationary pumping and the truck to be in motion while pumping.

A digital pump pressure gauge will be supplied in the cab.

PUMP SHIFT

A pump shift will be provided within easy reach of the driver for engagement of the PTO driven pump. The shift will include the indicator lights as mandated by NFPA. The pump shift control will be illuminated to meet NFPA requirements.

AUXILIARY COOLING SYSTEM

A supplementary heat exchange cooling system will be provided to allow the use of water from the discharge side of the pump for cooling the engine water. The heat exchanger will be cylindrical type and will be a separate unit. The heat exchanger will be installed in the pump or engine compartment with the control located on the pump operator's control panel. Exchanger will be plumbed to the master drain valve.

INTAKE RELIEF VALVE

A Task Force Tips A18 series relief valve will be installed on the suction side of the pump preset at 125 psig .

The relief valve will have a working range of 90 psi to 300 psi.

The pressure relief valve control will be located behind an access door at the right side pump panel.

The outlet will terminate below the frame rails with a 2.50" National Standard hose thread adapter and will have a "do not cap" warning tag.

PRESSURE CONTROLLER

A Fire Research Pump Boss Model PBA200 pressure governor will be provided.

A pressure transducer will be installed in the water discharge manifold on the pump.

The display panel will be located at the pump operator's panel.

All of the read outs at the pump panel will be in metric.

PRIMING PUMP

The priming pump will be a Trident Emergency Products compressed air powered, high efficiency, multistage venturi based AirPrime System, conforming to standards outlined in the current edition of NFPA 1901.

All wetted metallic parts of the priming system are to be of brass and stainless steel construction.

One (1) priming control will open the priming valve and start the pump primer.

THERMAL RELIEF VALVE

A Waterous Overheat Protection Manager (OPM) will be included on the pump that monitors pump water temperature and opens to relieve water to cool the pump when the temperature of the pump water exceeds 140 Degrees F (60 C) and a red warning light that is triggered when the water in the pump reaches 180 F (82 C).

The warning light will act as an additional protection device if the temperature in the pump keeps rising after the valve opens. The warning light with a test switch will be mounted on the pump operator panel.

The discharge line will be plumbed to ground.

PUMP MANUALS

There will be a total of two (2) pump manuals provided by the pump manufacturer and furnished with the apparatus. The manuals will be provided by the pump manufacturer in the form of two (2) electronic copies. Each manual will cover pump operation, maintenance, and parts.

PLUMBING, STAINLESS STEEL AND HOSE

All inlet and outlet lines will be plumbed with either stainless steel pipe, flexible polypropylene tubing or synthetic rubber hose reinforced with hi-tensile polyester braid. All hose's will be equipped with brass or stainless steel couplings. All stainless steel hard plumbing will be a minimum of a schedule 10 wall thickness.

Where vibration or chassis flexing may damage or loosen piping or where a coupling is required for servicing, the piping will be equipped with victaulic or rubber couplings.

Plumbing manifold bodies will be ductile cast iron or stainless steel.

All piping lines are to be drained through a master drain valve or will be equipped with individual drain valves. All drain lines will be extended with a hose to drain below the chassis frame.

All water carrying gauge lines will be of flexible polypropylene tubing.

All piping, hose and fittings will have a minimum of a 500 PSI hydrodynamic pressure rating.

FOAM SYSTEM PLUMBING

All piping that is in contact with the foam concentrate or foam/water solution will be stainless steel. The fittings will be stainless steel or brass. Cast iron pump manifolds will be allowed.

MAIN PUMP INLET

A 6.00" pump manifold inlet will be provided on the driver's side of the vehicle. The suction inlet will include a removable die cast zinc screen that is designed to provide cathodic protection for the pump, thus reducing corrosion in the pump.

MAIN PUMP INLET CAP

The main pump inlets will have National Standard Threads with a long handle chrome cap.

The cap will be the Pierce VLH, which incorporates an exclusive thread design to automatically relieve stored pressure in the line when disconnected.

VALVES

All ball valves will be Akron® Brass. The Akron valves will be the 8000 series heavy-duty style with a stainless steel ball and a simple two-seat design. No lubrication or regular maintenance is required on the valve.

LEFT SIDE INLET

There will be one (1) auxiliary inlet with a 2.50" valve at the left side pump panel, terminating with a 2.50" (F) National Standard hose thread adapter.

The auxiliary inlet will be provided with a strainer, chrome swivel and plug.

Inlet valve location will be outside the pump panel.

INLET ADAPTER, 2.50"

There will be One (1) adapter for the inlet 2.50" MNST x 2.50" British Instantaneous male (BIF) threads and black cap installed on left side inlets.

INLET CONTROL

The side auxiliary inlet(s) will incorporate a quarter-turn ball valve with the control located at the inlet valve. The valve operating mechanism will indicate the position of the valve.

INLET BLEEDER VALVE

A 0.75" bleeder valve will be provided for each side gated inlet. The valves will be located behind the panel with a swing style handle control extended to the outside of the panel. The handles will be chrome plated and provide a visual indication of valve position. The swing handle will provide an ergonomic position for operating the valve without twisting the wrist and provides excellent leverage. The water discharged by the bleeders will be routed below the chassis frame rails.

TANK TO PUMP

The booster tank will be connected to the intake side of the pump with heavy duty 4.00" piping and a quarter turn 3.00" valve with the control remotely located at the operator's panel. A rubber coupling will be included in this line to prevent damage from vibration or chassis flexing.

A check valve will be provided in the tank to pump supply line to prevent the possibility of "back filling" the water tank.

TANK REFILL

A 1.50" combination tank refill and pump re-circulation line will be provided, using a quarter-turn full flow ball valve controlled from the pump operator's panel.

LEFT SIDE DISCHARGE OUTLETS

There will be Two (2) discharge outlets with a 2.50" valve on the left side of the apparatus, terminating with a 2.50" (M) National Standard hose thread adapter.

RIGHT SIDE DISCHARGE OUTLETS

There will be Two (2) discharge outlets with a 2.50" valve on the right side of the apparatus, terminating with a 2.50" (M) National Standard hose thread adapter.

GROUND SWEEPS, TWO (2), UNDER FRONT BUMPER

There will be two (2), 316 S/S, 0.50" Bete model #NF120 ground sweeps with a 65 degree flat/fan spray pattern style of nozzles provided under the front bumper with a 316 S/S, Bete model #3/4x1/2SJ swivel. Each nozzle will be located at the forward, outside corner of the vehicle under the front bumper. The nozzles will be aimed forward and downward to maximize the spray pattern produced by the flat/fan spray pattern of the nozzle. The ground sweeps will be rated up 17 gpm @ 80psi. Each ground sweep nozzle will be controlled by a 0.50" electric valve (Non-gateable, only open/closed) and plumbed off of the water pump with a minimum of 0.50" stainless steel plumbing and/or hose with non-corrosive fittings (Brass or S/S).

