STATE OF CALIFORNIA
Department of General Services - Office of Procurement
PURCHASE ORDER

Form GSOP 1-PIN (04/98)

Purchase Order No.	Rev.	Date
61980		4/15/2008

Supplier No.	Solicitation No.	Delivery Date	FOB Point	Invoice Terms
803958	56556	180 Days ARO	Destination	

INTERNATIONAL TRUCK AND ENGINE
CORP
3017 DOUGLAS BLVD
ROSEVILLE, CA 95661
Attn: ERNIE REED

Phone: 916-774-7571

Ship To:
CA ST PARKS & RECREATION
PRAIRIE CITY SVRA
13300 WHITE ROCK ROAD
RANCHO CORDOVA, CA 95742

Charge To:
PARKS & RECREATION A-50
OFF HIGHWAY VEHICLE DIV
PO BOX 942896
SACRAMENTO, CA 94296-0001

Agency Billing	Agency Purchase Estimate	Purchase Estimate	Revision
53550	E06V5001	66839	1

Agency Contact	Phone	Date Received
TIM WOOD	916-445-9982	

Item No.	Quantity	Unit	Commodity Code	Description	Unit Price	Extension

THE GENERAL PROVISIONS FOR NON-IT COMMODITIES ARE HEREBY INCORPORATED BY REFERENCE. THESE GENERAL PROVISIONS CAN BE OBTAINED BY PHONING (916) 375-4400 OR BY ACCESSING OUR WEBSITE AT:

www.documents.dgs.ca.gov/pd/modellang/GPnonIT0407.pdf

THE FOLLOWING INFORMATION IS PROVIDED FOR AGENCY USE ONLY:

PRIME CONTRACTOR: NS

APPLICATION OF DVBE INCENTIVE RESULTED IN AWARD: NO

1	2	EA	2320-009-0423-7	CHASSIS TRUCK (AS DESCRIBED)	223,020.9100	446,041.82

TRUCK, CAB & CHASSIS, 3-AXLE, ALL WHEEL DRIVE, 6 X 6, DIESEL POWERED, AUTOMATIC TRANSISSION, CONVENTIONAL CAB, 4,000 GALLON WATER TANK, IN ACCORDANCE WITH BID SPECIFICATION #2320-07BS-023 OF 21 PAGES DATED SEPTEMBER, 2007.

Brand: INTERNATIONAL
Model: PAYSTAR

PO Miscellaneous Charges and Discounts — Dollar Value
BATCH ADJUSTMENT (CHARGE) — 21.00

Total Value: 446,062.82

CALIFORNIA TIRE FEE ACT
The batch adjustment above is a fee of $1.75 per tire which is added to the purchase order to cover the costs imposed by the California Tire Fee Act (California Public Resources Code Section 42885 et. al.).

FEDERAL EXCISE TAX
A Federal Excise Tax Exemption Certificate accompanies this purchase order.

Sales and/or use tax to be extra unless noted above

Buyer	Phone	BOC Number
TIM PATTON	916-375-4412	

STATE OF CALIFORNIA

Department of General Services - Office of Procurement

PURCHASE ORDER CONTINUATION

Form GSOP 2-PIN (04/98)

Purchase Order No.	*Revision*	*Date*	*Supplier No.*	*Supplier Name*
61980		4/15/2008	803958	INTERNATIONAL TRUCK AND ENGINE

Item No.	*Quantity*	*Unit*	*Commodity Code*	*Description*	*Unit Price*	*Extension*

ATTACHMENTS

THE FOLLOWING ATTACHED DOCUMENTS ARE PART OF THIS PURCHASE ORDER:

1. SPECIFICATION #2320-07BS-023R1
2. QUESTIONNAIRE

F.O.B DESTINATION

For the purpose of this purchase order, only F.O.B. Destination will be accepted.

FEDERAL EXCISE TAX EXEMPTION

A Federal Excise Tax Exemption certificate shall is attached to this purchase order resulting from this solicitation.

WARRANTY

The manufacturer's standard new vehicle warranty shall apply and shall be honored by all franchised dealers of the vehicle within the State of California. Vehicles not placed in service immediately upon receipt shall be warranted from the date the unit is placed in service. The receiving agency shall notify the vendor in writing of the actual "in service" date.

