

Bodega Bay Fire Protection District

2015 Water Tender Specification

This specification is for a new Bodega Bay Fire Protection District (Referred to as the Department) Water Tender, to be delivered to the Station 510 State Route 1, Bodega Bay, California. The unit will be considered delivered after a passing inspection by the Department and orientation is completed by the manufacture.

The unit will be used as a Water Tender, the emphasis on functionality will be as a Water Tender supplying attack apparatus as a mobile water supply unit, secondarily as an initial attack unit. This apparatus will serve as a second out or Mutual aid unit for the Department and will require adequate storage and GVW ability to carry equipment listed contained within this specification to meet the apparatus mission. The apparatus will see use in wildland fire control operations requiring off highway and on occasion off road operation. The apparatus must be designed to meet the requirements of this environment including low center of gravity, maximum ground clearance, high angle of approach and departure, proper weight distribution for maximum traction, and tank baffling to keep water surge to a minimum.

Changes in "No Exception" items may result in disqualification unless the item is not available at the time of manufacture. The Department retains the right to request additional written clarification of any proposed changes to this specification. The Department reserves the right to accept or reject any or all bids. The Department reserves the right to make changes in the specifications with the winning Bidder to adjust the final cost if needed.

The final invoice must not exceed the amount of the purchase order by any amount. All changes made prior to the conclusion of the preconstruction process shall be credited and debited at the same pricing schedule as the bid.

Any changes after the signed drawings at preconstruction must be approved using a written "change order" and signed by the appointed Department representative. The assigned representative will be identified at the preconstruction meeting.

1. Section I. Bidder Information to be provided:

1.1. It shall be the intent of these specifications to provide a complete apparatus equipped as hereinafter specified. With a view to obtaining the best results and the most acceptable apparatus for service in the Department. These specifications cover only the general requirements as to the type of construction and tests to which the apparatus must conform, together with certain details as to finish, equipment and appliances with which the successful bidder must conform. Minor details of construction and materials where not otherwise specified are left to the discretion of the contractor, who shall be solely responsible for the design and construction for all features. The National Fire Protection Association Standard 1901, current edition, unless otherwise specified in these specifications, shall prevail.

Comply, YES: ___ NO: ___

1.1. Each bidder shall furnish satisfactory evidence of their ability to construct the apparatus specified, and shall state the location of the factory where the apparatus is to be built. They shall also show that they are in a position to render prompt service and to furnish replacement parts for said apparatus and provide sole source warranty location for the entire

apparatus. Each bidder shall submit their bid in the same sequence as these specifications to allow the department to easily compare and score bids. The bidder must call out any and all exceptions to the specification. Explanation of the exception should be explained in detail.

Comply, YES:___ NO: __

1.2. Description of construction method including, basic construction type, door and latch construction, method of mounting tank, body and pump module to the chassis, corrosion protection, paint process are required.

Comply, YES:___ NO: __

1.3. Description of materials to be used body and compartments, type quality and thickness, water tank, type, quality and thickness.

Comply, YES:___ NO: __

1.4. Delivery of the apparatus must be on or before April 1, 2016. Delivery after this date shall result in a \$100 per day penalty assessment to be deducted from the total cost of the invoiced bid amount.

Comply, YES:___ NO: __

1.5. *Manufacturer Information must include location of manufacture, list of subcontractors, and work they will perform if any, list of warranty procedures and providers in the Bay Area / Northern California (within 200 miles of Department Headquarters). All applicable warranties must be "Sole Source", no exceptions.

Comply, YES:___ NO: __

1.6. Specification Compliance

- 1.6.1. All items in this specification are in compliance with the proposed bid unless substitution is listed with direct reference to the section number and any and all other items affected by the change. A detailed description of the substitution is required. All substitutions must be of equal or better quality.
- 1.6.2. All aspects of the bidder's proposal will be honored for a minimum of 120 days after the bid submittal date.
- 1.6.3. The successful bidder may use this award as a "tag on" for other units as long as it in no way extends delivery time or increases cost to the Department.
- 1.6.4. The Department retains the right to withdrawal the Purchase Proposal based on non-compliance with the specification until all issues are resolved to the Department and Bidders satisfaction upon completion of pre construction (PCM) meeting(s).

Comply, YES:___ NO: __

1.7. The workmanship must be of the highest quality in its respective field.

Special consideration will be given to the following points:

- 1.7.1. Accessibility of the various units that require periodic maintenance operations, ease of operation (including both pumping and driving) and symmetrical proportions.
- 1.7.2. Construction shall be rugged and ample safety factors shall be provided to carry loads as specified and to meet both on and off road requirements and to speed conditions as set forth under "performance tests and requirements".

1.7.3. Welding shall be employed in the assembly of the apparatus in a manner that will not prevent the ready removal of any component part for service or repair.

1.7.4. Manufacturing and painting process will allow for the maximum corrosion protection possible.

Comply, YES:___ NO: __

1.8. Pre-Construction Requirements

1.8.1. Drawings with components of the four sides and top of the vehicle with measurements indicated for the overall dimensions, wheelbase, and overall length of the proposed apparatus and other specified equipment (11" by 17" minimum).

Comply, YES:___ NO: __

1.8.2. *After the award of the bid, the contractor shall provide detailed colored engineering drawings including, but not limited to, the overall dimensions, wheelbase, and overall length of the proposed apparatus for use during pre-construction conference. The drawings shall include, but shall not be limited to the right, left, top, front, and rear views of the apparatus. The Department representative will sign the final approved drawing and changes to specifications, copies will be provided to manufacturer and Department at bidder's expense.

Comply, YES:___ NO: __

1.9. Preconstruction & Inspections

1.9.1. Bidder will provide transportation and lodging for all inspection trips if the location is more than 200 Miles from the Department Headquarters.

1.9.2. Pre construction meeting for two (2).

1.9.3. Pre delivery inspection for two (2).

1.9.3.1. Should issues be unable to be resolved during the inspection, at the discretion of the Department representative, a follow up trip may be required to approve modifications. If required, this will be paid for by the bidder.

1.9.4. Updates and approval of specific items may be done via digital photographs or dedicated web page.

1.9.5. Projected weight of fully loaded Apparatus including each axle and total GVW.

Comply, YES:___ NO: __

1.10. Supplied Information and Extras:

1.10.1. The apparatus manufacturer shall supply One (1) copy of apparatus manuals. The manuals shall include, but not be limited to: all component warranties, user manuals and information for supplied products, apparatus engineering information including drawings and build prints, and whatever other pertinent information the manufacturer can supply to its customer regarding the said apparatus.

Comply, YES:___ NO: __

1.10.2. Included in the delivery of the unit, the manufacturer shall also include spare hardware and extra fasteners, paint for touch-up, information regarding washing and care procedures, and other recommendations for care and upkeep of the general apparatus.