A control switch will be provided for each ground sweep/valve and will be located inside the cab within easy reach of the driver. A green indicator light will be provided in each switch to indicate when the ground sweep valve is open. No indicator light will be provided to indicate when the valve is closed.

There will be automatic drains provided at all low points of the piping.

REAR DISCHARGE OUTLET

There will be One (1) discharge outlet piped to the rear of the hose bed, right side, installed so proper clearance is provided for spanner wrenches or adapters. Plumbing will consist of 2.50" piping along with a 2.50" full flow ball valve with the control from the pump operator's panel.

DISCHARGE CAPS/ INLET PLUGS

Chrome plated, rocker lug, caps with chain will be furnished for all discharge outlets 1.00" thru 3.00" in size, besides the pre-connected hose outlets.

Chrome plated, rocker lug, plugs with chain will be furnished for all auxiliary inlets 1.00" thru 3.00" in size.

The caps and plugs will incorporate a thread design to automatically relieve stored pressure in the line when disconnected (no exception).

OUTLET BLEEDER VALVE

A 0.75" bleeder valve will be provided for each outlet 1.50" or larger. Automatic drain valves are acceptable with some outlets if deemed appropriate with the application.

The valves will be located behind the panel with a swing style handle control extended to the outside of the side pump panel. The handles will be chrome plated and provide a visual indication of valve position. The swing handle will provide an ergonomic position for operating the valve without twisting the wrist and provides excellent leverage. Bleeders will be located at the bottom of the pump panel. They will be properly labeled identifying the discharge they are plumbed in to. The water discharged by the bleeders will be routed below the chassis frame rails.

LEFT SIDE OUTLET ELBOWS

The 2.50" discharge outlets located on the left side pump panel will be furnished with a 2.50" (F) National Standard hose thread x 2.50" (M) National Standard hose thread, chrome plated, 45 degree elbow.

The elbow will be Pierce VLH, which incorporates an exclusive thread design to automatically relieve stored pressure in the line when disconnected.

RIGHT SIDE OUTLET ELBOWS

The 2.50" discharge outlets located on the right side pump panel will be furnished with a 2.50" (F) National Standard hose thread x 2.50" (M) National Standard hose thread, chrome plated, 45 degree elbow.

The elbow will be Pierce VLH, which incorporates an exclusive thread design to automatically relieve stored pressure in the line when disconnected.

REAR OUTLET ELBOWS

The 2.50" discharge outlets located at the rear of the apparatus will be furnished with a 2.50" (F) National Standard hose thread x 2.50" (M) National Standard hose thread, chrome plated, 45 degree elbow.

The elbow will be Pierce VLH, which incorporates an exclusive thread design to automatically relieve stored pressure in the line when disconnected.

ADAPTER

There will be two (2) adapters with 1.50" FNST X 1.50" British Instantaneous Female (BIF) threads and a black plug. These adapters will be installed on the two (2) crosslays.

There will be five (5) adapters with 2.50" FNST x 2.50" British Instantaneous Female (BIF) threads and a black plug installed on all 2.50" discharges. Adapters will be single pull.

DISCHARGE OUTLET CONTROLS

The discharge outlets will incorporate a quarter-turn ball valve with the control located at the pump operator's panel. The valve operating mechanism will indicate the position of the valve.

If a handwheel control valve is used, the control will be a minimum of a 3.9" diameter stainless steel handwheel with a dial position indicator built in to the center of the handwheel.

DELUGE RISER

A 3.00" deluge riser will be installed above the pump in such a manner that a monitor can be mounted and used effectively. Piping will be rigidly braced and installed securely so no movement develops when the line is charged. The riser will be gated and controlled at the pump operator's panel.

MONITOR

An Akron Model #3440 "DeckMaster" waterway monitor shall be properly installed on the deluge riser.

This monitor shall include all electric U2 technology 12 VDC controls.

The monitor shall include the automatic stow feature.

A panel mounted control shall be installed on the pump operator's panel

A position sensor shall be provided on the monitor that shall activate the "do not move apparatus" light inside the cab when the monitor is in the raised position.

Wireless remote control shall be provided and located at the pump operators panel .

The monitor shall be painted as provided by monitor manufacturer.

NOZZLE, DELUGE

An Akron 5177 Akromatic 1250 GPM Master Stream nozzle with 2.50" swivel and built in stream shaper will be provided. The nozzle will have a range of 250 to 1250 GPM.

The nozzle will have an electric pattern control.

The deluge riser will have a 3.00" four (4)-bolt flange for mounting the monitor.

CROSSLAY HOSE BEDS

Two (2) crosslays with 1.50" outlets will be provided. Each bed to be capable of carrying 200 feet of 1.75" double jacketed hose double jacketed hose and will be plumbed with 2.00" i.d. pipe and gated with a 2.00" quarter turn ball valve.

Outlets to be equipped with a 1.50" National Standard hose thread 90 degree swivel located above the hose bed so that hose may be removed from either side of apparatus.

The crosslay controls will be at the pump operator's panel.

A removable tray will be provided for each crosslay hosebed. The crosslay trays will be constructed of black poly to provide a lightweight sturdy tray. Two (2) hand holes will be in the floor and additional hand holes will be provided in the sides for easy removal and installation from the compartment. The floor of the trays will be perforated to allow for drainage and hose drying. The bottom of the crosslay compartments will be lined with stainless steel to allow the tray to slide with ease. Scuffplates will be provided on both sides, at the sides and bottom of each opening to protect the paint.

CROSSLAY/DEADLAY HOSE RESTRAINT

A black 1.00" nylon webbing design with 2.00" box pattern will be provided across each end of two (2) crosslay/deadlay(s) to secure the hose during travel. The webbing will be permanently attached at the

bottom of the crosslay/deadlay opening(s). 1.00" web straps will loop through footman loops located at the opposite end of the permanently attached webbing. The straps will attach with a pair of spring clip and hook fasteners.

HOSE REEL

An electric rewind dual agent hose reel will be installed in the right side crew cab step area.

Discharge control for the water/foam will be provided at the pump operator's panel. Plumbing to the reel will consist of 1.50" Aeroquip hose and a 1.50" valve.

Reel motor will be protected from overload with a circuit breaker rated to match the motor.

An electric rewind control switch will be installed on the reel side pump panel.

