Skeeter Brush Trucks

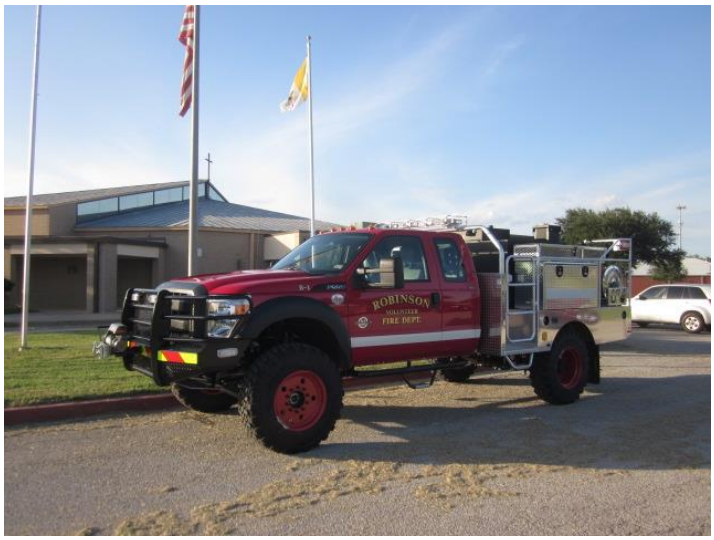
FIRE APPARATUS SPECIFICATIONS

5511 Binz Engleman
Kirby, Tx. 78219-620
888-228-9335

2015, F-550, Super Cab, Diesel, 4x4, 19,500 gvw, 240 GPM, 400 Gallon, Step-Side, Aluminum Body, NWCG Type 5 Brush Truck

Specifications prepared for **Seguin Fire Department**

4-1-14



***Pictures provided in this specification are included for general familiarity or description. They may not exactly represent the actual finished product.**

PROPOSAL

We are pleased to submit the following specifications to you for a **SKEETER Type 5 Brush Truck** per your request for quotation. The following paragraphs will describe in detail the apparatus proposed. Loose equipment not specifically requested will not be provided.

SKEETER Brush Trucks LLC, a wholly owned company of Siddons-Martin Emergency Group, is a custom fire apparatus manufacturer specializing in Brush-Grass-Wildland fire fighting vehicles. Our 22,000 square foot manufacturing facility is located in Kirby, Texas and is operated by some of the most experienced wildland firefighting vehicle manufacturing individuals in the business. Our performance and quality minded approach to manufacturing generates some of the most reliable vehicles in the industry, thus yielding a very high return on investment.

Skeeter Brush Trucks LLC provides the very best sole source product and service solutions to the fire service of Texas. Skeeter Brush Trucks LLC carries $1,000,000 in liability insurance, with $3,000,000 in excess umbrella liability insurance. The opportunity to place this Skeeter Brush Truck in your department is greatly appreciated and we are certain it will fulfill your every requirement. We look forward to working for you.

Siddons-Martin Emergency Group sales and service professionals are dedicated and experienced in all aspects of the fire apparatus business. Our core business is the sales and service of fire apparatus.

SERVICE ADVANTAGE

Siddons-Martin Emergency Group currently staffs eleven (11) service centers located throughout Texas, Louisiana, and New Mexico, and maintains a fleet of service vehicles to provide on-site service of your SKEETER Brush Truck. The Siddons-Martin Emergency Group Service Department is dedicated to the fire service and provides service and maintenance exclusively on fire apparatus. Siddons-Martin Emergency Group employs numerous EVT trained technicians and is constantly engaged in continuing factory and EVT training classes and programs in order to stay abreast of the rapidly improving technologies incorporated within today's fire apparatus. SMEG is an authorized sales and service dealer for Pierce Mfg., and an authorized service center for Waterous, Hale, and Darley fire pumps, and an OEM distributor for all major fire equipment accessories.

CONSTRUCTION and DESIGN

Skeeter Brush Trucks body and component designs are engineered. Body construction (unless otherwise noted) is done in-house, using the best in design and materials. RBM's for body frames are among the very highest in the industry. Wiring harnesses are custom manufactured in-house, and meet or exceed OEM standards. All wiring is protected, run through conduit, and distributed through one, easily accessed, sealed control box.

Chassis Operation Manual

The chassis manufacturer shall provide one (1) operational manual. This manual may be in a either a notebook type binder, with reference tabs or a compact disk (CD) with all of the printed material in an electronic format (Adobe Acrobat PDF).

Fire Pump Operational Manual
A fire pump service, instruction, and operational manual shall be supplied. This manual may be in a either a notebook type binder, with reference tabs or a compact disk (CD) with all of the printed material in an electronic format (Adobe Acrobat PDF).

Foam System Operational Manual
A foam system service, instruction, and operational manual shall be supplied. This manual may be in a either a notebook type binder, with reference tabs or a compact disk (CD) with all of the printed material in an electronic format (Adobe Acrobat PDF).

Apparatus Operational Manuals
The fire apparatus manufacturer shall provide two (2) operational manuals. These manuals may be in a either a notebook type binder, with reference tabs or a compact disk (CD) with all of the printed material in an electronic format (Adobe Acrobat PDF).

COMPLIANCE TO STANDARDS
This vehicle shall meet or exceed State and Federal Motor Vehicle Standards. Please note: the vehicle being proposed in "non-compliant" to all NFPA standards. The purchaser assumes all liability and full responsibility for this vehicle specification, and the inclusion or exclusion of any NFPA provisions or equipment on the vehicle.

PAINT

1. Cab Color:	Red
2. Cab Secondary Color:	N/A
3. Description:	Solid Red
4. Bumper Color:	Brushed Aluminum
5. Wheel Color:	Red
6. Body Color:	Brushed Aluminum
7. Cab Steps:	Red

CHASSIS SPECIFICATIONS
One (1) FORD F-550 rear axle drive 4 x 4, dual rear wheels (DRW), Super Cab XL, cab and chassis

GVWR: 19,500 pounds

Wheelbase: 161.8"

Cab to Axle: 60"

Grille: black

Tow Hooks: front loops

Driving Front Axle and Suspension: 7,000# HD front package, 7,000# suspension package, stabilizer bar, front shocks, manual hubs

Transfer Case: cab controlled high and low range HD front package, stabilizer bar, front shocks, manual hubs

Rear Axle and Suspension: 14,706# wide track rear axle, 14,706# suspension package, stabilizer bar,

Rear Axle Off Road Upgrades: limited slip with driveline traction control, 4.88 ratio

Braking System: four (4) wheel disc brake system with an Anti-Lock (ABS)

Engine:
- Model: Power Stroke 6.7 turbo-charged diesel
- Number of Cylinders: Eight (8) "V" configuration
- Displacement: 6.7 liters
- Rated Brake Horsepower: 300 @ 2800 rpm
- Rated Torque: 660 ft lbs @ 1600 rpm
- Turbocharger

Cooling System: a coolant mixture protected to -30 degrees Fahrenheit

Exhaust System: horizontally mounted, discharge on right side aft of wheels

Fuel Tank: 40 gallon rear mounted, left side filler extension

DEF Fluid Tank:

Transmission: six speed automatic

Steering: power steering system

Batteries: two (2) 78 amp-hr 750CCA 12-volt batteries

Alternators: 200 amp 12 volt alternator

Cab Construction: XL Series two (2) door steel construction, sun visors, tinted glass, roof clearance lights, grab handles interior