Comply, YES:___ NO: __

- 1.10.3. The manufacturer should also supply a manufacturer's record of apparatus construction details, including the following information:
- 1.10.3.1. Owner name and address;
 - 1.10.3.2. Apparatus manufacturer, model, and serial number;
 - 1.10.3.3. Chassis make, model, and serial number;
 - 1.10.3.4. GAWR of front and rear axles;
 - 1.10.3.5. Front tire size and total rated capacity in pounds;
 - 1.10.3.6. Rear tire size and total rated capacity in pounds;
 - 1.10.3.7. Chassis weight distribution in pounds with water (if applicable) and manufacturer mounted equipment (front and rear);
 - 1.10.3.8. Engine make, model, serial number, rated horsepower, related speed and no load governed speed;
 - 1.10.3.9. Type of fuel and fuel tank capacity;
 - 1.10.3.10. Electrical system voltage and alternator output in amps;
 - 1.10.3.11. Battery make and model, capacity in CCA;
 - 1.10.3.12. Paint numbers;
 - 1.10.3.13. Weight documents from a certified scale showing actual loading on the front axle, rear axles, and overall vehicle with the water tank full but without personnel, equipment, and hose
 - 1.10.3.14. Transmission make, model, and type;
 - 1.10.3.15. Engine to pump gear ratio and transmission gear ratio used;
 - 1.10.3.16. Pump make, model, rated capacity in gallons per minute, serial number;
 - 1.10.3.17. Pump manufacturer's certification of suction capability;
 - 1.10.3.18. Copy of the apparatus manufacturer's approval for stationary pumping applications;
 - 1.10.3.19. Pump transmission make, model and serial number;
 - 1.10.3.20. Priming device type;

- 1.10.3.21. Type of pump pressure control system;
- 1.10.3.22. The engine manufacturer's certified brake horsepower curve for the engine furnished, showing the maximum no load governed speed;
- 1.10.3.23. Certification of water tank capacity.

Comply, YES:____ NO: __

2. Section II. General Description and Performance:

2.1. Mission Priorities

2.1.1. The top priority in design and construction of this unit is to provide maximum safety for the crew and public when driving the vehicle on and off highway and during all apparatus operations.

2.1.1.1. The design, construction material and techniques will attain the lowest possible center of gravity.

2.1.1.2. Vehicle stability system will be required.

2.1.1.3. Maximum ground clearance will be provided.

2.1.1.4. High angle of approach and departure will be provided.

2.1.1.5. Heavy or large items will be mounted where they provide maximum ergonomic operation.

Comply, YES:____ NO: __

2.2. The Apparatus specified should be constructed as detailed and shall NOT exceed a Maximum Overall Length of 320 Inches.

Comply, YES:____ NO: __

2.3. Drive line modification of the chassis drive line may be modified from it's OEM Status to accommodate any changes required by the OEM for wheelbase, pump installation, or otherwise by mechanics certified by the chassis manufacture. Any modifications must not have impact on warranty provisions.

Comply, YES:___ NO: __

2.4. Chassis General:

2.4.1. Minimum top speed 57 MPH, low gearing to allow fully loaded starts on steep inclines of up to 23%, and power to climb grades in excess of 28%.

2.4.2. Maximum GVW and weight on any axle and suspension must not exceed 90% of rated capacity. This weight includes build up, water, full fuel, listed equipment and three personnel.

2.4.3. Must be compliant with California weight standards fully equipped allowing 600 lbs. for 2 crew and personal gear.

Comply, YES:___ NO: __

2.5. Build Up General:

2.5.1. 2,000 water tank stainless steel semi elliptical tank

2.5.2. 750 GPM PTO Pump, with standard pressure relief valve

2.5.2.1. Capable of "pump and roll" with in cab relief valve for pressure control while in pump and roll.

2.5.3. 2,100 gallon folding tank.

2.5.4. Hose storage for:

2.5.4.1. 300 ft. 3" supply line;

2.5.4.2. 2 preconnect live lines 200 ft. of 1.75 in hose and nozzle;

- 2.5.4.3. 2 hose packs of 2 to 300 ft. 1.5 in wildland hose;
- 2.5.5. Storage for Honda portable pump model WB 30X or equivalent;
- 2.5.6. Storage for 2 ea. Complete SCBA;
- 2.5.7. Storage for 2 ea. spare SCBA cylinders;
- 2.5.8. Storage for crew PPE and gear.

Comply, YES:___ NO: __

2.5.9. Plumbing General:

- 2.5.9.1. 3 ea. 2.5" discharges, one on each side of apparatus and the rear;
- 2.5.9.2. 2 ea. Preconnect for 200 ft. of 1.75" hose and nozzle;
- 2.5.9.3. All 1.5 in. discharges will be foam capable;
- 2.5.9.4. Front bumper, 1.5" discharge for mobile attack.

Comply, YES:___ NO: __

2.6. Cabinetry

2.6.1. Street side will have compartments in either the 3 or 4 side standard build, one forward of the rear axle, may be full height or divided upper / lower and one or two high compartments. If space permitting a lower compartment shall be located behind the rear axle but must not extend making the unit any longer than required for the tank and plumbing. All body compartments will have flush or lap doors with locking 1250 latches. One compartment will be equipped with approved Zico or equivalent SCBA bracket with strap for storage of MSA Firehawk SCBA's with 66 SCF bottles. Location of the SCBA's must be approved by the Department. Spare SCBA cylinder holders will be provided in the wheel well area, space permitting.

Comply, YES:___ NO: __

2.6.2. Curb side will have one lower cabinet forward of the rear axle and one behind, space permitting. Compartments front and behind rear axle in the wheel well area will be provided to store SCBA cylinders and miscellaneous storage as space permits.

2.6.2.1. The curb side forward compartment will have a sliding tray on the floor to capture the entire compartment.

2.6.3. A portable pump and fuels storage cabinet as large as possible will be on the curb side of the unit. The pump storage area must accommodate a Honda WB 30X portable pump on a sliding tray. Pump dimensions are LxWxH – 20.1” x 15.2” x 17.9”.

2.6.4. There shall be one compartment on the curb side of the apparatus above lower compartments designed to hold a Fol-Da-Tank FDT-2100 Aluminum frame 2,100 gallon portable tank. The measurements are 5’9” x 15” x 29” (125lbs). The tank will slide in from a door in the rear of the apparatus. An extendable roller at the back of the cabinet will be provided for ease of removal. The cabinet must be large enough to allow for easy storage and deployment of the tank.

Comply, YES:___ NO: __

2.6.5. There shall be one compartment on the street side of the apparatus above lower compartments designed to hold 2 ea. 10’ lengths of 3” hard suction hose and 300’ of 3” supply hose in a flat load. The 3” hose and hard suction will slide in from a door in the rear of the apparatus. The 3” supply hose will be loaded from a door at the top of the compartment. The cabinet must be large enough to allow for easy storage and deployment of the hose. This compartment shall be similar in size to the opposite curb side compartment.

Comply, YES:___ NO: __

2.7. Performance tests and requirements

2.7.1. A road test will be conducted with the apparatus fully loaded and a continuous run of ten miles or more will be made, during which time the apparatus shall show no loss of power or overheating. The transmission drive shaft or shafts and rear axles shall run quietly and be free from abnormal vibration or noise throughout the operating range of the apparatus. The successful bidder shall furnish a Weight Certificate showing weights on front axle, rear axles and total weight for the completed apparatus at time of delivery.

Comply, YES:___ NO: __

2.7.2. The apparatus fully loaded should be capable of accelerating to 35 MPH from a standing start within 20 seconds on a level concrete highway without exceeding the maximum governed RPM of the engine.

Comply, YES:___ NO: __

2.7.3. The service brakes should be capable of stopping the fully loaded vehicle in 35 feet at 20 MPH on level dry concrete highway.

Comply, YES:___ NO: __

2.7.4. The apparatus, fully loaded, shall be capable of obtaining a minimum speed of 57 MPH on a level dry concrete highway with the engine not exceeding its governed RPM (fully loaded). No Exceptions.