A twin agent, Siamese hose, 1.00" diameter for the water and 1.00" diameter for the dry chemical will be provided. The hose will be 75 feet in length, with chrome plated Barway, or equal couplings.

Capacity of the hose reel will be 75 feet of 1.00" twin agent hose.

NOZZLE, DUAL AGENT, DRY CHEMICAL/WATER

A total of One (1) Williams Handgun hydro-chemical nozzle(s) will be supplied. The nozzle(s) will be capable of discharging both dry chemical and water/foam solution. The nozzle(s) will have a 1.00" FNST-S connection for the water/foam and a 1.00" FNST-S connection for the dry chemical. The water flow rate will be adjustable with rates of 60, 95 or 125gpm @ 100 psi. The dry chemical flow rate will be adjustable with rates of 3, 5 and 10 lbs per second.

NOZZLE HOLDER(S)

There will be one (1) nozzle holder(s) provided for the storage of Williams Hydro Chem nozzle(s).

The nozzle holder(s) will be located P3 forward wall, in dry chem compartment, forward wall. .

FOAM SYSTEM

A Williams WATP-1500v-B around-the-pump foam proportioner will be installed on the intake side of the pump.

The foam system will be a dual agent foam system capable of handling Class "B" foam concentrates.

A metering valve will be included, with an instruction chart and piping schematic, allowing the operator to select the proper setting at any flow within the operating range.

The Class "B" rated capacity of this system will be 4000 gpm at 1%, 1500 gpm at 3%, and 750 gpm at 6%.

Controls for the foam system will be located on the pump operator's panel and labeled with tags for easy identification. The controls for the foam supply and the water flush will be full electric to allow for an ergonomically designed control panel and simplified operation.

All piping coming in direct contact with the foam concentrate will be immune to the foam concentrate, so deterioration of the plumbing will be avoided.

FOAM REFILL PUMP

A 12v pump with a 2.5 gpm minimum capacity will be permanently mounted in the pump compartment. A male quick disconnect fitting will be provided on the pump panel and a pick-up wand with a 6' tube and mating female fitting will be provided loose. The control switch for the pump will be located on the pump panel adjacent to the quick disconnect fitting. The pump will be plumbed to the foam tank allowing the user to refill the foam tank from the ground.

FOAM TANK

The foam tank will be an integral portion of the polypropylene water tank. The cell will have a capacity of 200 gallons of foam with the intended use of Class B foam. The brand of foam stored in this tank will be Williams 1 x 3% AR-AFFF.

The foam cell will reduce the capacity of the water tank. The foam cell will have a screen in the fill dome and a breather in the lid.

FOAM TANK DRAIN

The foam tank drain will be a 2.00" drain valve terminating in a male 2.50" NST thread located under the right side front body compartment. The drain will have a chrome plated cap and chain.

PUMP COMPARTMENT

The pump compartment will be separate from the hose body and compartments so that each may flex independently of the other. It will be a fabricated assembly of steel tubing, angles and channels which supports both the fire pump and the side running boards.

The pump compartment will be mounted on the chassis frame rails with rubber biscuits in a four point pattern to allow for chassis frame twist.

Pump compartment, pump, plumbing and gauge panels will be removable from the chassis in a single assembly.

PUMP MOUNTING

Pump will be mounted to a substructure which will be mounted to the chassis frame rail using rubber isolators. The mounting will allow chassis frame rails to flex independently without damage to the fire pump.

PUMP CONTROL PANELS (SIDE CONTROL)

All pump controls and gauges will be located at the left side of the apparatus and properly marked.

The pump panel on the right side will be removable with lift and turn type fasteners. The left side will be fastened with screws.

The control panels will be 42.00" wide.

The gauge and control panels will be two (2) separate panels for ease of maintenance.

The side gauge panel will be hinged at the bottom with a full length stainless steel hinge. The fasteners used to hold the panel in the upright position will be quarter turn type. Vinyl covered cable or chains will be used to hold the gauge panel in the dropped position.

Polished stainless steel trim collars will be installed around all inlets and outlets.

All push/pull valve controls will have 1/4 turn locking control rods with polished chrome plated zinc tee handles. Guides for the push/pull control rods will be chrome plated zinc castings securely mounted to the pump panel. Push/pull valve controls will be capable of locking in any position. The control rods will pull straight out of the panel and will be equipped with universal joints to eliminate binding.

The identification tag for each valve control will be recessed in the face of the tee handle.

All discharge outlets will have color coded identification tags, with each discharge having its own unique color. Color coding will include the labeling of the outlet and the drain for each corresponding discharge.

All line pressure gauges will be mounted in individual chrome plated castings with the identification tag recessed in the casting below the gauge. All remaining identification tags will be mounted on the pump panel in chrome plated bezels. Mounting of the castings and identification bezels will be done with a threaded peg cast on the back side of the bezel or screws.

PUMP PANEL CONFIGURATION

The pump panel configuration will be neat and orderly.

PUMP AND GAUGE PANEL

The pump and gauge panels will be constructed of stainless steel with a brushed finish. A polished aluminum trim molding will be provided on both sides of the pump panel.

A removable access panel will be provided on each side of the body to provide access to the PTO water pump and plumbing. The removable panels will be fastened with swell type fasteners where possible.

PUMP COMPARTMENT LIGHT

A pump compartment light will be provided inside the right side pump enclosure and accessible through a door on the pump panel.

A .125" weep hole will be provided in each light lens, preventing moisture retention.

PUMP PANEL GAUGES AND CONTROLS

The following will be provided on the pump panels in the FRC IN Control Pressure Governor system

- Engine Oil Pressure Gauge: LED bar graph display

- Engine Water Temperature Gauge: LED bar graph display

- Tachometer: over 1/2" high LED digits

- Master Pump Drain Control

- Voltmeter: LED bar graph display

OK TO PUMP INDICATOR LIGHT

There will be a green indicator light installed on the pump operators panel that is activated when the pump is in Ok To Pump mode.

VACUUM AND PRESSURE GAUGES

The pump vacuum and pressure gauges will be liquid filled and manufactured by Class 1 Incorporated ©.

The gauges will be a minimum of 4.00" in diameter and will have white faces with black lettering, with a pressure range of 30.00"-0-600#.

Gauge construction will include a Zytel nylon case with adhesive mounting gasket and threaded retaining nut.

The pump pressure and vacuum gauges will be installed adjacent to each other at the pump operator's control panel.

Test port connections will be provided at the pump operator's panel. One will be connected to the intake side of the pump, and the other to the discharge manifold of the pump. They will have 0.25 in. standard pipe thread connections and non-corrosive polished stainless steel or brass plugs. They will be marked with a label.