Mirrors: black manually telescope fold-away in/out for view adjustment, power control

Cab Paint: single color, air bags front and air curtains side

Climate Controls: controls for heat, defroster, and air conditioning

Window and Door Controls: power

Keyless Entry: Yes, with Securilock passive anti-theft system (PATS)

Air Bags: driver's and passenger's front, seat side, and side curtain

Cab Instruments: standard type, four (4) rocker switches

Drivers and Passenger Seat: 40/20/40 vinyl bucket type seats with three (3) point safety harnes, center flip down seat back

Printed Manuals: one (1) printed chassis operation manual

Cab Accessories: AM/FM radio, two radio speakers and antenna

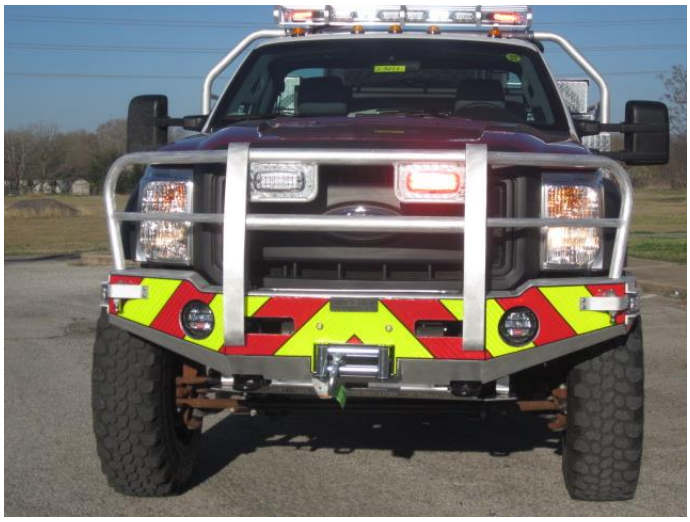
Color: Ford Red

CAB SEATING AND WEIGHT ALLOWANCE
A warning label shall be installed in the cab to indicate seating positions for two (2) people. A weight allowance of 250 pounds shall be calculated for each person.

TOW HOOKS
The factory tow hooks will be relocated into the custom bumper.

REAR TOW PLATES
Two (2) painted bolt-on tow plates shall be installed at the rear of the chassis.

FRONT BUMPER
The factory bumper shall be removed and replaced with a custom fabricated, heavy duty aluminum bumper and grille protection assembly. The bumper extension unit shall be brushed aluminum finish.



FRONT RECIEVER MOUNT
A custom fabricated 2" steel front receiver mount shall be installed, attached to the chassis frame rail extensions.

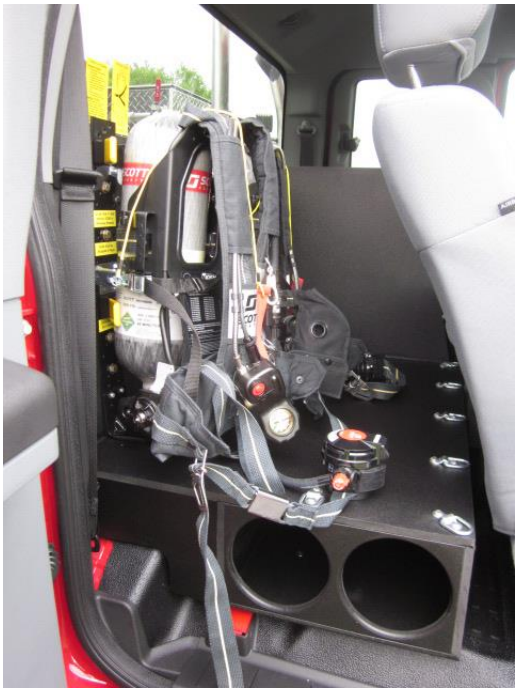
REAR MUD FLAPS
The chassis shall be supplied with mud flaps with the manufacturer's logo. The mud flaps shall be installed behind the rear wheels.

CAB STEPS
The cab shall be equipped with custom painted steel tubing step assemblies, on each side of the cab.

CREW CAB SCBA CABINET
The interior cab shall be equipped with an SCBA storage cabinet. The cabinet shall be located be mounted between the back cab wall and the rear of the front seats. The cabinet shall be constructed of 1/2" polyurethane.

The cabinet shall house one (1)SCBA, and have storage underneath for two (2) spare SCBA bottles.

The exact layout shall be determined at the pre-construct conference.

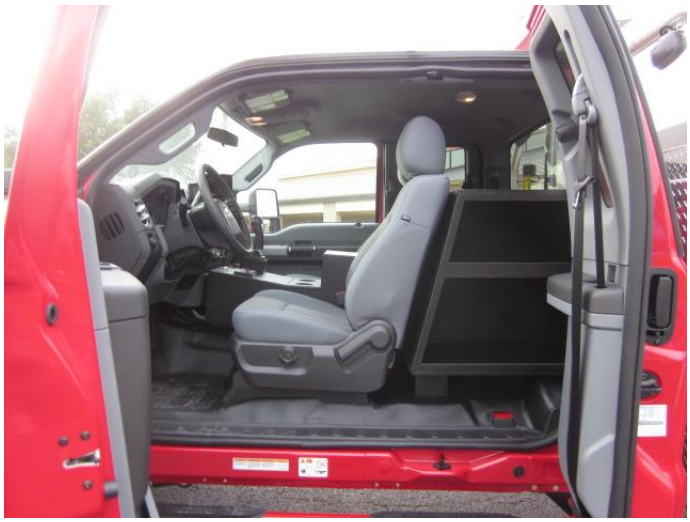


CREW CAB EMS CABINET

The interior cab shall be equipped with an EMS storage cabinet. The cabinet shall be located be mounted between the back cab wall and the rear of the front seats. The cabinet shall be constructed of 1/2" polyurethane.

The cabinet shall be constructed to house a trauma bag, O2 bottle, AED, and drug bag.

The exact layout shall be determined at the pre-construct conference.



FRONT BUMPER SKID PLATE
A .250” aluminum skid plate will be installed from the bumper area extending below the bumper extension and chassis radiator area.

CHASSIS LIFT KIT
A 6" Fabtech heavy duty, 4 link, off road suspension lift kit with heavy-duty off road shocks shall be installed on the chassis. The system is designed to significantly increase wheel travel, in addition to giving the chassis increased ground clearance.

NOTE: THE END USER MUST BE AWARE THAT LIFTING THE CHASSIS AND ADDING LARGER TIRES WILL ALTER THE VEHICLES CENTER OF GRAVITY. THIS WILL AFFECT THE VEHICLES HANDLING CHARACTERISTICS.

IN ADDITION, THE LARGER TIRES WILL AFFECT STOPPING DISTANCE. THE SYSTEM IS NOT RECOMMENDED FOR VEHICLES THAT OPERATE PRIMARILY IN AN ON ROAD ENVIRONMENT. THE SYSTEM IS HIGHLY RECOMENDED FOR VEHICLES THAT OPERATE IN OFF ROAD OR ROUGH TERRAIN ENVIRONMENTS.

TURNING RADIUS MAY BE REDUCED (if needed) 1-3 DEGREES TO PREVENT TIRE RUB.

SPEEDOMETER RE-CALIBRATION
Due to the larger tires, the speedometer shall have an electronic calibration device installed to adjust tire speed to original specifications.