Comply, YES:___ NO: __

2.7.5. The apparatus, fully loaded, shall be capable of starting from stop on a 23% grade on a dry concrete highway with the engine not exceeding its governed RPM (fully loaded). No Exceptions.

Comply, YES:___ NO: __

2.7.6. The contractor shall supply the final manufacturer's furnished certification of GVWR and GAWR on a nameplate affixed to the vehicle.

Comply, YES:___ NO: __

2.7.7. A permanent plate shall be mounted in the driver's compartment to specify the quantity and type of the following fluids used in the vehicle: Engine oil, engine coolant, and chassis transmission fluid, pump transmission lubrication fluid, pump primer fluid and drive axle lubrication fluid.

Comply, YES:___ NO: __

3. Section III. Warranty:

3.1. All warranties will commence on the apparatus at the delivery date. Delivery date will be when the unit is delivered, passes Department inspections and in-service orientation is provided. It is incumbent on the manufacture to ensure any warranties for items the manufacture purchased for the unit also begin on the delivery date, including the chassis and its individual components. All warranties shall be "sole source".

Comply, YES:___ NO: __

3.2. One (1) year minimum parts and labor warranty covering all non-wear items on the apparatus “bumper to bumper” shall be provided.

Comply, YES:___ NO: __

3.3. Engine should be warranted for a period of five (5) years or 100,000 miles, whichever comes first.

Comply, YES:___ NO: __

3.4. The transmission shall be warranted for a period of five (5) years unlimited miles.

Comply, YES:___ NO: __

3.5. A structural warranty should be provided by the apparatus manufacturer for products of its manufacture to be free from defects in material and workmanship, under normal use and service, for a period of ten (10) years.

Comply, YES:___ NO: __

3.6. A ten (10) year paint and corrosion warranty should be provided. The warranty shall cover perforation, blistering, peeling or any other adhesion defects caused by defective materials or workmanship.

Comply, YES:___ NO: __

3.7. A minimum ten (10) year tank warranty should be provided. The warranty shall cover any defect in materials or workmanship resulting in a leak, weakening or deformity of the tank or connections or excessive corrosion.

Comply, YES:___ NO: __

3.8. A two year (2) warranty should be furnished by the pump manufacturer with details in company letterhead.

Comply, YES:___ NO: __

3.9. A five (5) year plumbing warranty should be provided. The warranty will cover all non-ware plumbing items from defects of materials, design or workmanship. Excessive corrosion during this period will be considered covered under this section.

Comply, YES:___ NO: __

3.10. A multiplex electrical warranty shall be provided by the apparatus manufacturer under normal use and service, for a period of four (4) years. One (1) year parts and labor remainder three (3) years parts only.

Comply, YES:___ NO: __

4. Section IV. Chassis:

4.1. The chassis will be a Conventional Freightliner, Kenworth, or equivalent chassis with two air ride seats.

4.2. Chassis shall include NFPA 1901 provisions and meet CA emissions requirements.

4.2.1. A custom built aluminum map box will be provided.

4.2.1.1. Design to be provided by the department after the chassis arrives.

4.2.1.2. Provide 12V connections and mounting for two (2) Bendix King KNG radio chargers, Department to supply chargers.

4.2.1.3. Provide 2 12V receptacles.

4.2.1.4. Mount two (2) department supplied flashlights.

Comply, YES:___ NO: __

4.2.2. DIMENSION: Wheelbase: to meet design criteria and best weight distribution and allow the apparatus total length to remain under 320 in.

Comply, YES:___ NO: __

4.2.3. ENGINE, DIESEL: CUMMINS OR EQUIVALENT; HORSE POWER AND TOURQUE TO MATCH REQUIRED PERFORMANCE AS STATED WITHIN THIS SPECIFICATION.

Comply, YES:___ NO: __

4.2.4. TRANSMISSION, AUTOMATIC:

4.2.4.1. {Allison 3000EVS_P} 4th Generation Controls; Close Ratio, 5-Speed; With Overdrive, Includes Oil Level Sensor, With Provision for PTO, Less Retarder.

Comply, YES:___ NO: __

4.2.5. AXLE, FRONT NON-DRIVING: minimum 14,000-lb Capacity, Name brand.

Comply, YES:___ NO: __

4.2.6. AXLE, REAR, 26,000 Capacity or greater, name brand

4.2.6.1. Locking differential controlled on dash.

Comply, YES:___ NO: __

4.2.7. TIRE, FRONT: (2) load range H, 16 ply, size as recommended by chassis manufacture.

Comply, YES:___ NO: __

4.2.8. TIRE, REAR: (4), load range G, 14 ply, size as recommended by chassis manufacture.

Comply, YES:___ NO: __

4.2.9. SUSPENSION, REAR, As per manufacturer to meet weight requirements.

Comply, YES:___ NO: __

4.2.10. *PAINT: Cab schematic 209GN, Location 1: 9403, White (Custom), Location 2: 2303, Red (Custom) No Exception.

Comply, YES:___ NO: __

4.2.11. TOW HOOK, FRONT (2) Inside Rail, Frame Mounted. 1CBU FRAME RAILS Heat Treated Alloy Steel (120,000 PSI Yield); 10.125" x 3.580" x 0.312" (257.2mm x 90.9mm x 8.0mm); 480.0" (12192) Maximum OAL 1GBP FRAME REINFORCEMENT Outer "C" Channel, Heat Treated Alloy Steel (120,000 PSI Yield); 10.813" x 3.892" x 0.312"; (274.6mm x 98.9mm x 8.0mm); 480.0" (12192mm) Maximum OAL, Maintenance-Free.

Comply, YES:___ NO: __

4.2.12. Front Suspension; Brake System; Brakes, Front Air Cam; Wheels; Tires. BRAKE SYSTEM, AIR Dual System for Straight Truck Applications Includes.

4.2.12.1. BRAKE LINES Color and Size Coded Nylon, Exposed brake lines **shall be protected from external heat and embers from fire.**

Braded lines are preferable, aftermarket insulation acceptable

4.2.12.2. DRAIN VALVE Twist-Type.

4.2.12.3. GAUGE, AIR PRESSURE (2) Air 1 and Air 2 Gauges; Located in Instrument cluster.

4.2.12.4. PARKING BRAKE CONTROL Yellow Knob, Located on Instrument Panel.

4.2.12.5. PARKING BRAKE VALVE For Truck.

4.2.12.6. QUICK RELEASE VALVE Bendix On Rear Axle for Spring Brake release:

4.2.12.7. SLACK ADJUSTERS, FRONT Automatic.

4.2.12.8. SLACK ADJUSTERS, REAR Automatic.

4.2.12.9. Front axle assist parking brake.

Comply, YES:___ NO: __

4.3. STEERING COLUMN Tilting and Telescoping.

Comply, YES:___ NO: __

4.4. 8000 ELECTRICAL SYSTEM 12-Volt, Standard Equipment Includes:

4.4.1. BATTERY BOX Steel with Fiberglass Cover.

4.4.2. DATA LINK CONNECTOR For Vehicle Programming and Diagnostics In Cab.

4.4.3. FUSES, ELECTRICAL SAE Blade-Type.

4.4.4. HAZARD SWITCH Push On/Push Off, Located on Top of Steering Column Cove.

4.4.5. HEADLIGHT DIMMER SWITCH Integral with Turn Signal Lever.

- 4.4.6. HEADLIGHTS (2) Sealed Beam Halogen, 5" X 7" Rectangular, with Chrome Plated Bezels.
- 4.4.7. HORN, ELECTRIC Single.
- 4.4.8. JUMP START STUD Located on Positive Terminal of Outermost Battery.
- 4.4.9. PARKING LIGHT Integral with Front Turn Signal and Rear Tail Light.
- 4.4.10. RUNNING LIGHT (2) Daytime, Included With Headlights.
- 4.4.11. STARTER SWITCH Electric, Key Operated.
- 4.4.12. STOP, TURN, TAIL & B/U LIGHTS Dual, Rear, and Combination with Reflector.
- 4.4.13. TURN SIGNAL SWITCH Self-Cancelling for Trucks, Lane Change. Feature, TURN SIGNALS, FRONT Includes Reflectors and Auxiliary Side Turn Signals, Solid State.
- 4.4.14. Flashers; Flush Mounted.
- 4.4.15. WINDSHIELD WIPER SWITCH 2-Speed with Wash and Intermittent Feature (5 Pre-Set, Delays), Integral with Turn Signal Lever, WINDSHIELD WIPERS Single Motor, Electric, Cowl Mounted.
- 4.4.16. WIRING, CHASSIS Color Coded and Continuously Numbered
- 4.4.17. 8GWY ALTERNATOR {Leece-Neville 14931PAH} Brush Type, 12 Volt 320 Amp. Capacity, Pad Mounted.
- 4.4.18. 8HAB BODY BUILDER WIRING Back of Standard Cab at Left Frame or Under Extended or Crew.
- 4.4.19. 8THB BACK-UP ALARM Electric, 102 dBA.
- 4.4.20. 8WJV BATTERY DISCONNECT SWITCH {Joseph Pollak} for Cab Power Disconnect Switch; Lever Operated, Disconnects Power to PDC, Does Not Disconnect Charging Circuits, Cab Mounted.
- 4.4.21. 8XAH CIRCUIT BREAKERS Manual-Reset (Main Panel) SAE Type III With Trip Indicators, Replaces All Fuses Except For 5-Amp Fuses.

Comply, YES: ___ NO: ___

4.5. 9HBM GRILLE Stationary, Chrome 9WBB GRILLE EMBER SCREEN Mounted to Grille to Keep Hot Embers out of Engine Air Intake System.

Comply, YES:___ NO: __

4.6. 10209 PAINT SCHEMATIC, PT-1 Two Tone, Design 209.

4.6.1. 10761 PAINT TYPE Base Coat/Clear Coat, 1-2 Tone.

Comply, YES:___ NO: __

4.7. ENGINE, DIESEL – Cummins as recommended meeting performance requirements. Must meet all Federal and California emission requirements for fire apparatus.

4.7.1. 3 position Jacobs retarder.

4.7.2. AIR COMPRESSOR AIR SUPPLY LINE Naturally-Aspirated.

4.7.3. COLD STARTING EQUIPMENT Intake Manifold Electric Grid Heater with Engine ECM Control.

4.7.4. CRUISE CONTROL Electronic; Controls Integral to Steering Wheel.

4.7.5. ENGINE OIL DRAIN PLUG Magnetic.

Comply, YES:___ NO: __

4.8. 12VBC AIR CLEANER Single Element, Includes:

4.8.1. GAUGE, AIR CLEANER RESTRICTION Air Cleaner Mounted;

4.8.2. Ember screen to protect from external heat.

Comply, YES:___ NO: __

4.9. 12VXT THROTTLE, HAND CONTROL Engine Speed Control; Electronic, Stationary, Variable Speed; Mounted on Steering Wheel or similar.

Comply, YES:___ NO: __

4.10. 12VZA ENGINE CONTROL, REMOTE MOUNTED Provision for; Includes Wiring for Body Builder or similar.

Comply, YES:___ NO: __

4.11. Installation of PTO Controls; With Ignition Switch Control for Cummings post 2007 Emissions Electronic Engines.

Comply, YES:___ NO: __

4.12. 12WZD EMISSION COMPLIANCE Engine Shutdown System Exempt Vehicles, Complies With:

4.12.1. California Clean Air Regulations.

Comply, YES:___ NO: __

4.13. 13AJV TRANSMISSION, AUTOMATIC {Allison 3000EVS_P} 4th Generation Controls; Close Ratio, 5-Speed; With Overdrive, Includes Oil Level Sensor, With Provision for PTO, Less Retarder, Max. GVW N/A, Includes (may be modified as needed to match engine and chassis).

4.13.1. OIL FILTER, TRANSMISSION Mounted on Transmission.

4.13.2. TRANSMISSION OIL PAN Magnet in Oil Pan.

4.13.3. 13WAW OIL COOLER, AUTO TRANSMISSION {Modine} Water to Oil, for Allison or CEEMAT Transmission.

4.13.4. 13WBL TRANSMISSION SHIFT CONTROL {Allison} Push-Button Type; for Allison 3000 & 4000 Series Transmission.

4.13.5. 13WUZ ALLISON SPARE INPUT/OUTPUT for Emergency Vehicle Series (EVS), 127/198 Includes:

4.13.6. J1939 Based Auto Neutral; Fire/Pumper, Tank, Aerial/Ladder.

4.13.7. 13WYL SHIFT CONTROL PARAMETERS Allison Performance Programming in Primary and Allison Economy Programming in Secondary.

Comply, YES:___ NO: __

4.14. FUEL TANK T, Non Polished Aluminum, **50 to70 U.S. Gal**, Capacity, Beveled Back of Tank, With Quick Connect Outlet, Mounted Right Side, Under Cab.

4.15. Diesel exhaust fluid tank.

Comply, YES:___ NO: __

4.15.1. DRIVER SEAT, NFPA Compliant, Air Suspension, High Back.

Comply, YES:___ NO: __

4.15.2. PASSENGER SEAT: Identical to drivers.

Comply, YES:___ NO: __

4.15.3. 16SDC GRAB HANDLE (2) Chrome Towel Bar Type With Anti-Slip Rubber Inserts; for Cab Entry,

4.15.3.1. Mounted Left and Right, Each Side at "B" Pillar.

Comply, YES:___ NO: __

4.15.4. 16SDU MIRRORS (2) Styled; Rectangular, 7.09" x 15.75" & Integral Convex Both Sides, 102" Inside Spacing, Breakaway Type, Heated Heads Thermostatically Controlled, Power Both Sides, Clearance Lights LED, Bright Finish Heads & Brackets.

Comply, YES:___ NO: __

4.15.5. AIR CONDITIONER {Blend-Air} With Integral Heater & Defroster.

Comply, YES:___ NO: __

- 4.15.6. CAB INTERIOR TRIM, Deluxe;
 - 4.15.6.1. AM/FM weather radio.
 - 4.15.6.2. Power windows.
 - 4.15.6.3. Maximum sound insulation available.

Comply, YES:___ NO: __

- 4.16. WHEELS, Polished Aluminum or Painted Job color, rear must be the same.

Comply, YES:___ NO: __

- 4.17. Paint:
 - 4.17.1. Location 1: 9403, White (Custom), Roof.
 - 4.17.2. Location 2: 2584, Red (Custom) all painted surfaces, "job color".

Comply, YES:___ NO: __

- 4.18. A siren controller and siren speaker will be provided and installed by the vendor. The location of the controller and speaker will be determined at the pre-construction meeting. All applicable wires shall be run to the location in an approved manner.