CHANGE ORDERS :

This Purchase Order may be amended, modified, or terminated at any time by mutual agreement of the parties in writing. Change orders amending, modifying or terminating this Purchase Order, including any modifications of the compensation payable, may be issued only by a State of California, Department of General Services, Procurement Division Procurement Officer. All such change orders shall be in writing and issued only upon written concurrence of the supplier. Termination, as that term is used in this section, does not include termination for default of the supplier.

This Purchase order has been registered into the state contact and procurement registration system (https://www.scprs.dgs.ca.gov/). The registration number is 37900408298375.

State of California
Department of Parks and Recreation
OHV Division Headquarters

SPECIFICATION NUMBER: 2320-07BS-023R1

SPECIFICATION FOR: TRUCK, CAB & CHASSIS, 3-AXLE, ALL WHEEL DRIVE, 6X6

PURCHASE ESTIMATE NUMBER: PE06V5001

TECHNICAL SPECIFICATIONS

It is the intent of this specification to describe the minimum requirements for a three-axle, all wheel drive, diesel powered truck chassis with automatic transmission and conventional cab. The chassis shall be suitable for mounting a 4,000-gallon capacity tank and spray equipment. The unit shall be utilized for dust control and fire suppression within DPR and Off Highway Vehicle Units.

1. CAPACITY: The manufacturer's Gross Vehicle Weight Rating (GVWR) shall not be less than 66,000 pounds. The manufacturer's Gross Combined Weight Rating (GCWR) shall not be less than 80,000 pounds. The curb weight of the cab and chassis, complete with full capacities of fuel, water and lubricants, including the standard and specified equipment shall not be less than 16,000 pounds nor more than 22,000 pounds.

2. WHEELBASE: The wheelbase shall be a minimum of 205 inches and shall provide a clear CA (back of cab to centerline of the rear tandem axles) of 135 inches (± 3 inches). The back of the cab to the end of the frame shall be not less than 240 inches.

   NOTE: Splicing or lengthening the original frame will not be acceptable. The engine placement shall be such that an in-frame engine overhaul can be preformed without disturbing the engine, transmission, or cab mounts. This wheelbase layout is assuming non muffler/catalyst intrusion.

3. ENGINE: The engine shall be an electronic controlled, diesel fueled, 6-cylinder, in-line, four-cycle design, with a minimum displacement of 530 cubic inches. The engine shall be turbocharged and develop a minimum of 275 gross brake horsepower at not less than 2,100 RPM and a minimum gross torque of 800 ft. lbs. per SAE J1995. The engine shall have a minimum operating RPM range (RPM at peak torque to the RPM of the horsepower as specified herein) of not less than 800 RPM.

   Electronic engine parameters shall be approved by the State, and programmed by the dealer prior to inspection and delivery of the units.

   The following options or accessories shall be installed on the engine:

a. California emissions certification. The engine shall also meet all current Federal emissions requirements.

b. Replaceable, spin-on, combination-type (full flow and bypass) oil filter. Make and model as recommended by the engine manufacturer.

c. A diesel engine brake shall be supplied and installed (Ref: Jacobs or comparable). The brake used shall be approved by the engine manufacturer and the model as recommended by the brake manufacturer. There shall be an ON/OFF toggle switch and a two (2) or three (3) position toggle switch to control the number of cylinders actuated by the brake. Both switches shall be appropriately labeled and dash mounted in the cab within easy reach of the operator.

d. An air cleaner system of the correct capacity recommended by the filter manufacturer to match the demand of the engine and air compressor. The air cleaner system shall have an air restriction gauge, mounted to be easily viewable during pre-op inspections (i.e. – may be dash mounted (preferred), or mounted under the hood). The unit shall be redlined for servicing or replacement as recommended by the engine manufacturer, must hold and maintain the highest reading, and be re-settable (Ref. Filter Minder Air Restriction Gauge Model No. 3781-325, or comparable). The air cleaner connections shall be dustproof and waterproof, either tubing or hose, mounted to withstand abrasion, wear, and vibration. The top of the air cleaner assembly shall not extend above the top of the hood. The air cleaner system shall be one of the following combinations:

   (1) Two (2) dry-type replaceable paper elements consisting of an outer primary filter and an inner safety element.