PRESSURE GAUGES

The individual "line" pressure gauges for the discharges will be Class 1© interlube filled.

They will be a minimum of 2.00" in diameter and have white faces with black lettering.

Gauge construction will include a Zytel nylon case with adhesive mounting gasket and threaded retaining nut.

Gauges will have a pressure range of 30"-0-400#.

The individual pressure gauge will be installed as close to the outlet control as practical.

WATER LEVEL GAUGE

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

The program features will be accessed from the front of the indicator module. The program will support self-diagnostics capabilities, self-calibration, six (6) programmable colored light patterns to display tank volume, adjustable brightness control levels and a data link to connect remote indicators. Low water warnings will include flashing LEDs at 1/4 tank and down chasing LEDs when the tank is almost empty.

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

MINI SLAVE UNIT

A Fire Research TankVision model WLA205-A00 miniature tank indicator gauge will be installed in the cab. The indicator gauge will show the volume of water in the tank on five (5) easy to see super bright LEDs. A wide view lens over the LEDs will provide for a viewing angle of 180 degrees. The indicator gauge case will be manufactured of Polycarbonate material with an integrated lens and have a distinctive blue label.

FOAM LEVEL GAUGE

An electronic foam level gauge will be provided on the operator's panel that registers foam level by means of five (5) colored LED lights. The lights will be durable, ultra-bright five (5) LED design viewable through 180 degrees. The foam level indicators will be as follows:

- 100 percent = Green
- 75 percent = Yellow
- 50 percent = Yellow
- 25 percent = Yellow
- Refill = Red

The light will flash when the level drops below the given level indicator to provide an eighth of a tank indication. To further alert the pump operator, the lights will flash sequentially when the foam tank is empty.

The level measurement will be based on the sensing of head pressure of the fluid in the tank.

The display will be constructed of a solid plastic material with a chrome plated die cast bezel to reduce vibrations that can cause broken wires and loose electronic components. The encapsulated design will provide complete protection from foam and environmental elements. An industrial pressure transducer will be mounted to the outside of the tank. The display will be able to be calibrated in the field and will measure head pressure to accurately show the tank level.

LIGHT SHIELD

There will be a polished, 16 gauge stainless steel light shield installed over the pump operator's panel.

- There will be 12 volt DC white LED lights installed under the stainless steel light shield to illuminate the controls, switches, essential instructions, gauges, and instruments necessary for the operation of the apparatus. These lights will be activated by the pump panel light switch. Additional lights will be included every 18.00" depending on the size of the pump house.
- One (1) pump panel light will come on when the pump is in ok to pump mode.

There will be a light activated above the pump panel light switch when the parking brake is set. This is to afford the operator some illumination when first approaching the control panel.

AIR HORN SYSTEM
One (1) air horn will be provided behind the bumper on the right hand side.

AIR HORN CONTROL
The air horns will be actuated by a foot switch on the driver's side, the horn button in the steering wheel, and a passenger side chrome pushbutton. The driver will have the option to control the air horns or the chassis horns from the horn button by means of a selector switch located on the instrument panel.

ELECTRONIC SIREN
A Code 3®, Model 3692, electronic siren with noise canceling microphone will be provided.

This siren to be active when the battery switch is on and the emergency master switch is on.

Siren head will be located in an accessible under dash position.

The electronic siren will be controlled on the siren head only. No horn button or foot switches will be provided.

SPEAKER
There will be one (1) Code 3®, Model PB100C, speaker with chrome finish provided. The speaker will be connected to the siren amplifier.

The speaker will be recessed in the left side of the front bumper, just outside of the frame rail.

CAB ROOF LIGHTBAR
There will be one (1) 56.00" Whelen, Model Justice LED lightbar provided.

This lightbar will include the following:

- Six (6) red flashing forward facing LED modules.
- Two (2) clear flashing forward facing LED modules.
- Two (2) red flashing front corner LED modules.
- Two (2) red flashing rear corner LED modules.

All lenses will be clear.

There will be a switch located in the cab on the switch panel to control the lightbar.

The white warning lights will be disabled when the parking brake is set.

WARNING LIGHTS
A pair of surface mounted Whelen model RSR02ZCR, LIN3 Super LED flashing lights will be provided on the grille.

The color of these lights will be red.

A switch will be provided inside the cab on the switch panel for actuation.

These lights will be installed with a plastic, chrome-plated flange.

SIDE ZONE LOWER LIGHTING

There will be four (4) Whelen® Model RS*02ZCR, flashing LED warning lights with chrome trim provided per the following:

- Two (2) lights, one (1) each side on the bumper extension. The color of these LEDs will be red.
- Two (2) lights, rear fender. The side rear lights to include red LEDs with clear lenses.

There will be a switch in the cab on the switch panel to control the lights.

REAR ZONE LOWER LIGHTING

Two (2) Whelen, Model RS*02ZCR, flashing LIN3 Super LED lights will be located at the rear of the apparatus.

The color of the lights will be red.

A switch located in the cab on the switch panel will control these lights.

These lights will be installed in a plastic, chrome-plated flange

REAR/SIDE ZONE UPPER WARNING LIGHTS

There will be two (2) Whelen®, Model L31H*FN, LED warning beacons provided at the rear of the truck, located one (1) each side. There will be a switch located in the cab on the switch panel to control the beacons.

The color of the lights will be red LEDs with both domes clear.

The rear warning lights will be mounted on top of the compartmentation with all wiring totally enclosed. The rear deck lights will be mounted on the beavertails as high as possible.

LOOSE EQUIPMENT

The following equipment will be furnished with the completed unit:

- One (1) bag of chrome, stainless steel, or cadmium plated screws, nuts, bolts and washers, as used in the construction of the unit.

NFPA REQUIRED LOOSE EQUIPMENT NOT PROVIDED BY MANUFACTURER

The following loose equipment as outlined in NFPA 1901, 2016 edition, section 5.9.3 and 5.9.4 will not be provided by the apparatus manufacturer. Equipment must be provided and installed by local fire department for NFPA compliancy.

- 800 ft (60 m) of 2.50" (65 mm) or larger fire hose.
- 400 ft (120 m) of 1.50" (38 mm), 1.75" (45 mm), or 2.00" (52 mm) fire hose.
- One (1) handline nozzle, 200 gpm (750 L/min) minimum.
- Two (2) handline nozzles, 95 gpm (360 L/min) minimum.
- One (1) smoothbore or combination nozzle with 2.50" shutoff that flows a minimum of 250 gpm.