FRONT AND REAR SUPER SINGLE TIRES AND WHEELS
The front and rear tires will be 335/80R20 22PR, severe service radial all terrain tread. The tire weight rating shall be load range "M", and match the rim rating. Wheels for the front and rear axles will be 20" x 11.00" steel disc, ten (10)-hole pattern special order for Military/Government off road application. The weight rating of the rims will be 6,750 each.

SPARE SUPER SINGLE TIRE AND WHEEL
One (1) spare wheel and tire shall be 335/80R20 22PR, severe service radial all terrain tread. The tire weight rating shall be load range "M", and match the rim rating. Wheel for the spare shall be 20" x 11.00" steel disc, ten (10)-hole pattern special order for Military/Government off road application. The weight rating of the rim will be 6,750 each.

MOUNTING SPARE TIRE AND WHEEL
The spare tire and wheel shall be mounted on top front right corner of the water tank. Aluminum plate shall be installed with mounting assembly for the wheel and tire.

FIRE PUMP SPECIFCATIONS

A Hale HPX200-B18 fire pump furnished and mounted on the apparatus. The pump/engine shall perform to the standards of ISO 9 and NFPA 1906 low-pressure pump rating. Typical pump performance from 4 foot draft at sea level using a 2.5" suction line and a 2.5" discharge shall be.

240 GPM @ 10 PSI
190 GPM @ 75 PSI
150 GPM @ 100 PSI.
60 GPM @ 150 PSI.

Pump

The pump body shall be made of alloy aluminum castings coupled together with a stainless steel band clamp with an O-ring seal which allows quick pump volute removal for servicing. The pump end shall be factory hydrostatically tested to 350 PSI for 10 minutes. The impeller shall be bronze. The renewable clearance rings shall be made of anodic plated bronze to inhibit galvanic corrosion. The impeller shall be 4.87 inches in diameter and designed with a sleeve back end to prevent water from coming in contact with the engine shaft. The pump shaft seal shall be an automatically adjusting, maintenance free, mechanical type. The pump body shall be equipped with a petcock drain valve.

Engine

The engine shall be a four cycle gasoline Briggs and Stratton Vanguard series V-Twin, overhead valve, air cooled design. Engine rating shall be 18 BHP at 4000. Engine displacement shall be 570cc and shall be designed to meet CARB (California Air Resources Board) standards. A 12-volt electric system shall be provided with electric starter and a 16 amp alternator. Recoil backup engine starting shall be provided. Engine shall be equipped with a residential muffler with USDA approved spark arrestor.

STAINLESS STEEL PLUMBING SYSTEM

The auxiliary fire pump plumbing system shall be built completely of stainless steel piping, fittings, and connections. Victaulic couplings shall be installed to permit flexing of the plumbing system and allow for quick removal of piping or valves for service. Tank connections and remote plumbing shall use high-pressure flexible piping. Flexible hose couplings shall be threaded stainless steel or Victaulic connections.

The fire pump and plumbing shall be hydrostatically tested.

VALVES
All valves used in the plumbing installation shall be stainless steel quarter turn full flow type.

The plumbing installation shall include quarter turn ball valves with local "on-valve" handle control, with custom embossed labeling for each valve.

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HOSE THREADS
The hose threads shall be National Hose Standard (NH) on all base threads on the apparatus intakes and discharges, unless otherwise specified.

EXHAUST SYSTEM
The auxiliary fire pump and engine assembly shall have a muffler and vertical exhaust pipe. The exhaust pipe shall be directed upward and away from the pump operator. An additional guard or wrapping around the exhaust pipe shall be installed where the pipe is exposed to touch by an operator.

MUFFLER AND EXHAUST PRIMER
The pump shall be equipped with an exhaust venture primer of brass and stainless steel construction. The primer shall be capable of 20 inches of mercury vacuum. The primer shall be actuated with a spring return, single control lever located at the operator's panel. The primer to pump line shall be equipped with an automatic check valve for priming form an open body of water and a manual shut-off for pumping from a pressurized water source.

PUMP PANEL ENCLOSURE
A pump panel enclosure shall be installed. The enclosure shall be fabricated of .125" aluminum with a DA finish, bolted in place with a pump instrument panel installed.

PUMP PANEL
A Hale engine and pump control panel shall be provided at the rear of the vehicle. The following shall be located at the operator's position:

1. 2.5" discharge pressure gauge
2. choke control
3. start stop control
4. throttle control
5. low oil pressure warning light

PUMP CONTROL PANEL
The pump control panel shall be mounted at the right rear corner of the body.

FUEL TANK
A stainless steel custom built remote fuel tank shall be installed for the auxiliary fire pump assembly at the rear of the apparatus. The fuel tank shall be mounted in a bracket with detachable hold down device or strap. The fuel tank shall have capacity of approximately six (6) gallons. There shall be a fuel hose with plug in connections and primer bulb furnished between the fuel tank and carburetor assembly for the auxiliary pump.

ELECTRIC START WIRING TO CHASSIS
The 12 volt positive and negative cables shall be provided from the chassis battery to the fire pump area, wired through the master disconnect solenoid system. The cables shall have a circuit breaker installed at the chassis battery.

AUXILIARY FIRE PUMP MOUNTING PROVISIONS
The auxiliary fire pump shall be installed at the right side rear of the body. The sub-structure shall have welded in mounting sub-plates between the structural members. The pump shall be mounted on a di-electric surface under pump and bolts through the sub-plates.

2-1/2" GATED INTAKE -- REAR
One (1) 2-1/2" gated suction intake shall be installed on rear area to supply the fire pump from an external water supply. The valve shall be a controlled with a direct quarter-turn ball valve control handle and shall have 2-1/2" NH female thread with removable screen with plug. The color coded label shall be installed near the control handle.

TANK TO PUMP LINE INSTALLATION
The 2.5" tank to pump line shall be installed with a flexible hump hose connection and stainless steel clamps to the water tank. The valve shall be controlled with a manually operated handle directly on the valve.

WATER TANK FILL AND COOLING LINE
One (1) 1" fire pump to water tank refill and bypass cooler line shall be provided. The pump to tank valve shall be a 1" full flow quarter turn ball valve with local control handle. A 1" flex hose shall be installed to the water tank. A nameplate label shall be installed next to the valve.

3/4” GARDEN HOSE DISCHARGE -- REAR
One (1) .75" garden hose discharge shall be installed on the rear pump area, controlled by a quarter turn ball valve with local control handle. The discharge shall have a NPT x .75" male garden hose threads and cap and nameplate label adjacent the valve control handle.

2-1/2” DISCHARGE -- REAR
One (1) 2-1/2" discharge shall be installed at the rear pump area, controlled by a quarter turn ball valve. The discharge shall have 2-1/2" NPT x 2-1/2" NH male hose threads and nameplate label adjacent the valve control handle. The discharge shall be equipped with 2-1/2" female x 1-1/2" chrome plated brass reducer, 1-1/2" chrome cap and chain.

GROUND SWEEP DISCHARGES -- FRONT BUMPER

Two (2) ground sweep discharge nozzles shall be installed, one each side of the front bumper. Each nozzle shall have a 1" electric control valve, switched independently in the cab. The discharges shall be equipped with removable ground sweeps nozzles angled accordingly with a 180 degree total front sweep pattern. The flow rate shall be 15-30 gpm.

Each nozzle shall have a custom fabricated brush guard installed to protect from damage when off road. The valves and manifold shall be protected from damage by the front bumper and skid plate.