   (2) A centrifuging action precleaner that removes coarse dust and moisture with a self-cleaning dust and water evacuator and a replaceable paper element filter.

   (3) A centrifuging action precleaner that removes coarse dust and moisture with a self-cleaning dust and water evacuator and two (2) dry-type replaceable paper elements consisting of an outer primary filter and an inner safety element.

e. An electric thermostatic controlled radiator fan with an air actuated clutch for engaging and disengaging the fan. The fan clutch shall be complete with a manual override mounted inside the cab. The switch for the fan clutch override shall be appropriately labeled.

f. An hourmeter, dash mounted to record the engine running time. The meter shall be a Hobbs Model 85006 solid state or comparable.

g. Electric key shutoff.

h. An adapter for a front mounted PTO (connected directly to the engine crankshaft) shall be supplied and installed. The PTO adapter shall have a bolt pattern compatible with Spicer part number 2-2-479. Adequate clearance for a 2-inch driveline under the fan, and either under or through the radiator shall be provided for the PTO.

i. Variable speed governor to maintain a constant operator set engine RPM while the PTO is in operation under varying loads. Electronic PTO throttle controls shall be supplied. There shall be an ON/OFF switch and a SET switch. The controls shall allow the operator to vary the setting of the engine RPM from idle to governed RPM. Controls shall be dash mounted and appropriately labeled.

j. An oil pressure gauge shall be mounted in the dash. The gauge shall be complete with a warning light and audible alarm for low oil pressure.

NOTE: All filters, etc. shall be located in a convenient location for serviceability and shall not interfere with other components.

4. FRAME: The frame shall be full "C" channel construction with integral front frame extensions. The RBM (Resistance Bending Moment) of the frame shall not be less than 2,400,000 in. lbs. per rail. The rails shall be fabricated from steel with a minimum yield strength of 110,000 PSI.

The integral front frame rail extensions shall extend not less than 18-inches beyond the radiator grille. Both rails of the frame extension shall have a slot, centered between the frame flanges, for routing hydraulic hoses. The slot shall be 5 inches long by 3 inches high, and centered eighteen (18) inches from the forward face of the PTO adapter (see Section 3.h.) The slots shall be finished smooth.

If required, frame rails may be notched or cut out, by the factory, to accept the engine. The RBM at the notch or cut out shall not be less than 1,500,000 in. lbs. per rail.

If a frame rail requires reinforcing, other than an additional full "C" channel (the reinforcement shall be full length, from the rear of the front spring hanger to the end of the frame), the reinforcement design shall be approved by State of California.

The right frame rail behind the cab shall not have components or accessories mounted to the outside of the rail. This will allow a clear space to mount pump and plumbing equipment.

No components, behind the cab, shall extend above the top of the frame rails.

NOTE: Flame cutting shall not be allowed on a heat treated frame.

5. TRANSMISSION: The transmission shall be an Allison MD3560, 5 speed automatic transmission or comparable. The first gear shall have a ratio of 459 to 1. The

transmission shall be complete with torque converter, automatic lock-up clutch, auxiliary oil cooler, and PTO provisions.

The electronic controls for the transmission (shift points) shall be calibrated to provide the maximum performance from the engine. The operator shall be able to lock and hold the transmission in any gear.

The cooling system for the transmission shall incorporate a water/oil heat exchanger to maintain oil at a suitable working temperature as recommended by the transmission manufacture. A transmission oil temperature gauge kit shall be supplied and installed in the dash. The gauge shall be lined at the maximum operating temperature as recommended by the manufacture and shall be back lighted in the same manner as the other dash gauges. The oil temperature sensor shall be located to monitor the oil at its maximum temperature in the system.

Transmission controls and mounting shall be in accordance with the transmission manufacture's specifications and recommendations. The transmission shall have a shift pattern of 1,2,3,4,D, N, and R (Note: Reverse shall be located toward the front of the shifter). The transmission control shall be lever type shifter, located to the right of the driver. Operation of the lever shall be forward and back (not side to side) and shall be easily accessible to the driver. The shift lever shall be lighted for nighttime operation.