- One (1) SCBA complying with NFPA 1981 for each assigned seating position, but not fewer than four (4), mounted in brackets fastened to the apparatus or stored in containers supplied by the SCBA manufacturer.
- One (1) spare SCBA cylinder for each SCBA carried, each mounted in a bracket fastened to the apparatus or stored in a specially designed storage space(s).
- One (1) first aid kit.
- Four (4) combination spanner wrenches.
- Two (2) hydrant wrenches.
- Four (4) ladder belts meeting the requirements of NFPA 1983 (if equipped with an aerial device).
- One (1) double female 2.50" (65 mm) adapter with National Hose threads.
- One (1) double male 2.50" (65 mm) adapter with National Hose threads.
- One (1) rubber mallet, for use on suction hose connections.
- Two (2) salvage covers each a minimum size of 12 ft × 14 ft (3.7 m × 4.3 m).
- One (1) traffic vest for each seating position, each vest to comply with ANSI/ISEA 207, *Standard for High Visibility Public Safety Vests*, and have a five-point breakaway feature that includes two (2) at the shoulders, two (2) at the sides, and one (1) at the front.
- Five (5) fluorescent orange traffic cones not less than 28.00" (711 mm) in height, each equipped with a 6.00" (152 mm) retro-reflective white band no more than 4.00" (152 mm) from the top of the cone, and an additional 4.00" (102 mm) retro-reflective white band 2.00" (51 mm) below the 6.00" (152 mm) band.
- Five (5) illuminated warning devices such as highway flares, unless the five (5) fluorescent orange traffic cones have illuminating capabilities.
- One (1) automatic external defibrillator (AED).
- If the supply hose carried does not use sexless couplings, an additional double female adapter and double male adapter, sized to fit the supply hose carried, will be carried mounted in brackets fastened to the apparatus.
- If none of the pump intakes are valved, a hose appliance that is equipped with one or more gated intakes with female swivel connection(s) compatible with the supply hose used on one side and a swivel connection with pump intake threads on the other side will be carried. Any intake connection larger than 3.00" (75 mm) will include a pressure relief device that meets the requirements of 16.6.6.
- If the apparatus does not have a 2.50" National Hose (NH) intake, an adapter from 2.50" NH female to a pump intake will be carried, mounted in a bracket fastened to the apparatus if not already mounted directly to the intake.
- If the supply hose carried has other than 2.50" National Hose (NH) threads, adapters will be carried to allow feeding the supply hose from a 2.50" NH thread male discharge and to allow the hose to connect to a 2.50" NH female intake, mounted in brackets fastened to the apparatus if not already mounted directly to the discharge or intake.

SOFT SUCTION HOSE PROVIDED BY FIRE DEPARTMENT

NFPA 1901, 2016 edition, section 5.8.2.1 requires a minimum of 20' of suction hose or 15' of supply hose will be carried.

Hose is not on the apparatus as manufactured. The fire department will provide suction or supply hose.

- One (1)-6.00" National Standard hose thread barrel strainer, chrome plated

DRY CHEMICAL EXTINGUISHER PROVIDED BY FIRE DEPARTMENT

NFPA 1901, 2016 edition, section 5.9.4 requires one (1) approved dry chemical portable fire extinguisher with a minimum 80-B:C rating mounted in a bracket fastened to the apparatus.

The extinguisher is not on the apparatus as manufactured. The fire department will provide and mount the extinguisher.

WATER EXTINGUISHER PROVIDED BY FIRE DEPARTMENT

NFPA 1901, 2016 edition, section 5.9.4 requires one (1) 2.5 gallon or larger water extinguisher mounted in a bracket fastened to the apparatus.

The extinguisher is not on the apparatus as manufactured. The fire department will provide and mount the extinguisher.

FLATHEAD AXE PROVIDED BY FIRE DEPARTMENT

NFPA 1901, 2016 edition, Section 5.9.4 requires one (1) flathead axe mounted in a bracket fastened to the apparatus.

The axe is not on the apparatus as manufactured. The fire department will provide and mount the axe.

PICKHEAD AXE PROVIDED BY FIRE DEPARTMENT

NFPA 1901, 2016 edition, Section 5.9.4 requires one (1) pickhead axe mounted in a bracket fastened to the apparatus.

The axe is not on the apparatus as manufactured. The fire department will provide and mount the axe.

PAINT PROCESS

The exterior custom cab and/or body painting procedure will consist of a seven (7) step finishing process. A commercial chassis paint process will follow similar processes as determined by the chassis manufacturer. The following procedure will be used by Pierce:

1. Manual Surface Preparation - All exposed metal surfaces on the custom cab and body will be thoroughly cleaned and prepared for painting. Imperfections on the exterior surfaces will be removed and sanded to a smooth finish. Exterior seams will be sealed before painting. Exterior surfaces that will not be painted include; chrome plating, polished stainless steel, anodized aluminum and bright aluminum treadplate.
2. Chemical Cleaning and Pretreatment - All surfaces will be chemically cleaned to remove dirt, oil, grease, and metal oxides to ensure the subsequent coatings bond well. The aluminum surfaces will be properly cleaned and treated using a high pressure, high temperature 4 step Acid Etch process. The steel and stainless surfaces will be properly cleaned and treated using a high temperature 3 step process specifically designed for steel or stainless. The chemical treatment converts the metal surface to a passive condition to help prevent corrosion. A final pure water rinse will be applied to all metal surfaces.

3. Surfacer Primer - The Surfacer Primer will be applied to a chemically treated metal surface to provide a strong corrosion protective base coat. A minimum thickness of 2 mils of Surfacer Primer is applied to surfaces that require a critical aesthetic finish. The surfacer primer will be a two-component high solids urethane that has excellent sanding properties and an extra smooth finish when sanded.
4. Finish Sanding - The surfacer primer will be sanded with a fine grit abrasive to achieve an ultra-smooth finish. This sanding process is critical to produce the smooth mirror like finish in the topcoat.
5. Sealer Primer - The sealer primer is applied prior to the base coat in all areas that have not been previously primed with the surfacer primer. The sealer primer is a two-component high solids urethane that goes on smooth and provides excellent gloss hold out when top coated.
6. Base coat Paint - Two coats of a high performance, two component high solids polyurethane base coat will be applied. The Base coat will be applied to a thickness that will achieve the proper color match. The Base coat will be used in conjunction with a urethane clear coat to provide protection from the environment.
7. Clear Coat - Two (2) coats of clear coat will be applied over the base coat color. The clear coat is a two-component high solids urethane that provides superior gloss and durability to the exterior surfaces. Lap style doors will be clear coated to match the body. Paint warranty for the roll-up doors will be provided by the roll-up door manufacturer.