One (1) 1.5" front bumper ground sweep discharge piping shall be piped to the front bumper area to supply the sweep nozzles. The discharge shall be controlled by an 1.5" manual override valve at the rear pump area. Flexible 1.5" diameter high pressure hose shall be provided from the pump to the monitor with automatic low point drains where necessary.

FRONT OF BODY DISCHARGES

A 1.5” discharge shall be piped from the rear pump area to the front on the body and split into two (2) 1” discharges. A 1.5" master control valve shall be installed at the rear pump manifold area with direct control handle and label.

The right and left sides of the front body area shall be equipped with two (2) manually operated 1" quarter turn ball valves for pre-connected 1" whip lines. The control valves shall be located at front of body (one each side) in walkway area of the body.

Two (2) 1" x 8 feet long 300# working pressure hose whips with threaded couplings shall be installed at front of body, one each side, with securement devices.

HOSE REEL

One (1) Hannay aluminum hose reel shall be installed. The reel shall have leak proof ball bearing swing joint, adjustable friction brake, electric 12 volt rewind and manual crank rewind provisions.

The reel shall be mounted on the left side rear corner of the flatbed body.

The hose reel shall have a capacity of 150 feet of hose.

One (1) 1" discharge shall be piped from the fire pump to the hose reel with flexible high pressure hose. The quarter turn ball valve shall be controlled on pump panel. A nameplate label shall be provided near the valve control handle.

One (1) push button hose reel rewind control shall be installed adjacent the reel area.

The hose reel and hose shall be equipped with 1" NH hose threads.

One (1) 150' foot length of **Red** Reel-lite 1" water hose shall be installed on the hose reel. The hose shall be equipped with NH threaded couplings and have a 300 PSI working pressure.

The specified hose reel nozzle shall be mounted with custom fabricated aluminum mounted locaton attached to specified hose reel.

The hose reel shall be provided with Hannay stainless steel roller assembly to permit safe spooling hose off the rear facing reel.

CLASS A FOAM SYSTEM

A Scotty Model #4071 Class A through-the-pump foam system shall be installed to supply all discharges. The unit shall be mounted between the discharge and suction side of a pump. The unit shall be adjustable, permitting various foam ratio percentages to be educted depending on the nozzles in use. Foam selection percentages between .3 and 1% shall be available. The foam system has been designed for simplicity of operation and maintenance. A flush system will be installed.

WATER TANK GAUGE

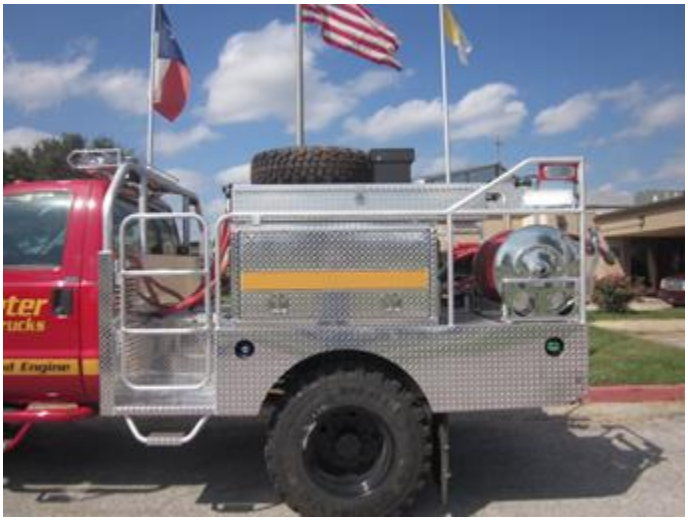
A Class1 “Intelli-Tank” water tank level gauge shall be installed on pump panel. The tank level gauge shall indicate the liquid level on an easy to read LED display and show increments of 1/8 of a tank. A pressure transducer mounted on the outside of the tank in an easily accessible area.

CAB MOUNTED -- WATER TANK GAUGE

One (1) Class1 **112124** “Intelli-Tank” mini water tank level gauge shall be installed in the cab or center console (if so equipped). The tank level gauge shall indicate the liquid level on an easy to read LED display and show increments of 1/8 of a tank. A pressure transducer mounted on the outside of the tank in an easily accessible area.

DATA PLACARD
The pump panel shall be provided with labels. The labels shall be installed at the operator's area that provides rated capacities and pressure ratings. The labels shall be provided with data information at the factory and be attached to the apparatus prior to delivery.

STEP-SIDE BODY -- ALUMINUM
The body will be a custom fabricated severe service step-side type, constructed of all aluminum. The body shall be 114” long by 96” wide, designed for a 60" cab to axle dimension. The body shall be specifically designed and engineered for off-road wildland firefighting.



FLAT-BED SUB-STRUCTURE
The body shall have 5” x 1.75” structural aluminum channel main frame rails. The body frame rails shall be isolated from the truck frame by .500” industrial rubbed mat.

FLAT-BED CROSS-MEMBER SUB-STRUCTURE
The cross-members shall be 3” x 2 5/16"” structural aluminum I beams with cross-members on 12” centers.

FLAT-BED MOUNTING
The body shall be bolted to the chassis frame rails at the rear end of the frame and forward of the rear axle, the body shall be spring mounted.

FLAT-BED FLOOR
The body floor shall be **.125” aluminum smooth plate**. The floor shall be welded to the sides and the cross-members of the body.

SQUARE CORNERS -- FLAT-BED
The front corners of the flat-bed body shall be square.

HEADACHE RACK
The front of the body shall have a 2" formed aluminum tube headache rack. The rack shall extend the full width of the body and be attached to the front body corners. The assembly shall extend above the chassis cab and have mounting platform for installation of the light bar and two work lights. Wiring for the lights will be placed inside the tubing for protection. The headache rack shall have four (4) vertical 2" tubes for extra strength.

WALKWAY
The front of the body shall have a 14" to 17" front to rear by 96" right to left walkway in front of the water tank. The walkway shall allow access from side to side of the body and have a NFPA compliant walkway surface.

The walkway **front wall** shall be constructed of **brushed aluminum smooth plate.**

FUEL FILLER
The fuel filler tube and cap shall be installed at the left hand side, rear of the body.

FENDER PANELS -- FRONT BODY
The front lower portion of the flat-bed body shall have fender panels of **brushed aluminum smooth plate** with recessed access steps each side of the body.

FENDER PANELS
The lower portion of the flat-bed body shall have fender panels over and aft of the rear wheel panel area. The panels shall be constructed of **brushed aluminum smooth plate**. The wheel well openings will be cut out to conform to the wheels.

SIDE STEP CUBICLE
An approximate 24" wide x 24" high x 20" deep cubicle shall be constructed of polished NFPA compliant aluminum tread plate on the driver's side and passenger's side in the front of the body.

The sides of the cubicle shall be **brushed aluminum smooth plate**

HINGED SAFETY GATE ASSEMBLY
The step-side cubicles on the driver's and passenger's side in the front of the body shall each be equipped with a swing in safety lock gate constructed out of 1" aluminum tubing. The gates shall be locked in the closed position by a locking pin and stop bracket, and shall have a hydraulic cylinder to hold the gate either in the fully open or the fully closed position.

REAR BODY PANEL
The vertical body panel at the rear of the body shall be constructed of smooth .190" aluminum. The surface shall house the running lights, taillights, back-up lights, and emergency lights.