Adequate clearance shall be provided for a transmission mounted PTO.

The State of California and Allison shall determine if the torque converter and axle ratio are acceptable.

Transfer Case: The transfer case shall be an air shift two-speed model. The ratio of the front output shaft to the rear output shaft shall be 1:1. The transfer case shall be rated for the maximum torque delivered through the transmission (Reference Brand: Meritor 2 speed, Model T-4213-2 or comparable).

6. COOLING SYSTEM: The unit shall be equipped with a heavy-duty radiator and de-aerator system. The radiator shall adequately cool the engine when operating at sea level and 120° F., or 7,000 feet elevation and 100° F., up 6% grades with a GCWR of 80,000 pounds. The cooling system shall be filled with a suitable anti-freeze rated for -40° F operation, and shall be compatible with water. The cooling system shall have either a 100,000 mile (minimum) warranty; or, a cooling system filter and conditioner shall be installed to filter the coolant and control corrosive action. All water hoses shall be high temperature rated, reinforced silicone rubber hoses (preferred); or, Ethylene Propylene Diene Monomer (EPDM) hoses. All hose clamps shall be rated for silicone use (or as specified by the hose manufacturer for EPDM use), and where sizes available, shall be constant torque type clamps. All plumbing in the cooling system shall be fabricated from corrosion resistant material, and shall be suitable for the use intended. The radiator shall have a low coolant level warning light visible to the operator and an audible alarm in case

the cooling liquid becomes low (Reference Brand: Robertshaw Mini-Tek, Model 813 N, or comparable).

7. EXHAUST: The exhaust muffler shall be mounted in a horizontal position between or beside the frame rails. The exhaust stack shall be mounted in a vertical position, behind or beside the passenger side of the cab, and shall be provided with a safety heat shield around the full length of the exposed pipe(s). A rain cap shall be installed on the exhaust stack. The exhaust shall be directed above and away from the cab and any accessories.

8. FRONT AXLE: The front axle, springs, brakes, wheels, and tires shall have a Gross Axle Weight Rating (GAWR) of not less than 20,000 pounds. The front axle shall be set back a minimum of 39 inches from the front foremost part of the truck, not including the front bumper. The drums shall be steel, outboard mounted, with ten studs per wheel on a bolt circle diameter of 11.25 inches.

   The bearings shall be lubricated by an oil bath, and the hubs shall have Stemco type oil seals with a transparent cap to view the oil level. The lubricant shall be the synthetic type (Ref. Emgard 50W, or comparable), with an extended change interval. The hubs shall be labeled to indicate they have been filled with a synthetic lubricant.

9. REAR TANDEM AXLES: The rear axles shall be single reduction tandem axles, both driving, with a manufacturer's minimum GAWR of 46,000 pounds for the axles, springs, brakes, wheels, and tires. Both rear axles shall be equipped with electronic traction control. The electronic traction control shall monitor wheel speed and work in conjunction with the vehicle Anti-Lock Brake System (ABS) to limit traction loss during acceleration. The gear ratio supplied shall provide a maximum road speed of 65 to 70 MPH in the highest transmission gear near the engine maximum torque-band RPM. The hubs shall have Stemco type oil seals. The drums shall be steel, outboard mounted, with ten studs per wheel on a bolt circle diameter of 11.25 inches.

   The rear axle differentials shall be filled with a synthetic type gear lubricant (Ref. Emgard 75W-90, or comparable), with an extended change interval. The fill location(s) shall be labeled to indicate the differentials have been filled with a synthetic lubricant.