Our specifications are written to define cyclic corrosion testing, physical strengths, durability and minimum appearance requirements must be met in order for an exterior paint finish to be considered acceptable as a quality finish.

Each batch of base coat color will be checked for a proper match before painting of the cab and the body. After the cab and body are painted, the color is verified again to make sure that it matches the color standard. Electronic color measuring equipment will be used to compare the color sample to the color standard entered into the computer. Color specifications are used to determine the color match. A Delta E reading will be used to determine a good color match within each family color.

All removable items such as brackets, compartment doors, door hinges, and trim will be removed and separately if required, to ensure paint behind all mounted items. Body assemblies that cannot be finish painted after assembly will be finish painted before assembly.

PAINT - ENVIRONMENTAL IMPACT

Contractor will meet or exceed all current State regulations concerning paint operations. Pollution control will include measures to protect the atmosphere, water and soil. Controls will include the following conditions:

- Topcoats and primers will be chrome and lead free.
- Metal treatment chemicals will be chrome free. The wastewater generated in the metal treatment process will be treated on-site to remove any other heavy metals.
- Particulate emission collection from sanding operations will have a 99.99% efficiency factor.
- Particulate emissions from painting operations will be collected by a dry filter or water wash process. If the dry filter is used, it will have an efficiency rating of 98.00%. Water wash systems will be 99.97% efficient

- Water from water wash booths will be reused. Solids will be removed on a continual basis to keep the water clean.
- Paint wastes will be disposed of in an environmentally safe manner.
- Empty metal paint containers will be recycled to recover the metal.
- Solvents used in clean-up operations will be recycled on-site or sent off-site for distillation and returned for reuse.

Additionally, the finished apparatus will not be manufactured with or contain products that have ozone depleting substances. Pierce will, upon demand, present evidence that the manufacturing facility meets the above conditions and that it is in compliance with the state EPA rules and regulations.

PAINT

The chassis will be painted by the chassis manufacturer, and will remain the commercial grade finish as provided. To ensure a good color match between the body and chassis, the apparatus manufacturer and chassis manufacturer will have a mutually preapproved paint color program. The apparatus will be painted Pierce #90 candy apple red .

COMMERCIAL CHASSIS PAINT

The chassis will be painted by the chassis manufacturer. It will remain the color and commercial quality finish as provided. The primary color will be Pierce #90 candy apple red .

WHEEL PAINT

The exterior surface of the outside wheels will be painted by Pierce to assure a color match to the main color of the cab. The exterior visible areas of the wheel will be painted with the same processes and quality of materials used on the apparatus exterior.

WHEELS, ACCENT STRIPE

The exposed outer edge circumference of the wheel will be painted with a silver accent stripe.

CORROSION PROTECTION

All non-painted metal surfaces on the exterior of the vehicle will be sprayed with a corrosion protective coating provided by Carwell. The coating can be removed with soap and water. The coating is made of a linseed oil base and is biodegradable.

The underside non-painted metal surfaces will also be coated with a corrosion protective coating.

COMPARTMENT INTERIOR PAINT

The interior of all compartments will be painted with a gray spatter finish for ease of cleaning and to make it easier to touch up scratches and nicks.

REFLECTIVE STRIPES

Three (3) reflective stripes will be provided across the front of the vehicle and along the sides of the body. The reflective band will consist of a 1.00" L2 fluorescent yellow green stripe at the top with a 1.00" gap then a 6.00" L2 fluorescent yellow green stripe with a 1.00" gap and a 1.00" L2 fluorescent yellow green stripe on the bottom.

There will be no warranty provided for this material.

CHEVRON STRIPING ON THE FRONT BUMPER
There will be alternating chevron striping located on the front bumper.

The colors will be red and fluorescent lime yellow reflexite.

The size of the striping will be 4".

REAR CHEVRON STRIPING
There will be alternating chevron striping located on the rear-facing vertical surface of the apparatus. The rear surface, excluding the rear compartment door, will be covered.

The colors will be Red V98-12 and Fluorescent Lime V98-112 oralite.

Each stripe will be 6.00" in width.

This will meet the requirements of the current edition of NFPA 1901, which states that 50% of the rear surface will be covered with chevron striping.

JOG(S) IN REFLECTIVE BAND
The reflective band located on each side of the apparatus body will contain one (1) jog(s) and will be angled at approximately a 45 degrees when installed.

CAB DOORS REFLECTIVE STRIPE
A L2 fluorescent yellow green reflective stripe will be provided on the interior of each cab door.

This stripe will be a minimum of 96.00 square inches and will meet the NFPA 1901 requirement.

LETTERING
Twenty-one (21) to forty (40) reflective lettering, 3.00" high, with highlight and shade will be provided.

LETTERING
There will be reflective lettering, 2.00" high, with no outline or shade provided. There will be four (4) letters provided.

EMBLEM
There will be three (3) reflective emblem(s), approximately 24.00" - 26.00" in size, installed LOCATE ON D1-P1 SAFE BY CHOICE, 1 ON R1 YARA LOGO. the emblem will be modeled after the department submitted information (art, patch, etc).

EMBLEM/S
There will be two (2) reflective emblem/s, installed LOCATE ON CREW CAB DOORS. Emblem/s will be modeled after the department patch.

UNDERCOATING, CAB & BODY
The underside of the apparatus will be undercoated with an asphalt petroleum based material, dark in color.

The undercoating material utilized on the apparatus will be formulated to resist corrosion and deaden unwanted sound or road noise.

Coating texture will appear firm, flexible, and resistant to abrasion. Minimum dry film thickness will be in the range of 8.00 to 12.00 mils.

The material will be applied to the following areas:

Body and cab wheel well fender liners, on the back side only.

Underside of body and cab sheet metal, and structural components.

Underside and vertical sides of all sheet metal compartmentation, including support angles.

Structural support members under running boards, rear platforms, battery boxes, walkways, etc.

Inside surfaces of the pump heat enclosure, (when installed).

MANUAL, BODY PARTS ONLY

A custom parts manual for the Pierce® installed parts only will be provided in USB flash drive format with the completed unit.

The manual will contain the following:

- Job number

- Part numbers with full descriptions

- Table of contents

- Parts section sorted in functional groups reflecting a major system, component, or assembly

- Parts section sorted in Alphabetical order

- Instructions on how to locate parts

The manual will be specifically written for the body model being purchased. It will not be a generic manual for a multitude of different bodies.

SERVICE PARTS INTERNET SITE

The service parts information included in this manual are also available on the Pierce website. The website offers additional functions and features not contained in this manual, such as digital photographs and line drawings of select items. The website also features electronic search tools to assist in locating parts quickly.