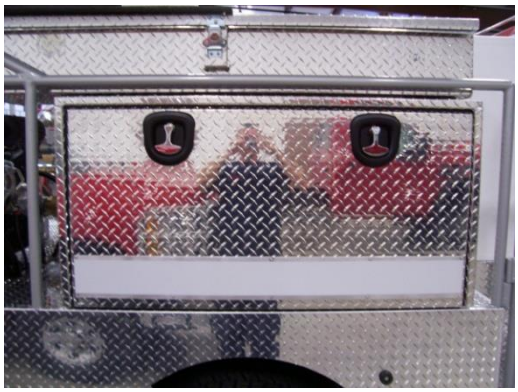
PROTECTIVE RAILS
The upper body area shall be protected with radius corner 1" diameter aluminum tube railing assembly installed around the top of the step side flat-bed body. The corners of the body shall have vertical risers space in critical

areas. The railings shall act a protection to the upper body structures when off road in heavy brush conditions. The rear upper body corner rails shall house the upper emergency lights and work lights.

SIDE BODY COMPARTMENTS -- RIGHT AND LEFT SIDES

Two (2) body equipment storage compartments shall be installed on the flatbed surface, one each side of the apparatus. The dimensions shall be approximately: 48" wide, 24" high, and 18" deep. The compartments shall be constructed of .125" aluminum **smooth** plate on all exterior surfaces. Each compartment shall be equipped with a hinged drop down door with dual latches installed. The doors shall be equipped with rubber bumpers.

The passenger's side compartment shall have a fixed shelf installed.



UNDER BODY COMPARTMENTS -- FRT BODY, RT AND LT SIDES

Two (2) under flat bed equipment storage compartments shall be installed under the flatbed surface, rear of body, one (1) each side of the apparatus. The dimensions shall be approximately: 20" wide, 20" high, and 22" deep. The compartments shall be constructed of .125" aluminum **smooth** plate on all exterior surfaces. Each compartment shall be equipped with a vertically hinged door with latch installed. The compartments shall have turtle tile installed.

The aluminum shall be smooth brushed finish.

The compartments shall have turtle tile installed in the bottom.

INTERIOR COMPARTMENT VENTILATION LOUVERS

The interior of the specified compartments shall be provided with louvered ventilation units.

COMPARTMENT DOOR KEY LOCKS

The hinged compartment doors shall be equipped with key type door locks.

TOOL STORAGE TRAY/COMPARTMENT -- RIGHT SIDE

A tool storage compartment shall be installed over the right side equipment compartment, on the right side of the apparatus. The dimensions shall be approximately: 16" wide, 8" high, and 60" long. The compartment shall be constructed of .125" aluminum **smooth** plate on all exterior surfaces. The compartment shall be equipped

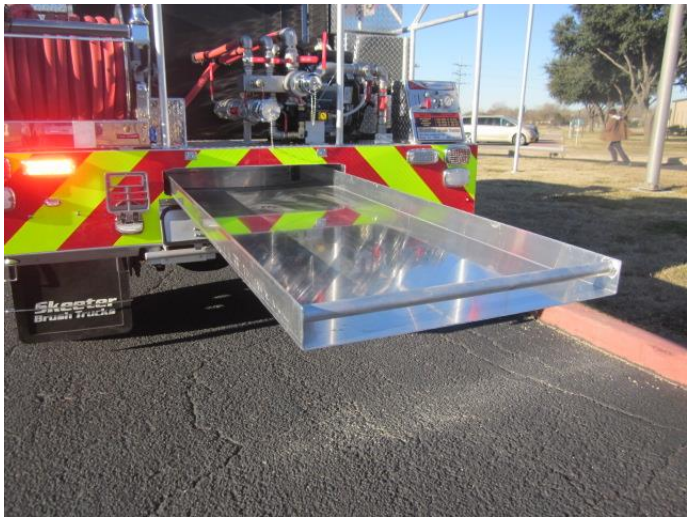
with a hinged lift up aluminum tread plate door with a latch installed. The compartment shall be equipped with Turtle Tile floor covering.

HOSE TRAY -- LEFT SIDE

A hose storage tray shall be installed over the left side equipment compartment, on the left side of the apparatus. The dimensions shall be approximately: 16" wide, 8" high, and 60" long. The hose tray shall be constructed entirely of .125" aluminum tread plate on all exterior surfaces. The assembly shall be equipped with a hinged lift up aluminum tread plate door on top, enclosed front panel, and open rear area with a hose securement safety strap. The hose tray shall be equipped with Turtle Tile floor covering.

UNDER BODY COMPARTMENT -- REAR CENTER

An under body equipment storage compartment shall be installed under the flatbed surface located in the center rear of the apparatus. The dimensions shall be approximately: 33" wide, 5" high, and 96" front to rear. The compartment shall be for by the vertical body beams, upper floor surface, and an aluminum lower floor area. The compartment shall be equipped with a hinged drop down door with dual latches installed. The door shall be equipped with rubber bumpers.



The rear center compartment shall be equipped with an .190" aluminum slide out tray on UHMW plastic slide pads. The tray shall be full width and full length of the compartment interior.

FOLDING STEP -- LEFT REAR

A Signature 4 lighted 8" square folding step of die cast zinc shall be installed. The step shall comply with NFPA non-slip standards and shall be installed on the rear left side of the body. The step shall be equipped with lighting to NFPA standard.

FINAL ASSEMBLY AND APPARATUS FINISHING PREP SPECIFICATIONS

The apparatus shall be assembled in a high quality and controlled environment. The fit, form, and finish of the body shall be to the highest level fire apparatus manufacturing standards. On completion, the apparatus shall be totally ready for final inspection and road testing as required by the general requirement section for this specified vehicle.

WATER TANK SPECIFICATIONS

The water tank shall have a capacity of 400 gallons.

The water tank shall be constructed of polypropylene, nitrogen-welded and tested inside and out. The tank manufacturer shall define the floor, top, sides, ends, and baffles material thickness. The tank shall carry a lifetime warranty.

The transverse and longitudinal swash partitions shall be interlocked and welded to each other as well as to the walls of the tank. The partitions shall be designed and equipped with vent holes to permit air and liquid movement between compartments. The .cover shall be recessed .375" from the top of the side walls. Hold down dowels shall extend through and be welded to both the covers and the transverse partitions, providing rigidity during fast fill operations. Drilled and tapped holes for lifting eyes shall be provided in the top area of the water tank.

The water tank manufacturer shall certify the capacity of the water tank prior to delivery of the apparatus. This capacity shall be recorded on the manufacturer data plate.

The water tank shall be rectangular in shape and engineered for a low center of gravity.

NFPA Compliance

The water tank construction shall conform to applicable NFPA standards.

Baffling System

The internal baffling partitions shall be installed right to left and front to rear on inside of tank. The partitions shall be designed and equipped with vent holes to permit air and liquid movement between baffled compartments.

Water Tank Sight Gauge

The water tank shall be equipped with clear water level sight gauge in the rear wall of the tank.

Fill Tower Location

The tank fill tower shall be located in the left rear corner of the water tank.

Vent and Overflow

The fill tower shall incorporate a vent and overflow system shall be designed into the water tank. The system shall include a 3" diameter pipe that functions both as an air vent while emptying the tank and as an overflow when filling the tank. The overflow shall discharge excess water below the frame rails of the vehicle.