- 4.18.1. The vendor will install a Department supplied radio. All applicable wires shall be run to the location in an approved manner.

Comply, YES:___ NO: __

- 4.19. The vendor will supply and install a 60" Whelen Freedom Series or equivalent LED Light Bar. The lightbar shall be installed as far forward on the cab roof as possible, location must be approved by the Department.

Comply, YES:___ NO: __

4.20. A LED Traffic advisor will be mounted in an approved location at the back of the apparatus and controller mounted in the cab in an approved location.

Comply, YES:___ NO: __

4.21. All specified lighting fixtures and electrical components not operated by the controller should be activated by Carling switch V-series rocker style switches.

Comply, YES:___ NO: __

4.22. There should be a Cole Hersee #9500 or equivalent battery disconnect switch installed to activate the battery system.

Comply, YES:___ NO: __

4.23. An electronic backup alarm shall be furnished and installed. It shall be 97 decibels and actuate automatically when transmission gear selector is placed in reverse.

Comply, YES:___ NO: __

4.24. There shall be a "Door Open" indicator light mounted in the cab.

Comply, YES:___ NO: __

4.25. A Kussmaul Auto Charge 1000 or equivalent battery charger shall

be furnished. and installed.

- 4.25.1. There shall be a Kussmaul "Super Auto-Eject" or equivalent 120 volt, 20 amp shoreline receptacle furnished and installed.

Comply, YES:___ NO: __

- 4.26. There should be One (1) chrome plated Grover Stuttertone air horn model 1510 or equivalent furnished and installed on the chassis hood. The air horns shall be actuated by two (2) foot switches, one on the driver's side and passenger side of the chassis cab.

Comply, YES:___ NO: __

- 4.27. Reflective stripping shall be added to the inside of the cab doors in accordance to NFPA regulations.

Comply, YES:___ NO: __

- 4.28. A Weldon, Model number 6444-0000-00, Vehicle Data Recorder or current model, which collects and stores essential vehicle data will be provided. Reviewing the information is made easy with an intuitive computer application.

Comply, YES:___ NO: __

- 4.29. An Occupant Restraint Indicator, model number 6204-0000-00 or current model should be provided.

Comply, YES:___ NO: __

4.30. Heavy-duty full width rubber mud flap shall be provided behind the rear wheels. The mud flap shall be black rubber type and be bolted in place.

Comply, YES:___ NO: __

4.31. One (1) 2.5 lb. Amerex or equivalent brand ABC Extinguisher(s) shall be supplied with the apparatus.

Comply, YES:___ NO: __

5. Section VI. Pump & Plumbing

5.1. The pump shall have the capacity of 750 gallons per minute, measured in U.S. Gallons. The pump shall be a PTO driven. Pump selection must be listed by Bidder.

Comply, YES:___ NO: __

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

Comply, YES:___ NO: __

5.1.2. The pump ratio shall be selected by the apparatus manufacturer to give maximum performance with the engine and transmission selected. The pump shall be driven by a drive line from the truck transmission. The engine shall provide sufficient horsepower and RPM to enable pump to meet and exceed its rated performance.

Comply, YES:___ NO: __

5.1.3. The pump must deliver the percentages of rated capacity at these pressures:

- 5.1.3.1. 100% of rated capacity at 150 pounds net pressure.
- 5.1.3.2. 100% of rated capacity at 165 pounds net pressure.
- 5.1.3.3. 70% of rated capacity at 200 pounds net pressure.
- 5.1.3.4. 50% of rated capacity at 250 pounds net pressure.

Comply, YES:___ NO: __

5.1.4. There shall be a manifold type drain valve installed in the pump compartment. The drain valve shall be controlled on the left side lower pump house sill. The control shall be a hand wheel knob marked "open" and "closed".

Comply, YES:___ NO: __

5.1.5. The drive unit shall be provided with a PTO pump shift system. The control switch shall be shall be mounted accessible to the driver in the seated position and from the ground when standing outside the driver's door. The switch shall be protected from accidental operation.

Comply, YES:___ NO: __

5.1.6. To the left of the pump shift control, there should be two indicator lights to show the position of the pump when the control is moved to "Pump" position. A green light shall be energized when the pump shift has been completed and shall be labeled "PUMP ENGAGED"; a

second green light shall be labeled "OK TO PUMP" energized when both the pump shift has been completed and the chassis automatic transmission is engaged.

Comply, YES:___ NO: __

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

Comply, YES:___ NO: __

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

Comply, YES:___ NO: __

5.1.9. The priming system should include an electrically driven rotary vane priming pump rigidly attached to the pump transmission. The priming pump should be self lubricating and should not require an external oil reservoir. The pump, when dry, shall be capable of taking suction and discharging water with a lift of 10 feet in not more than 30 seconds through 20 feet of suction hose through the strainer.

Comply, YES:___ NO: __

5.1.10. There shall be a 3/8" line run from the pump to the water tank to assist in keeping the pump water from overheating. There shall be a 1/4 turn on/off valve installed on the operator's panel.

Comply, YES:___ NO: __

5.1.11. A minimum of two (2) anode(s) shall be included in plumbing system of the apparatus to protect the components that come in contact with the water system from corrosion and deterioration.

Comply, YES:___ NO: __

5.1.12. The fire pump and plumbing in the pump module shall be painted to protect against the environment and corrosion.

Comply, YES:___ NO: __

5.2. Plumbing:

5.2.1. There shall be one (1) 2.5" suction inlet furnished, on the left side of the pump. The suction will have an internal valve, controlled by a manual hand lever located next to the suction tube.

5.2.1.1. The suction shall terminate with a heavily chrome plated brass 2 1/2" NST swivel female adapter with screen. In addition, a 2 1/2" NST male plug shall be included secured by a chain or cable to the inlet termination location.

Comply, YES:___ NO: __

5.2.2. A pressure relief valve shall be provided that is factory set to 125 PSI and field adjustable from 75 to 250 PSI. The pressure relief

valve shall provide overpressure protection for the suction hose even when the intake valve is closed.

Comply, YES:___ NO: __

5.2.3. All discharges will be equipped with manual drains operated by quarter turn cast "T-Handle ball valves.

Comply, YES:___ NO: __

5.2.4. There shall be a four (4) directionally adjustable ground spray nozzles, one (1) mounted at each corner of the apparatus.

5.2.4.1. The forward spray nozzles will have a mechanical stop, which will not allow them to be directed in the forward path of the apparatus. Nozzle design and selection to be decided at pre-construction meeting.

5.2.4.2. The nozzles shall be supplied by the PTO driven fire pump and or gravity.

5.2.4.2.1. In the pump driven mode, foam should be available to the ground sprayers.

5.2.4.3. The nozzles shall be controlled by individual remote activated valves for the front and rear spray nozzles.

5.2.4.3.1. The valves shall be controlled by switches located within reach of the driver.

5.2.4.3.2. Each corner spray nozzle will have a manual shutoff to control which side is activated when the front or rear spray is activated.

Comply, YES:___ NO: __

5.2.5. There shall be one (1) 2.5" gated discharge installed on each side of the apparatus.

5.2.5.1. A manual drain will be provided.

5.2.5.2. Plumbing to the rear discharge must be constructed in a manor and place that it will not result in raising the tank on the frame.