MANUALS, SERVICE

A USB flash drive format service manual supplement containing parts and service information on Pierce® installed components will be provided with the completed unit.

The manual will be specifically written for the unit being purchased. It will not be a generic manual for a multitude of different units.

MANUAL, CHASSIS OPERATION

One (1) chassis operation manual will be provided with the completed unit.

ONE (1) YEAR MATERIAL AND WORKMANSHIP

Each new piece of apparatus will be provided with a minimum one (1) year basic apparatus material and workmanship limited warranty. The warranty will cover such portions of the apparatus built by the manufacturer as being free from defects in material and workmanship that would arise under normal use and service.

A copy of the warranty certificate will be submitted with the bid package.

COMPARTMENT LIGHT WARRANTY

The Pierce 12 volt DC LED strip lights limited warranty certificate, WA0203, is included with this proposal.

LIFETIME MATERIAL AND WORKMANSHIP

A UPF poly water tank limited warranty certificate, WA0195, is included with this proposal provided by the water tank manufacturer.

This warranty does not cover any travel and lodging expense for a factory repair technician. The end user (customer) must prepay all travel and lodging expenses prior to the approval for any repairs.

PUMP WARRANTY

A Waterous pump limited warranty certificate, WA0225, is included with this proposal.

This warranty does not cover any travel and lodging expense for a factory repair technician. It is understood that the end user (customer) shall prepay all travel and lodging expenses prior to the approval for any repairs.

TEN (10) YEAR PUMP PLUMBING WARRANTY

The Pierce apparatus plumbing limited warranty certificate, WA0035, is included with this proposal.

VEHICLE STABILITY CERTIFICATION

The fire apparatus manufacturer will provide a certification stating the apparatus complies with NFPA 1901, current edition, section 4.13, Vehicle Stability. The certification will be provided at the time of bid.

CAB INTEGRITY

NFPA 1901, 2016 edition, Section 14.3.2 requires cabs on an apparatus with a GVWR greater than 26,000 lb meet the requirements of SAEJ2420, *COE Frontal Strength Evaluation - Dynamic Loading Heavy Trucks* and SAEJ2422, *Cab Roof Strength Evaluation - Quasi-Static Loading Heavy Trucks*, or ECE Regulation Number 29 *Uniform Provisions Concerning the Approval of Vehicles with Regard to the Protection of the Occupants of the Cab of a Commercial Vehicle*. Certified cab designs meet an established roof, roof corner, and frontal impact strength criteria and may provide additional occupant protection during a crash.

The commercial cab provided does not meet this requirement. Per Fire Department specification request of this commercial chassis, the apparatus will be non-compliant to NFPA 1901 standards at time of contract execution.

AMP DRAW REPORT

The bidder will provide, at the time of bid and delivery, an itemized print out of the expected amp draw of the entire vehicle's electrical system.

The manufacturer of the apparatus will provide the following:

- Documentation of the electrical system performance tests.
- A written load analysis, which will include the following:
    - The nameplate rating of the alternator.
    - The alternator rating under the conditions specified per:
        - Applicable NFPA 1901 or 1906 (Current Edition).
    - The minimum continuous load of each component that is specified per:
        - Applicable NFPA 1901 or 1906 (Current Edition).
    - Additional loads that, when added to the minimum continuous load, determine the total connected load.
    - Each individual intermittent load.

All of the above listed items will be provided by the bidder per the applicable NFPA 1901 or 1906 (Current Edition).

www.piercemfg.com

Pierce Manufacturing Inc., An Oshkosh Corporation Company
P.O. Box 2017, Appleton WI 54912-2017 USA

PERFORM. LIKE NO OTHER.™

P-0112-PMPRBR 4/20

Designed to outperform.

In your line of work, performance matters. Details matter. At Pierce, we understand that every second on the job counts and we tailor customization to match your requirements. The Pierce® pumper body has a variety of body lengths available to provide flexibility. Customers select the body that is right for them to meet the demanding needs of the truck on scene.

PUMPER SPECS

Custom Chassis	Arrow XT™, Enforcer™, Impel®, Quantum®, Saber™, Velocity™
Tank Capacities	Up to 1,500 gallons / lifetime warranty
Compartment Space	Up to 200 cubic feet (depending on body size)
Usable Compartment Depth	12" upper, 26" lower
Body Width	96"
Compartment Load Rating	Up to 500 lb each
Body Material	Aluminum standard, galvanneal, & 304L stainless optional
Body Warranty	10-yr structural

PUC changes everything.

The Pierce Ultimate Configuration (PUC™) removes the need to build the entire body around the pump and the pump house. And it's the first apparatus that offers the most complete single source build, from the chassis and body, right down to the pump.

PUC PUMPER SPECS

Custom Chassis	Arrow XT™, Enforcer™, Impel®, Quantum™, Velocity®
Tank Capacities	Up to 1,500 gallons / lifetime warranty
Wheelbase	162" - 212" (depending on body size)
Pump and Roll	Standard
Compartment Space	Up to 400 cubic feet (depending on body size)
Usable Compartment Depth	12" upper, 26" lower
Body Width	98"
Compartment Load Rating	Up to 800 lb each
Body Material	Aluminum standard & 304L stainless optional
Body Warranty	10-yr structural

Customized. Optimized. Maximized.

Nobody offers more body features, storage options, or compartment spaces when it comes to designing your rescue pumper.

Whatever the need – short body for urban mobility, compartmentation for extra gear – we configure each rescue pumper around the exact demands of every department.

RESCUE PUMPER SPECS

Custom Chassis	Arrow XT™, Enforcer™, Impel™, Quantum™, Saber™, Velocity™
Tank Capacities	Up to 1,000 gallons / lifetime warranty
Compartment Space	Up to 400 cubic feet (depending on body size)
Usable Compartment Depth	26" full height
Body Width	96"
Compartment Load Rating	Up to 800 lb each
Body Material	Aluminum standard, galvanneal, & 304L stainless optional
Body Warranty	10-yr structural

HEAVY-DUTY RESCUE PUMPERS

Purpose built.

The Pierce® heavy-duty rescue pumper is designed for fire departments that need to carry a variety of equipment for all emergency situations.

The heavy-duty rescue pumper is built on a 3rd generation body with versatile configurations. Its 800 lb rated full height, full depth compartments, and traditional pump house ensure that firefighters will be ready for anything.