Tank to Pump Connection
A 3" pipe shall be provided on the water tank for connection of the tank to the suction side of the pump with a flexible hump hose assembly. The tank suction valve and hump hose required to complete this connection shall be supplied by the final assembler.

Pump to Tank Connection
A 1-1/2" connection shall be provided on the water tank for connection of the discharge side of the pump to the tank for filling purposes. The valves and hose required to complete this connection shall be supplied by the final assembler.

Water Tank Drain Provisions
A 1.5" plugged drain provisions shall be installed in the bottom of the water tank, sump, or plumbing for water tank draining and flush-out of debris.

WHIP SUPPLY LINE
A 1.5" hydraulic hose and fittings shall be incorporated into the fabrication of the water tank. The horizontal front to rear piping shall supply a discharge at front of water tank.

FOAM TANK SPECIFICATIONS
The Class A foam tank shall have a capacity of 10 gallons.

A foam tank shall be installed within the water tank and the non-corrosive foam tank shall meet applicable sections of NFPA standards. The foam concentrate tank outlet connection shall be designed and located to prevent aeration of the foam concentrate and shall allow withdrawal of the foam concentrate tank storage capacity under all operating conditions with the vehicle level.

Foam Tank and Venting Provisions
The foam concentrate tank shall be provided with a fill pipe having a volume of not less than 2 percent of the total tank volume. The filler opening shall be capped with a sealed air-tight threaded cover. The fill opening shall be designed to incorporate a removable screen and shall be located so that foam concentrate from a five (5) gallon container can be dumped into the tank.

The foam tank filler shall be equipped with a pressure/vacuum vent that enables the tank to compensate for changes in pressure or vacuum when filling or withdrawing foam concentrate from the tank. The pressure/vacuum vent shall not allow atmospheric air to enter the foam tank except during operation or to compensate for thermal fluctuations. The vent shall be protected to prevent foam concentrate from escaping or directly contacting the vent at any time. The vent shall be of sufficient size to prevent tank damage during filling or foam withdrawal.

A color coded label or visible permanent marking that reads "**CLASS A -- FOAM TANK FILL**" shall be placed at or near the foam concentrate tank fill opening. An additional label shall be placed at or near any foam concentrate tank fill opening stating the type of foam concentrate the system is designed to use.

Any restrictions on the types of foam concentrate that can be used with the system shall also be stated, along with a warning message that states "**WARNING: DO NOT MIX BRANDS AND TYPES OF FOAM.**"

Foam System Piping
A 3/4" fitting shall be provided on the foam tank for connection of the foam tank to the suction side of the foam system.

12 VOLT ELECTRICAL SPECIFICATIONS
The following describes the low voltage electrical system on the apparatus including all panels, electrical components, switches and relays, wiring harnesses and other electrical components. The apparatus manufacturer shall conform to the latest Federal DOT standards, current automotive electrical system standards and the applicable requirements of the NFPA.

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

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

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

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

There shall be no exposed electrical cabling, harnesses, or terminal connections located in compartments, unless enclosed in an electrical junction box or covered with a removable electrical panel. Wiring shall be secured in place and protected against heat, liquid contaminants and damage.

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

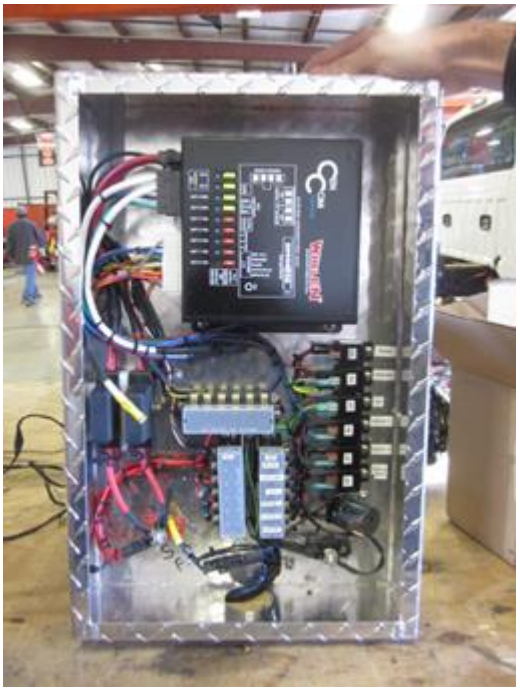
The electrical system shall include the following:

2. Electrical terminals in weather exposed areas shall have a non-conductive grease or spray applied. All terminal plugs located outside of the cab or body shall be treated with a corrosion preventative compound.
3. All electrical wiring shall be placed in a protective loom or be harnessed.
4. Exposed connections shall be protected by heat shrink material and sealed connectors.
5. Large fender washers shall be used when fastening equipment to the underside of the cab roof and all holes made in the roof shall be caulked with silicone.
6. Electrical components installed in exposed areas shall be mounted in a manner that will not allow moisture to accumulate inside.
7. A coil of wire must be provided behind an electrical appliance to allow them to be pulled away from mounting area for inspection and service work.
8. All lights in a weather exposed area that have their sockets shall have corrosion preventative compound added to the socket terminal area.
9. Warning lights shall be switched in the chassis cab with labeled rocker type switches located in an accessible location. Individual rocker switches shall be provided only for warning lights provided exceeding the minimum level of warning lights in either the stationary or moving modes. All electrical equipment switches shall be appropriately identified as to their function and mounted on a switch panel mounted in the cab convenient to the operator. For easy nighttime operation, an integral indicator light shall be provided to indicate when a circuit is energized.

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

ELECTRICAL ENCLOSURE

An electrical wiring enclosure for the 12 volt wiring shall be installed in the forward wall of the right side compartment with a removable panel. The dimensions of the enclosures shall be approximately 20" high, 18" wide, and 4" deep.



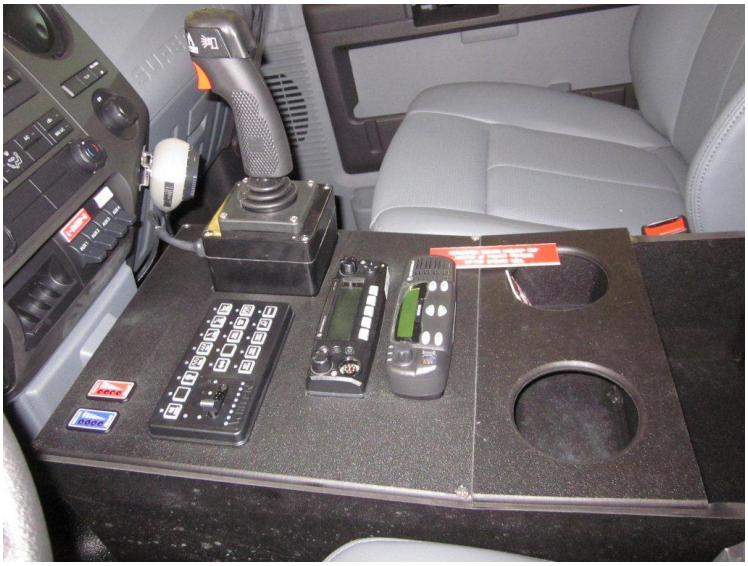
ELECTRICAL HARNESS AND WIRING

All wiring shall be hidden, enclosed, or protected under the body in protective material, or within the apparatus body components. In addition, split loom conduits shall be installed and enclosed, suitably secured and protected against heat and physical damage.