Comply, YES:___ NO: __

5.2.6. The crosslay hose beds shall be located in the upper portion of the pump module. The design of the pump module shall allow the crosslays to be as low as possible. The crosslay area shall span the entire width of the pump module apparatus. Removable slotted aluminum flooring shall be provided for hose area. Chicksan swivels shall be installed just below the floor of each crosslay bed just high enough for hose couplings to be accessed and tightened on to chicksans. Chicksan swivels shall swing from left to right to allow attached hose to be deployed from either side.

Comply, YES:___ NO: __

5.2.6.1. Minimum of Two (2) crosslay(s) shall be provided.

5.2.6.2. If space permits, a storage dunnage shall be provided.

5.2.6.3. Brushed stainless steel trim should be installed at the openings on each side of the crosslay hose bed area. The trim should reduce the chaffing of the hose jacket on the edges of the bay area.

5.2.6.4. The crosslays will be covered with a single piece aluminum diamond plate hinged at the front, with a latch to hold in the raised position 90+ degrees from closed.

- 5.2.6.5. The ends will be covered with heavy red material with seatbelt latches or other positive locking type device to secure hose, materials to be approved by the department.
- 5.2.6.6. Two (2) for up to 200 feet of 1 3/4" hose in two stack configuration with Nozzles. These must provide a minimum of a 7.5" unobstructed opening on each side.

Comply, YES:___ NO: __

- 5.2.7. One (1) 1.5" front bumper discharge shall be provided in the location specified.
 - 5.2.7.1. A 90 degree Chicksan swivel will be provided to allow deployment in 170 degrees.
 - 5.2.7.2. Valve next to the discharge, no valve at pump panel
 - 5.2.7.3. A hose tray will be provided to securely store 50' of 1.5" pre connected hose.
 - 5.2.7.4. Drain control in the area of the discharge.

Comply, YES:___ NO: __

- 5.2.8. *A FOAMPRO 1600 or equivalent will be provided. The system shall be capable of Class A foam concentrate. The foam system shall be installed in accordance with the manufacturer's recommendations.
 - 5.2.8.1. The system will be connected to the cross lays, bumper line and the ground sprayers.

Comply, YES:___ NO: __

- 5.2.8.2. There shall be a minimum of ten (10) gallon foam tank furnished and plumbed with non-corrosive piping to the foam system.

5.2.8.2.1. There shall be a 1" quarter turn drain valve furnished for drainage of the foam tank. The valve shall be installed in the pump house with a drain line extended to the side running board.

Comply, YES:___ NO: __

5.2.9. Water Tank 2,000 Gallons and Pump 750 GPM.

5.2.9.1. A stainless Steel, semi elliptical NFPA compliant tank is preferred.

5.2.9.1.1. Tank will be made of commercial grade stainless steel SA-240-304L, 12 gauge minimum thickness.

5.2.9.1.2. Tank finish will be a 2B natural or dull finish.

5.2.9.1.3. Tank anodes included to protect the tank and plumbing from any electrolysis.

5.2.9.1.4. Acceptable manufacturers must have a minimum of 10 years experience building tanks and capable of meeting NFPA requirements.

5.2.9.1.5. Manufactured with openings needed to meet specifications and accompany specified chassis, build up and equipment mounting specifications.

Comply, YES:___ NO: __

5.2.9.2. Two (2) non-collapsible flexible hose(s) and valve(s) shall be incorporated into the tank to pump plumbing to allow movement in the line as the chassis flexes to avoid damage during normal road operation.

5.2.9.2.1. Each tank sump total of two shall have a push/pull valve at the pump panel or automatically operated valve. In shall be the open position, out shall be closed position. If

automatic valves are used indicator lights will be provided indicating open or closed for each valve.

5.2.9.2.2. One (1) 2 1/2" tank fill/recirculation line shall be installed from the pump directly to the water tank.

Comply, YES:___ NO: __

5.2.10. There shall be one (1) 2.5" external direct tank fill port, with 2.5" plumbing located on the rear of the apparatus, location to be approved by the Department.

5.2.10.1. A valve will be provided in the area of the fill port, location to be approved by the Department.

5.2.10.2. The port will have a 2.5" swivel female mini wings, NST, 45 degree elbow. with plug, all chrome.

Comply, YES:___ NO: __

5.2.11. The pump compartment module shall be separated from the apparatus body with a gap. This gap is necessary to accommodate the flexing of the chassis frame rails that is encountered while the vehicle is in transit so that harmful tensional forces are not transmitted into the structural framework.

Comply, YES:___ NO: __

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

Comply, YES:___ NO: __

5.2.13. The pump operator's panel shall be located on the left, upper side of the apparatus pump compartment. The panel should be split into an upper and lower section. The upper panel should house all gauges and controls and be hinged to allow easy access to those components.

5.2.13.1. A water level sight tube will be provided in this area.

Comply, YES:___ NO: __

5.2.14. There should be two (2) side pump access panels on the left and a minimum of one (1) right side of the pump compartment, one (1) upper and one (1) lower. Each panel should be accessible by a quick-release type latch, closing against a door seal. The lower panel should be easily removed for a large access to the pump for service. All panels shall be made from heavy duty "Brushed Stainless Steel" capable of withstanding the effects of extreme weather and temperature.

Comply, YES:___ NO: __

5.2.15. The running boards should be made of a structural tubular framework. The running boards shall be independent of the apparatus body and shall be tied only to the pump compartment structure, thereby eliminating any pump compartment to body interference. Slip-resistant abrasive shall be applied to the top surface of the running board framework to provide a suitable stepping surface.

5.2.15.1. Room permitting there should be a free floating suction hose tray on the street side running board.

Comply, YES:___ NO: __

5.2.16. Intake and discharge gauges should be Class One or equivalent and mounted on the operator's panel. The intake gauge shall read from - 30 to 400 psi with the master discharge gauge reading from 0 to 400 psi.

5.2.16.1. Separate discharge gauges will be provided for potential fire attack lines, both structure cross lays and the left and right side discharges.

Comply, YES:___ NO: __

5.2.17. There shall be a pressure and vacuum test gauge adapter with chrome plugs furnished and installed on the pump operator's panel.

Comply, YES:___ NO: __

5.3. Pump:

5.3.1. A 750 GPM, NFPA approved pump will be provided.

5.3.1.1. Darley KSP or equivalent 750 single stage pump.

5.3.1.2. Must meet all operational performance within this specification.

5.4. Relief valve:

5.4.1. A standard relief valve compatible with the selected pump will be provided on the pump panel.

5.4.1.1. A second relief valve/control will be provided inside the cab to control pressure during "pump and roll operations".

Comply, YES:___ NO: __

5.4.2. Automatic shutdown when pump runs dry.

Comply, YES:___ NO: __

5.5. There shall be a supplementary heat exchanger cooling system furnished and installed for use of water from the discharge side of the fire pump through the engine compartment, without intermixing, for absorption of excess heat. The heat exchanger shall be adequate in size to maintain the temperature of the coolant in the pump drive engine not in excess of the engine manufacturer's temperature rating under all pumping conditions.

5.5.1.1. A manual shut-off valve shall be supplied at the pump operator's position.

Comply, YES:___ NO: __

5.6. The entire pump module assembly should be mounted so that it “floats” above the chassis frame rails with vibration and torsion isolator assemblies. The body substructure shall be mounted above the frame to allow independent flexing to occur between the body and the chassis.