10. BRAKES: Full air brakes shall be supplied with "S" cam actuation on all axles to match the axle load rating. The brakes shall be self-adjusting such as Haldex's Self Adjusting Slack Adjustor or comparable. The brake system shall be in compliance with Federal Motor Vehicle Safety Standards (FMVSS). The following shall be supplied and installed:

    a. A minimum 12 CFM capacity air compressor. Air for the compressor shall be filtered air taken from the air cleaner or air cleaner induction system.

    b. A Bendix Model AD-IP or comparable air drier.

    c. One (1) or more air accessory outlets with pressure protection valves. Any air accessories shall be fed through a pressure protection valve.

d. A parking brake, spring activated. On tandem axles, there shall be spring chambers on both axles. All spring chambers shall be anti-compounding.

e. An air brake emergency stopping system, spring activated and in compliance with FMVSS.

f. Dust Shields or backing plates, on all brakes.

g. ABS (Anti-lock Brake System). A minimum 4-channel system shall be supplied. System shall be factory installed.

11. FRONT SUSPENSION: The front suspension shall be leaf springs and shall have a rated capacity of not less than the GAWR of the front axle. The front suspension shall be complete with heavy duty shock absorbers.

12. REAR SUSPENSION: The rear suspension shall be leaf springs and equalizing beam type and have a total rated capacity of not less than the GAWR of the rear axles. The equalizing beams shall be 54 inches in length. (Ref. Hendrickson RT-460 or comparable).

13. STEERING GEAR: Steering shall be an integral valve hydraulic powered type steering with double steering boxes or single steering box and power assist ram.

The steering wheel shall have a tilt and telescopic feature.

14. WHEELS: Ten (10) steel disc-type wheels shall be furnished. The wheels shall be drop center tubeless type, designed for use with either radial or bias type tires. All wheels supplied shall have ten (10) stud holes per wheel with a bolt circle diameter of 11.25 inches (285.75mm), and a center bore diameter of 8.66 inches 220mm). Wheel widths shall be as recommended by The Tire and Rim Association Inc. and the tire manufacturer. All wheels shall be hub piloted, with a minimum of two (2) hand holes. Dual wheels shall be mounted using two-piece flange nuts. All wheels supplied on the order shall be of the same make and model (front and rear wheels may differ in model).

All wheels shall be painted white in color.

The use of spacers between the wheels or the wheel and the drum are unacceptable.

Tire chain clearance shall be provided for dual tire chains with triple side chains. Clearance shall conform to the requirements of SAE J 683.

15. TIRES: Ten (10) steel belted radial tubeless type tires, completely mounted and balanced on the wheels, shall be furnished. The front tires shall be size 425/65R22.5 or comparable. The rear tires shall be size 11R22.5, minimum Load Range 'G'. All tires shall have a highway type tread. All tires supplied on this order shall be of the same make and model (front and rear tires may differ in model).

16. CAB: The cab shall be the conventional cab design, enclosed with approved safety glass windshield, rear window, and roll down glass in the side doors. The cab shall be air suspension mounted, and have a front-tilting hood and fenders over a stationary grille.

The following items, supplementing if necessary those items already cataloged as standard cab equipment, shall be furnished and installed:

a. An air conditioner, integral with the heater, shall be furnished.

b. Multi-speed cab heater and windshield defroster.

c. Power port (preferred) or cigar lighter.

d. Right and left outside rearview mirrors, not less than 90 square inches in size. The mirrors and mounting brackets shall be factory installed (OEM) aerodynamic breakaway type; black, grey, or neutral in color. Chrome finished brackets are not acceptable.

e. A downward-viewing convex mirror, located above the passenger (right) door window.

f. Dual windshield wipers and windshield washers. Electric wipers shall be supplied with an intermittent feature.

g. Dual visors.

h. Dual arm rests.

i. Full instrumentation, including but not limited to the following: speedometer, tachometer, coolant temperature, primary and secondary air pressure, oil pressure, fuel level, and voltmeter. Warning lights shall not substitute for readable indicating instruments.