CUSTOM FABRICATED CONSOLE AND SWITCH PANEL

A custom fabricated poly (plastic) electrical console and enclosure shall be located between the driver's and passenger's seats. It shall house the siren, switches, cup holder, and auxiliary equipment.

There shall be two (2) 12 volt power outlets in the console.



BATTERY MASTER DISCONNECT
A battery disconnect system shall be installed to control the 12 volt power supply from the battery system to the body and cab final stage manufacturer installed equipment. The solenoid shall be controlled by the standard key starter switch.

IDENTIFICATION LIGHTS
All LED identification lights shall be installed on the vehicle as required by applicable highway regulations.

LICENSE PLATE MOUNTING
An LED license plate light shall be installed on the rear vertical wall of the body.

BRAKE, TURN, TAIL LIGHTS
Two (2) Whelen M6 Series Model # M6BBT 4-5/16" x 6-3/4" brake, turn, tail lights with #M6FC chrome flanges shall be provided. The warning lights shall incorporate Linear Super-LED and Smart LED technology. The light-heads configuration shall consist of 18 red Super-LEDs and a red optic polycarbonate lens. The light-heads shall be surface mountable via two screws.

The light-heads shall utilize an optic collimator and a chrome vacuum metalized reflector for maximum illumination. The light-head shall include 164 flash patterns including: a variety of CA Title 13 compliant, sinkable, left/right, top/bottom, in/out, and steady burn. The light-heads shall have the Whelen exclusive NERM (Non-Emergency Recognition Mode) feature.

The lens/reflector assembly shall be wet sealed and resistant to: water, moisture, dust, and other environmental conditions. The outer lens shall have a hard coating applied to increases strength and ensure longevity. The light engine shall be installed at the rear of the unit and be completely sealed. The pc board shall be conformal coated for additional protection.

The lights shall be furnished with five 6" wire pigtails, a Santoprene rubber gasket and the #M6FC chrome flanges shall be included for installation.

BACK-UP LIGHTS
Two (2) Whelen M-Series, 4" x 6" rear LED back-up lights shall be installed.

CAB GROUND LIGHTS
Two (2) Grote #61E41 LED ground lights shall be installed under the cab step area in compliance with NFPA standards.

GROUND LIGHTS - UNDER REAR STEP
Two (2) Grote #61E41 LED ground lights shall be installed under the rear step area, one on each side of the apparatus, wired to parking brake circuit.

WORK LIGHTS
Four (4) Grote #61E41 LED step lights with clear lens shall be installed, wired to switch on the cab dash. Location shall be: in each corner of the protective tubing assembly to light the pump panel and the front body walkway area.

OFF ROAD LIGHTS
There shall be two (2) Warn 4" HID (High Intensity Discharge) lights installed on front bumper/grille guard.

SCENE LIGHTS
Six (6) Rigid Manufacturing Dually 20211 scene lights shall be installed. The LED scene lights shall incorporate clear LED's with a clear optic polycarbonate lens for maximum illumination.

Location shall be: Two (2) outward facing, each side of body, two (2) rear facing.

SCENE LIGHTS
A Rigid Manufacturing E series12031 20" spot/flood light shall be installed. The LED scene lights shall incorporate clear LED's with a clear optic polycarbonate lens for maximum illumination.

Location shall be: front bumper/grille

COMPARTMENT LIGHTING, LED
Four (4) compartments shall be each be equipped with one (1) Grote 61E41, 4" diameter rubber mounted LED light.

AUTOMATIC COMPARTMENT DOOR LIGHT SWITCHES
Each exterior compartment light shall be automatically controlled by a door activated switch.

DOOR OPEN LIGHT
A "door open" or equipment operation warning light shall be installed on cab dash. The light shall be flashing LED light with a red lens.

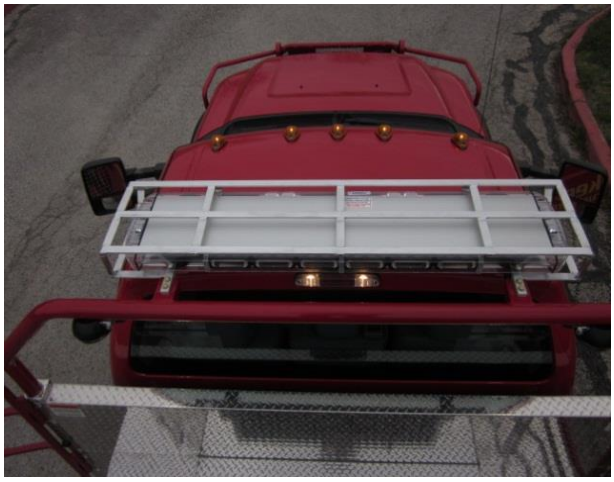
INSTALLATION - RADIO ANTENNA
One (1) radio antenna shall be supplied by the purchaser and installed on the apparatus at a location to be determined by the Purchaser.

BACK-UP ALARM
One (1) Buyers #BA107 back up alarm shall be installed.

ELECTRONIC SIREN
One (1) Whelen, Model #CCSRN2 electronic siren and ten (10) auxiliary switches with noise canceling microphone shall be provided. Siren head will be mounted low on the front dash in easy reach of the driver.

SIREN SPEAKER
One (1) Whelen Model #SA315P Projector Series siren speaker shall be provided with bracket. The 100 watt siren speaker shall be designed in a black nylon composite housing with 123 decibel rating. Location shall be:

MOUNTING OF LIGHT BAR WITH PROTECTIVE GUARD
The cab bar light shall be mounted on the headache bar shelf with an aluminum brush guard protective guard assembly.



LIGHTBAR
A Whelen Liberty Legacy Model LED low profile Super-LED NFPA lightbar shall be installed. The 55" lightbar shall be designed to meet the minimum clearing requirements for Zone A Upper. The internal components of the lightbar shall be housed within a two piece extruded aluminum base/top. The outer shell shall be clear optic polycarbonate lenses designed to maximize light output and shield against environmental elements.

The light bar shall be able to program RED/BLUE preferences.

The lightbar shall utilize snap-in brackets to hold in the lightheads. The brackets shall give the end user the ability to make quick repairs. The lightbar shall have all solid state components. The lightbar shall have two wire harnesses exiting the unit: one (1) 17 conductor 22 gauge control cable which controls all internal light functions; and one (1) 2 conductor 10 gauge cable for main power and ground. Each cable shall be 15' long.

The lightbar shall have four (4) red Linear Super-LED corner modules to provide off angle protection for the front and rear of the vehicle. Each corner module shall consist of twelve (12) Super-LEDs mounted within a vacuum metalized parabolic reflector. The corner module shall also utilize an optic collimator for maximum light output. The twelve (12) LEDs shall be mounted in one straight line.

There shall be four (4) 500 Series Linear Super-LEDs: two (2) red/blue and two (2) white front facing. Each 500 Series module shall consist of a minimum of six (6) Super-LEDs. The corner module shall utilize a vacuum metalized parabolic reflector and an optic collimator for superior light output.

The solid state I/O board shall be microprocessor controlled. The I/O board shall have built-in reverse-polarity protection and output-short protection. The board shall have the ability to flash sixteen (16) LED warning lights. There shall be a data bank of 13 Scan-Lock flash patterns including steady burn. The board shall also have outputs to add takedown and alley lights. Low power and cruise light function shall also be included. The cruise light function shall allow the user to employ the four (4) corner modules as marker courtesy lights.