Comply, YES:___ NO: _____

6. Section VII, Body:

6.1. Construction:

6.1.1. There shall be no welding to the chassis frame rail sides, web or flanges, or drilling of holes in the top or bottom frame flanges between axles. All body to chassis connections shall be bolted so that in the event of an accident, the body shall be easily removable

from the truck chassis for repair or replacement.

Comply, YES:___ NO: __

6.1.2. Because of the constant vibration and twisting action that occurs in chassis frame rails and suspension, a torsion mounting system or equivalent required minimizing the possibility of premature body structural failures.

Comply, YES:___ NO: __

6.2. There shall be three (3) LED water level gauges furnished and installed. One on the pump panel, in the cab, and the other at the rear of the apparatus.

6.2.1. Water level gauges shall be type that can be seen from an angle of 180 degrees.

Comply, YES:___ NO: __

6.3. Absolutely no dissimilar metals shall be used in the body and its supporting substructure with out being separated by a sufficient corrosion and electrolysis inhibitor.

Comply, YES:___ NO: __

6.3.1. The top of the compartments should be an integral portion of the body. No overlay material shall be visible from the interior of the compartments.

Comply, YES:___ NO: __

6.4. All compartments shall be constructed in a sweep out design to be water

and dust resistant, and manufactured to the maximum possible storage capacity.

Comply, YES:___ NO: __

6.5. Wheel wells will have semicircular black liners.

Comply, YES:___ NO: __

6.6. A single tank dump with manual valve and extendable chute shall be located at the rear of the vehicle.

Comply, YES:___ NO: __

6.7. Vertically mounted uni-strut should be installed in ALL compartments of the apparatus body to accommodate mounting shelves, trays, and other miscellaneous equipment items.

Comply, YES:___ NO: __

6.7.1. Door handles shall be polished stainless steel locking D-ring style that are spring loaded and bidirectional. They shall be mounted on the doors of compartments with a single door or on the primary door of a compartment with vertical double doors. The latches shall attach to the door assembly without any fasteners penetrating the door skin material, with a rubber gasket provided between the D-ring handle and the door skin. The door latch assembly must be completely enclosed by the door assembly and inner door pan, to prevent damage from shifting equipment carried in the compartment. Latches will have a key lock with a 1250 key.

Comply, YES:___ NO: __

6.7.2. The door latches to open the secondary door of a compartment with vertical double doors should be "lever" style, located on the backside of the door. Once the primary door is opened, the handle shall be easily visible. Full height secondary doors will have the latch at the bottom of the door with all others door heights having the latch at the top of the door.

Comply, YES:___ NO: __

6.7.3. Brushed stainless steel sill plates shall be installed at the bottom of each body compartment door opening.

Comply, YES:___ NO: __

6.8. Compartment Divider:

6.8.1. Sheet metal compartment divider shall be installed between the over-wheel compartments on the left side of the body. This divider shall aid in keeping loose equipment from falling between the compartments.

Comply, YES:___ NO: __

6.9. Compartment Shelving:

6.9.1. The shelf should be fabricated of .190 thick aluminum sheet material with the outside and inside edges flanged up to prevent equipment from sliding off. The shelf shall be as wide as possible to allow proper attachment to uni-strut channels. The shelf shall be adjustable up and down.

Comply, YES:___ NO: __

6.9.2. The following shall be provided:

6.9.2.1. Four (4) full depth shelves shall be supplied for installation in the upper street side compartments. Location to be determined at pre construction.

6.9.2.2. Four (4) full depth shelves for the lower compartments.

Comply, YES:___ NO: __

6.9.3. There shall be three (3) Slide out trays.

6.9.3.1. Two in the street side forward lower compartment.

6.9.3.2. One in the curb side forward lower compartment.

6.9.3.2.1. Slide outs must encompass as much of the cabinet area possible while not wasting space for slide mechanism. Tray slide mechanism must be approved at preconstruction.

Comply, YES:___ NO: __

6.9.3.3. An enclosed area for mounting two (2) lengths of 10' by 3" coupled 2.5" NST clear hard suction with rocker lugs will be provided on one or both sides of the apparatus. Design and location to be approved by the Department.

Comply, YES:___ NO: __

7. Overlays:

7.1. All aluminum used in an overlay area should be bright type 3003, 1/8" thick diamond plate material coated with 3M sealant and adhesive on the back sides to protect and to put an insulating barrier between dissimilar metals to assist in corrosion resistance.

Comply, YES:___ NO: __

8. Rear Tailboard/bumper:

8.1. The rear tailboard should be fabricated of the same materials as used in the apparatus body.

8.2. The rear tailboard and body shall be constructed such that the angle of departure shall be no less than 20 degrees at the rear of the apparatus when fully loaded.

8.2.1. The rear step shall be 8" deep.

8.2.2. A step or steps will be provided to access the tank access ladder

8.2.3. An enclosed hose tray to contain 30' of 2.5 in. soft suction will be provided in the area of the rear tail board.

Comply, YES:___ NO: __

8.3. Steps

8.3.1. One (1) LED light shall be mounted to illuminate the rearward stepping areas provided.

8.3.2. Each surface of the folding step shall have grip material with a minimum of 42 sq. inches in size. Each step shall be capable of sustaining a 500 lb. static load.

8.3.2.1. Six (6) folding steps will be installed, location to be determined at the PCM.

Comply, YES:___ NO: __

8.4. Hand Rails

8.4.1. All handrails shall be 1 1/4" in diameter, constructed of knurled #3

polished stainless steel tubing. There shall be a 2" minimum clearance between the bracket and the body. The following handrails shall be installed at the approximate lengths noted:

8.4.1.1. There shall be three (3) hand rails installed location to be determined at the PCM.

Comply, YES:___ NO: __

8.5. There shall be a rear closed tow hard point attached to the frame rails. The location of the tow point shall be determined at the PCM.

8.5.1. The tow point should be manufactured of 1" plate steel that is bolted to the chassis frame rail with a minimum of 6 grade 5 bolts. The plate shall be braced to the opposite frame rail to offset forces placed at an angle to the chassis frame.

Comply, YES:___ NO: __

9. **SECTION IX. Paint, Striping and Lettering**

9.1. Cab and build up painted surfaces will be International red # 2303 DuPont acrylic enamel or equal quality painting and application process.

Comply, YES:___ NO: __

9.1.1. The painted surfaces shall have a finish with no runs, sags, craters, pinholes or other defects. Paint must be approved at the pre delivery meeting.

Comply, YES:___ NO: __

9.2. Cab roof above rain gutter will be painted white, International 9403, brake location to be approved by the department.

Comply, YES:___ NO: __

9.3. Plumbing inside the pump compartment are to be painted to prevent against corrosion and deterioration.

Comply, YES:___ NO: __

9.4. Undercarriage to be painted black.

Comply, YES:___ NO: __

9.5. All bright metal fittings, if unavailable in stainless steel, shall be heavily chrome plated.

Comply, YES:___ NO: __

9.6. Critical body and sub-frame area which cannot be primed after assembly shall be pre-painted.

Comply, YES:___ NO: __

9.7. Cab Door decals and lettering

9.7.1. Decals and lettering allowance \$750.00.

Comply, YES:___ NO: __

9.8. Unit Lettering and Numbering

9.8.1. 18" Black Numbers "8895" on the cab roof behind the light bar.

9.8.2. Six (6) Inch NFPA approved white reflective horizontal stripe to be provided on the sides of the unit. Location and design to be approved by the department.