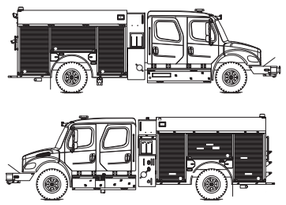
HEAVY-DUTY RESCUE PUMPER SPECS

Custom Chassis	Arrow XT®, Enforcer®, Impel®, Quantum®, Velocity®
Tank Capacities	Up to 1,000 gallons / lifetime warranty
Compartment Space	Up to 500 cubic feet (depending on body size)
Usable Compartment Depth	26" full height
Body Width	98"
Compartment Load Rating	Up to 800 lb each
Body Material	Aluminum standard & 304L stainless optional
Body Warranty	10-yr structural

Flexible. Maneuverable.

Infinitely versatile, the Pierce® Responder gives you value-driven configurations that won't compromise performance. Choose from more maneuverable wheelbase options, EMS equipment storage in cab, and the option of a third seat in the extended cab.

Hose bed access includes a large rear tailboard, large wedge steps, and a standing platform directly below the hose bed.



RESPONDER SPECS

Commercial Chassis	Freightliner
Tank Capacities	750, 1,000, 1,250 gallons / lifetime warranty
Compartment Space	Up to 200 cubic feet (depending on configuration)
Usable Compartment Depth	12" upper, 26" lower
Body Width	98"
Compartment Load Rating	Up to 500 lb full height Up to 250 lb over the wheel
Body Material	Aluminum
Body Warranty	10-yr structural

Legendary build. Made mini.

With 750 - 1,500 gpm NFPA pump ratings, Pierce® mini pumpers give you unmatched craftsmanship and customization in a nimble package. From the configurable fender storage and choice in tank sizes, to the paint finish, ergonomic speedlays, and optional hatch compartments, it's every inch a Pierce.

MINI PUMPER SPECS

Commercial Chassis	F-550 Super Duty 4x4
Tank Capacities	Up to 300 gallons / lifetime warranty
Compartment Space	Up to 190 cubic feet (depending on configuration)
Usable Compartment Depth	21.5"
Body Width	96"
Compartment Load Rating	Up to 500 lb upper Up to 100 lb lower
Body Material	Aluminum
Body Warranty	10-yr structural

HIGH FLOW INDUSTRIAL PUMPER

Easy operation. Max endurance.

Get accurate foam solution rates over 10,000 gpm from a single discharge with just the touch of a button.

The Pierce® high flow industrial pumper delivers unprecedented reach performance, flow precision, and operator control through its exclusive Husky™ 450 Foam System, class-defining flow meters, and rigorous third-party endurance testing.

HIGH FLOW INDUSTRIAL PUMPER SPECS

Custom Chassis	Arrow XT™ & Velocity®
Pump	Darley 2ZSM / 5,500 gpm from draft & 10,000+ gpm from a pressurized water source
Inlet Configurations	Up to 12" available, adaptable to 6"
Outlet Configurations	Up to 12" available, foam ratio controllers through 10"
Valve Controllers	Control discharge valve operation & foam metering valve regulation
Valve Actuators	Manual overrides as standard
Body Warranty	10-yr structural

Versatile storage solutions.

Maximum design flexibility meets proven performance reliability. Because Pierce knows a pumper is one of the most important investments a department will ever make.

We offer a robust line of customizable storage solutions to optimize space, response time, and firefighter safety.

Low hose beds

Low crosslays

Flexible speedlay options

Drop down ladder storage

Aluminum, vinyl, netted, and rollup covers

Hydraulic ladder rack

Chest height ladder storage

Flexible storage options

At-a-glance control.

Our Control Zone™ organized pump panel simplifies your process and saves you valuable seconds with color coding, standardized knobs, and controls grouped by job, where you expect them to be. When you have no time, this needs to be a no-brainer. And, it needs to fit the way you work.

Pump House: Side Control or Top-Mount

Water Pump: Darley, Pierce PUC™, Hale, or Waterous

Water Pump Ranges: 500 gpm to 3,000 gpm

Pump Warranty: 5-yr

Pierce PUC Warranty: 6-yr

Stainless Plumbing Warranty: 10-yr

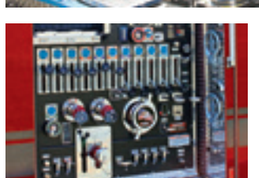
Pump Panel Design: Control Zone and Non Control Zone customized to meet your needs

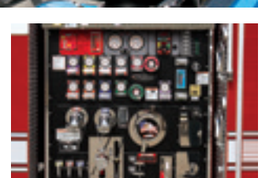
Hose Storage: Crosslays and Speedlays

Virtually limitless plumbing options.

A huge variety of pump house configurations and arrangements is available to meet the ever-changing needs of every department.

Pierce uses schedule 10 stainless steel pipe wherever possible for greater inside diameter, more flow, and less friction loss. More importantly, our “belled end” fittings allow welded joints that are stronger and less prone to leakage than threaded pipe fittings.





Husky™ Foam Systems.

Pierce delivers not only superior foam systems, but also reliability, ease of operation, quicker knockdown, and on the scene confidence. The foam systems are each backed by unsurpassed research and development, extensive testing, and a second-to-none support system.

Husky™ 3 is a single tank system designed to pump any Class A or Class B foam; even high-viscosity, alcohol-resistant Class B foams. It is an electric/hydraulic powered single point, direct injection, flow based system using digital technology to indicate pump position. The 3 gpm foam pump provides capacity to handle structure, wildland, and automotive fires, as well as small Class B spills. As standard, an auxiliary pickup and foam tank fill system are available.

The Husky 12 is a single or dual tank system designed to pump any Class A or Class B foam; even high-viscosity, alcohol-resistant Class B foams. It is hydraulic drive powered to avoid heavy amp draw loads on the chassis electrical system. The single point, direct injection, flow-based system uses digital technology to indicate pump position and a flow meter. The 12 gpm foam pump provides capacity to handle structure, wildland, and automotive fires, as well as medium Class B spills. As standard, an auxiliary pickup and foam tank fill system are available.

Hercules CAFS.

A much quicker and safer knockdown with less exposure to heat. Pierce® Hercules™ CAFS adds compressed air to the foam and provides better control of the bubble structures, allowing firefighters to gain control of fires faster, reducing water usage and lightening handlines with better exposure protection. This is especially vital when dealing with synthetic-fuel-based fires commonly found in room-and-contents situations, car interiors, and rubber tires.

The Hercules external compressor system perfectly complements, and can be added to, any of the Husky Foam Systems. It neatly fits into your Control Zone™ pump panel for easy and organized operation.

VLH caps.

VLH® caps are self-venting to help reduce firefighter injuries caused by inadvertent pressure release.