The tachometer supplied shall be the electrical type, powered by the truck's electrical system.

j. Air horn(s), cab mounted if available.

k. Fresh air ventilators or combination fresh air and recirculating ventilation system.

l. Steps and grab handles to safely enter and exit the cab on both sides.

m. Dome light. Light shall be activated by opening the driver door, the passenger door, and by a switch in the cab.

n. Floor mats, headliner and full cab insulation. Bare metal or fiber board will not be considered as insulation.

o. Driver's and Passenger's air controlled bucket seat (Ref. Bostrom, Model Air-915 or National Cush-N-Aire, Exec Model 195, or comparable) with high back to support head and shoulders, and a right (towards center of cab) hinged arm rest. Seat cover shall be cloth or vinyl with a cloth insert.

p. Seat belts installed for driver and passenger(s). Both lap and shoulder strap belts shall be installed.

q. Cab interior shall be a brown or grey color, or as deemed acceptable by the State.

r. Locking cab, with all locks keyed alike, and three (3) complete sets of keys per unit.

s. Standard manufacturer's AM/FM radio, complete with speakers and antenna.

t. Halogen headlamps.

NOTE: All gauges shall be permanently labeled to identify their functions with a simple and readable lettering style or equivalent international symbols. All gauges shall be panel mounted, be consistent in size, color scheme, pointer design, and label style and size. All gauges and instrumentation shall be adequately illuminated for nighttime operation. Gauges mounted below the dash are unacceptable. All gauges shall be located to be easily read by the operator.

17. FUEL CAPACITY: The total fuel capacity shall be not less than 100 gallons. The fuel system shall consist of two (2) metal safety-type tanks, mounted on each side of the chassis, under the cab. The fuel tanks shall have not less than 15 inches clearance from the bottom of the tanks to the ground. Each tank shall have a filler opening. Each tank shall have fuel supply and return lines and shall draw fuel proportionally. In general, the fuel system shall be designed such that fuel may be drawn and returned from either tank or from both tanks. Each tank shall be equipped with a bottom drain.

18. MISCELLANEOUS: The following equipment shall be furnished and installed:

a. Standard front bumper (if available, a straight bumper shall be furnished).

b. Glad hands

c. Tow hook(s) or pin(s) mounted on the front for towing the vehicle empty.

19. ELECTRICAL EQUIPMENT: Minimum electrical equipment shall comply with all Federal Motor Vehicle Safety Standards and State of California Department of Motor Vehicle regulations. The tail, stop, and directional signal lamps may be in combination, and the wires to these lamps shall be in a loom or conduit. A minimum 130-amp alternator with a

matching regulator shall be furnished. The battery system rating shall be not less than 1,825 CCA (cold cranking amps) at 0° F. and a reserve capacity of not less than 425 minutes at 25 amps and 80° F. Ratings are as established by BCI (Battery Council International) and SAE. The electrical operational system shall be 12-volts. Side terminal batteries are not acceptable.

Re-settable circuit breakers shall be supplied in lieu of fuses where available.

20. BODY AND HARDWARE:

21. TANK:

a. Capacity – 4,000 gallons (fill capacity).

b. Shape – elliptical around longitudinal axis.

c. Approximate Outside Dimensions – 95" X 63" X 196" L.

d. A.S.T.M. 304-2B

e. Shell – 7 gauge S.S

f. Heads – 7 gauge S.S, roll flange and semi-dished, welded 100% inside and out.

g. Surge baffles – Two each of 7-gauge S.S, roll flanged, semi-dished baffles equally spaced. Baffle to have a 19" flanged crawl hole, top and bottoms Equalizer cutouts. In addition, two longitudinal baffles shall be installed

h. Manhole – 20" diameter manhole with cam latch, located forward of the center baffle for easy access.

i. Ladder – ¾" pipe ladder with non-skid steps from bottom rear of tank assembly, up rear of tank, with two top tank handholds.

j. Catwalk – Non–skid path from ladder to fill dome and hydraulic fill cap.

k. Water level gauge – Tube type, with bottom shut off valve, two each, one located on rear head and one located on front head of tank.

l. Tank frame – Two tank-end saddles of ½"x4"x48" steel, two tank end bolster of ½"x8"x48" steel, two full length 7-gauge x 12" steel bearing plates, skip-welded 50% longitudinally to bottom of tank and two U-formed channel tank sills of 3/16" steel plate welded 50% to the bearing plates.

22. WATER PUMP:

a. Centrifugal pump rated an 850 GPM and 80-PSI static, (reference "BERLELEY" model B3ZRM, 4"x3" CCW Rotation).

b. Pump to be left side mounted, forward of rear axles on rugged framework attached to left tank sill. The pump shall be protected from damage during operation.