9.8.3. Four sets of white reflective 6" numbers "8895".

9.8.3.1. One set incorporated in each horizontal side strip.

9.8.3.2. One set each on the front and rear on contrasting backgrounds, location to be approved by the Department.

Comply, YES:___ NO: __

9.9. The compartment interiors shall be coated with silver gray Zolatone or approved similar product.

Comply, YES:___ NO: __

9.10. Rear chevron striping will be applied on the areas other than the water tank.

10. **SECTION X LOW-VOLTAGE ELECTRICAL SYSTEM**

10.1. The apparatus may be equipped with a Low-Voltage (12v) Electrical System compliant with the latest revision of the NFPA 1901 guideline, if potential load warrants such a system.

Comply, YES:___ NO: __

10.2. As-built electrical system drawings and a vehicle-specific reference of I/O shall be furnished in the delivery manuals. These drawings shall show the electrical system broken down into separate functions, or small groups of related functions. Drawings shall depict circuit numbers,

electrical components and connectors from beginning to end.

Comply, YES:___ NO: __

10.3. LED DOT Lighting:

10.3.1. There should be seven (7) lights located on the rear of the vehicle. Three (3) of the lights shall be mounted on the rear face of the body for use as identification lamps. Two (2) lights shall be located on the rear, one each side and two (2) lights on the sides facing the side, for use as clearance lamps.

10.3.1.1. The lights should be Weldon brand 9186-1500 series or equivalent LED red and amber markers.

Comply, YES:___ NO: __

10.4. Rear Tail Light Cluster:

10.4.1. There shall be a rear tail light cluster (4 light bezel) furnished and installed at the rear of the apparatus, one each side. The cluster shall be manufactured by Whelen or equivalent and consist of the following:

10.4.1.1. 1 - Whelen #60 LED series red brake light.

10.4.1.2. 1 - Whelen #60 Clear backup light (Halogen).

10.4.1.3. 1 - Whelen #60 LED series amber turn signal light populated in the shape of an arrow.

10.4.1.4. 1-Whelen #60 LED Red on Street Side and Amber on Curb side.

10.4.1.5. The backup lights shall illuminate when the apparatus is placed in reverse.

10.4.1.5.1. Ground lights, back up, and rear scene lights will also light when in reverse.

Comply, YES:___ NO: __

10.5. There shall be one (1)12 volt work light(s) installed in the pump/transverse compartment.

Comply, YES:___ NO: __

10.6. Compartment Lighting:

10.6.1. The street side lower engineer's compartment will have two (2) LED tube lights.

10.6.2. All other compartments will have adequate lighting to illuminate each section of the compartment.

10.6.3. Vertical compartment doors will have lights in the doors that illuminate the ground in front of the compartment when open.

Comply, YES:___ NO: __

10.7. Perimeter Lights:

10.7.1. There shall be seven (7) underbody perimeter lights furnished and installed. One (1) each side under the chassis cab steps, one (1) under front bumper, one (1) under each side of the front of the body, and two (2) under the rear step to illuminate the ground around the truck.

10.7.1.1. Ground lighting will activate when:

10.7.1.1.1. Cab doors are opened.

10.7.1.1.2. Apparatus is placed in reverse.

10.7.1.1.3. Or on a switch in the cab.

10.7.2. The ground lights will be mounted in a manor to protect them from damage when driving over vegetation, dirt berm etc.

Comply, YES:___ NO: __

10.8. Body Side Back Up lights, Marine style will be provided, one on each side of the apparatus in the rear wheel well area facing rearward and slightly downward to illuminate the ground around and behind the rear tires. The back up lights shall be activated whenever the truck is placed in reverse.

Comply, YES:___ NO: __

10.9. Traffic Advisor, with Eight (8) LED lights mounted in approved location on the rear, controlled in the cab by the driver. The device shall have four (4) modes of operation: Arrow Left, Arrow Right, Center Out, and All Flash.

Comply, YES:___ NO: __

10.10. The following NFPA lighting package, manufactured by Whelen or equivalent, shall be supplied and installed in the upper areas of the vehicle. All lights shall be LED unless specified otherwise.

10.10.1. One Whelen Freedom Series LED Light Bar, 60”.

10.10.1.1. Forward stationary illumination lights.

10.10.1.2. Two Halogen Alley Lights.

10.10.1.3. Model FLH2CC Add Two 400 Series Halogen Flashing Takedown Lights.

10.10.1.3.1. Mounted as far forward on the cab roof as possible.

10.10.1.3.2. Wired to be controlled by switches in the cab. Wires will be loomed to a location determined by the Department.

10.10.1.4. Electronic siren and PA to be installed in the front bumper.

Comply, YES:___ NO: __

10.10.2. Front Facing ZONE A: There shall be two (2) 4"x6" flashing lights with red lenses and chrome bezels installed on the chassis.

Comply, YES:___ NO: __

10.10.3. ZONES B&D: There shall be eight (8) 4"x6" flashing lights with red lenses and chrome bezels installed four (4) on each side of the apparatus, 2 upper and 2 lower.

Comply, YES:___ NO: __

10.10.4. ZONE C: There shall be two (2) 4"x6" flashing lights with red lenses and chrome bezels installed on the rear of the body.

Comply, YES:___ NO: __

10.11. 12V Scene Lights

10.11.1. There shall be four (4) scene lights with chrome bezels installed on the apparatus as specified below. The lights shall be 12 volt and have 13 degree down optics.

10.11.1.1. Two on each side of the fire body, one forward and one to the rear, mounted as high as possible, location to be approved by the department.

10.11.1.2. Lights to be switched on the rocker panel in the cab.

Comply, YES:___ NO: __

10.12. A rear license plate holder meeting DOT requirements will be installed in an department approved location.

Comply, YES:___ NO: __

11. SECTION XI Miscellaneous

11.1. One (1) set of NFPA compliant Ziamatic folding wheel chocks model # SAC-44 shall be supplied with the apparatus.

Comply, YES:___ NO: __

11.2. One 1 set(s) Ziamatic folding wheel chock underbody horizontal mounts model # SAC-44-H shall be furnished and installed. Location to be approved by the department.

Comply, YES:___ NO: __

11.3. A "Change Order" allowance of \$4,000.00 will be included in the bid to cover any changes made in the preconstruction meeting.

11.3.1. Any unused amount in the allowance, including deletion credits will be deducted from the final invoice.

11.4. The Manufacture will install Three (3) Department supplied antennas in the roof and run the cables to:

11.4.1.1. One to the dash area for a cellular phone.

11.4.1.2. Two to the location against the back wall where the radios will be mounted by the Department.

Comply, YES:___ NO: __

11.4.2. The Manufacture will install one Department supplied radio and controller cable from the location where the Department will mount the radios to the location where the control heads will be mounted.

Comply, YES:___ NO: __

11.5. An Aluminum box to hold a minimum of 25 flairs will be provided.

Comply, YES:___ NO: __

11.6. One set of two (2) “hose pick up hooks” will be installed on each side of the rear of the apparatus. Design and location to be approved by the Department.

Comply, YES:___ NO: __

12. SECTION XII Payment and acceptance

12.1. The Department will disburse 95% of the accepted bid cost upon delivery of the Water Tender as defined. Such disbursement will take place 30 days net from receipt of a billing invoice.

12.2. The Department will disburse the remaining 5% of the accepted bid cost upon acceptance of the unit. The apparatus is considered accepted after successful operational trials conducted by Department personnel after delivery. Such disbursement will take place 30 days net from acceptance.