ZONE A -- LOWER FRONT WARNING LIGHTS

Two (2) Whelen M-7 Series Model #M7R 3" x 7" warning lights and a chrome flange shall be in the front forward facing area of the front bumper. The warning lights shall incorporate Linear Super-LED and Smart LED technology. The lightheads configuration shall consist of 18 red Super-LEDs and a clear optic polycarbonate lens. The lightheads shall be surface mountable via two screws. The lightheads shall utilize an optic collimator and a chrome vacuum metalized reflector for maximum illumination.

ZONE B AND D -- INTERSECTION LIGHTS

Two (2) Whelen M-7 Series Model #M7R 3" x 7" warning lights and a M6FC chrome flange shall be installed on bumper extension, as far forward as possible. The warning lights shall incorporate Linear Super-LED and Smart LED technology. The light-heads configuration shall consist of 18 **RED/CLEAR** Super-LEDs and a clear optic polycarbonate lens.

ZONE B AND D -- LOWER REAR CORNER WARNING LIGHTS

Two (2) Whelen M-7 Series Model #M7R 3" x 7" warning lights and a chrome flange shall be installed in lower rear side corner body area. The warning lights shall incorporate Linear Super-LED and Smart LED technology. The lightheads configuration shall consist of 18 **RED/CLEAR** Super-LEDs and a clear optic polycarbonate lens.

ZONE B AND D -- UPPER SIDE REAR WARNING LIGHTS

Two (2) Whelen M-7 Series Model #M7R 3" x 7" warning lights and a M6FC chrome flange shall be installed in the upper rear body side panel. The warning lights shall incorporate Linear Super-LED and Smart LED

technology. The lightheads configuration shall consist of 18 **RED/BLUE** Super-LEDs and a clear optic polycarbonate lens.

ZONE B AND D -- UPPER REAR WARNING LIGHTS
Two (2) Whelen M-7 Series Model #M7R 3" x 7" warning lights and a chrome flange shall be installed in the upper rear corner of the handrails. The warning lights shall incorporate Linear Super-LED and Smart LED technology. The lightheads configuration shall consist of 18 **RED/BLUE** Super-LEDs and a clear optic polycarbonate lens.

ZONE C -- LOWER REAR WARNING LIGHTS
Two (2) Whelen M-7 Series Model #M7R 3" x 7" warning lights and a chrome flange shall be lower rear of body. The warning lights shall incorporate Linear Super-LED and Smart LED technology. The lightheads configuration shall consist of 18 **RED/BLUE** Super-LEDs and a clear optic polycarbonate lens.

WINCH POWER SUPPLY
Two (2) Anderson type 12 volt quick disconnect electrical receptacles shall be installed for the portable winch. Power cables shall be color coded "red" positive and "black" neutral; rated at 125% of winch power requirement including line drop; protected with conduit for mechanical abrasion and equipped with circuit breaker protection at the battery area.

Location shall be: one (1) front of the apparatus and one (1) rear of the apparatus

FRONT RECEIVER
The front of the chassis shall be equipped with one (1) square steel tube receiver assembly for high or low angle rescue or winch applications. It shall be the same size as a Class III trailer hitch and shall be attached to the chassis frame and bumper extension assembly. The receiver shall be rated at approximately 10,000 lbs.

REAR RECEIVER
The rear of the chassis shall be equipped with one (1) square steel tube receiver assembly for high or low angle rescue, trailer use, and winch applications. It shall be the same size as a Class III trailer hitch and shall be attached to the chassis frame assembly. The receiver shall be rated at approximately 10,000 lbs.

CAB REFLECTIVE LETTERING
The cab lettering shall be Scotchlite reflective material, shaded in black. A quantity of (50) three inch (3") letters shall be installed as directed by Fire Department.

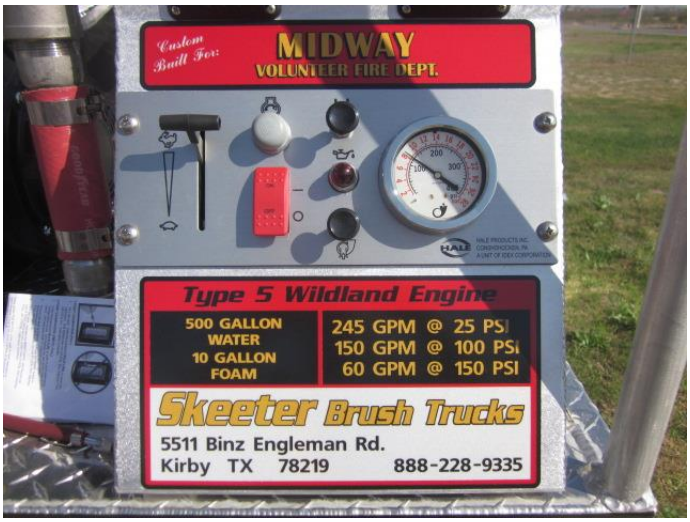
CAPACITY GRAPHICS
The apparatus shall be provided with a reflective graphic that provides the following:

Tank Capacity

Pump Capacities

NWCG Typing

Skeeter Contact Information



REFLECTIVE STRIPING

The sides of the vehicle shall be provided with a 3/4" x 3" x 3/4" wide 3M brand Scotchlite reflective multi-stripe. There shall be a 3/4" gap between each of the stripes. The striping shall be placed up to 60" above ground level and shall conform to NFPA reflectivity requirements. At least 50% of the perimeter length of each side of the vehicle shall have reflective striping.

The stripes shall be black.

FRONT CHEVRON STRIPING

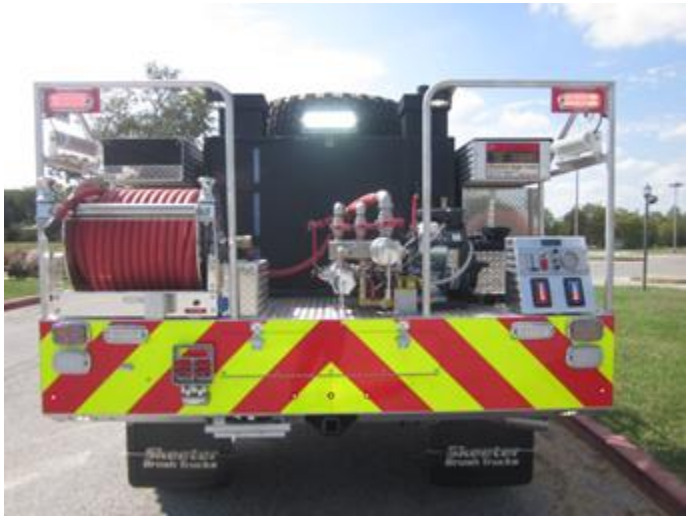
There shall be alternating chevron striping installed across the front bumper where permitted. The chevron striping shall consist of 6" diamond grade striping in the following colors:

- The first color shall be red diamond grade
- The second color shall be lime yellow diamond grade

REAR CHEVRON STRIPING

There shall be alternating chevron striping installed on the rear vertical body panel. The chevron striping shall consist of 6" diamond grade striping in the following colors:

- The first color shall be red diamond grade.
- The second color shall be lime yellow diamond grade.



SPANNER AND HYDRANT WRENCH SET WITH MOUNTING BRACKET

One (1) Kocheck lightweight spanner wrench holder shall be installed. The bracket shall hold one (1) hydrant wrench and two (2) universal spanners. It shall be mounted on the rear vertical exterior panel of the left side compartment.