23. TANK MOUNTING:

a. Shocks pads – Six ½" x 2 1/2" x 24" neoprene pads attached to tank sills (three per sill) between tank sills and truck frame.

b. Tank center of gravity to be 30" forward of rear axle.

c. Rear mounts – 4" stainless steel channels (1 per side) welded to sills and bolted to frame rails with two each 5/8" grade 8 machine bolts.

d. Front mounts – Spring loaded telescopic mounts (two each side) welded to tank sills and bolted to truck frame rails with two each 5/8" grade 8 machine bolts.

24. HYDRAULIC WATER PUMP DRIVE SYSTEM:

a. System parameters – Hydraulic system to provide the maximum water pump speed of 2,200 RPM at not less than 1,250 RPM, truck engine speed under maximum water pump load condition. At truck engine speed of 1,250 RPM, the hydraulic pump will be capable of producing not less than 22 GPM oil flow at 4,000-PSI pressure. Water system will produce maximum water pump output at engine speeds of 1,200 to 2,400 RPM.

b. Hydraulic motor – 1.285 CID, 4500 PSI gear motor, direct coupled to water pump with 13 tooth splined two bolt SAE-B hydraulic motor adapter.

c. Hydraulic pump – 4.33-CID pressure and flow compensated load-sensing variable displacement 4,000-PSI axial piston pump, two (2) bolt SAE-C foot mounted between truck front frame extension. Pump to be connected to truck engine crankshaft PTO adapter with 2" x .083" wall tubular drive shaft with U-joins both ends. Drive shaft to pass below the truck radiator and be shrouded with a safety guard.

d. Hydraulic throttle – Cab mounted dial knob to control electronic signal to variable displacement proportional control valve in hydraulic pressure line to provide full range speed control) 0 to 2,500 RPN).

e. Hydraulic governor – ¾" needle valve with lockable micrometer adjustment, in hydraulic pressure line, to provide governed control of maximum water pump speed at 2,500 RPM.

f. Hydraulic oil reservoir – Forty gallon capacity, plus 10% outage, 7-gauge stainless reservoir tank to inside bottom of front compartment of water tank. Reservoir to have 1½" suction and 1" return pipe fittings protruding through the bottom of the water tank; 2" 0 fill pipe through the top of the water tank; 2" lockable pressure and vacuum relieving fill cap; 1" 0 oil level sight glass on out side of tan front compartment; individual shut-off valves on suction and return sides of reservoir. All fittings welded and pressure tested. Water in truck tank to provide heat dissipation from hydraulic oil reservoir.

g. Suction plumbing – 1 ½" SAE 100R1 suction hose and fittings from reservoir outlet to hydraulic pump inlet port.

h. Pressure plumbing – 3/4" SAE 100R12 pressure hose and fittings from hydraulic pump pressure port to hydraulic throttle inlet port. ¾" SAE 100R12 pressure hose and fittings from hydraulic throttle outlet port to hydraulic motor inlet port.

i. Compensator plumbing – ¼" SAE-100R1 pressure hose and fittings from ¾" hydraulic pressure line to hydraulic pump compensator signal port.

j. Case drain plumbing – ½" SAE 100R1 hose and fittings from hydraulic pump case drain pot to hydraulic oil filter inlet port.

k. Return plumbing – 1" SAE 100R1 hose fittings from hydraulic motor outlet port to hydraulic oil reservoir.

l. Hydraulic oil filter – 50 GPM, 10 micron, 200 PSI rated spin-on, throw–away cartridge return line oil filter with 25 PSI internal bypass valve, mounted in hydraulic return plumbing.

m. Hydraulic oil – Forty gallon of ISO grade #46.

25. <u>WATER PUMPING:</u>

a. Piping – Schedule 40 stainless pipe with welded joint and bolt joints, rubber U-channel gasket flex couplings and low point drains (hoses and pipe fittings not acceptable).

b. Mounting – All plumbing shall be above truck frame and mounted to tank assembly. Suction plumbing – 4" inch pipe with antivortex baffles from tank bottom, 6" diameter suction sump.

c. Pressure plumbing – 3" and 2" pipe from pump to manifold and from manifold to sprays. 1 1/2 " pipe from pump manifold to hose reel.

d. Relief valve – Pressure plumbing to be equipped with one 21/2" x 5" pneumatic operated adjustable water pressure control valve with bypass to water tank.

26. WATER SPRAYS:

a. Operation – Normally open, spring to hold closed till water pump produces 7-10 PSI, pneumatic closed.

b. Fan sprays – Four each with 2 piece fan heads with splash plates for water spray angle and volume adjustment. Locations: one each left, right side of the rear tank head, one each left and right side of the front bumper.

c. Side sprays – one (1) each 20 degree flusher nozzles with 3-planes of adjustment. Location, left side of tank between the rear drivers and the cab of the chassis. Both side spray assemblies are to be electrical actuated from the cab, 45 degrees of movement above and below the horizon, 90 degrees of total travel.

d. Water Valves – The 3"x 21/2" universal water valves that control the above individual flushing assemblies shall have stainless steel valve seals and vulcanized neoprene faced valve heads. (Reference Diamond Bilt model UNC-NOP)

e. Hose reel – Electric rewind hose reel with 100' of 1" general-purpose hose and adjustable fog stream nozzle. Located: right side of tank between the rear drivers and the cab.

f. Pressure outlet – Three 2 ½" NST pressure outlet located on right and lift side between front head of tank and rear fender, and one located on, or below the front bumper not to impact the front mounted monitor. A 2 ½" brass ball valve with a 2 ½" NST & 1 ½" brass valve fittings with brass cap and chain shall be installed on each outlet. Customers to specify location.

g. Gravity fan spray – 8" x 180-degree dump fan spray with adjustable slip collar. Located at bottom rear of tank behind rear drivers.

27. LOADING SYSTEM:

a. Hydrant fill – 2 ½" anti-siphon with 2 ½" NPTM thread located at the right rear corner of the water tank. 8" diameter tank inlet to have a counter balance anti-splash-swing checks plate.

b. Draft loading of water tank through water pump by means of the cab controlled pneumatic operated suction loading valve; eight (8) bolt, flange mounted quarter turn butterfly valves, one (1) 4" valve and one (1) 3" valve; one 30' suction hose with aluminum cam and groove connections and one hose-end strainer. A 3" foot valve, 300 gallon priming reservoir system with appropriate valving shall be installed.

c. Loading hose to be transported via hose 8 J-Brackets. Located on both sides of the tank above the fenders.

28. AIR CONTROL SYSTEM:

a. Operation – Diaphragm in the water valves, actuated by the truck brake system air pressure, through individual cab mounted control valves and ¼" air tubing to each individual water valve. Release of air by the control valve and water pressure from the water pump allows the spring and diaphragm to open the spray valves instantly.

b. Brake air pressure protection – Air pressure protection valve installed on the truck brake air reservoir tank (preset at 70 PSI cutoff pressure) to prevent truck brake loss in case of water system air control failure.

29. MASTER CONTROL CONSOLE:

a. Construction and location – Master control console located to the right of the driver's seat in the truck cab. Mounting height shall not be lower than the driver's seat. Console lid to be removable for easy service and maintenance of console components.

b. Controls- Master console to include the following:

1. System "power" indicator
2. Master spray switch
3. Water pump "speed control" using an electrical proportional control valve
4. Water "pressure" gauge (fluid filled, 0 – 160 PSI)
5. Gravity dump valve – on/off
6. Water pressure "regulator"
7. Hose reel and pressure off control switch
8. Six individual water "spray on/off" and one "loading on/off" control switch, with aluminum switch cover plates engraved to indicate the valve location, ie. LEFT REAR, RIGHT REAR, LEFT SIDE, RIGHT SIDE, LIFT FRONT, RIGHT FRONT.
9. Actuator control switch for Left and Right side sprays.
10. Monitor – Control console with joystick control Separate from main console with 12' pigtail for easy operation out side cab.

30. MISCELLANEOUS:

a. Fenders – straight 45 degree sloping tandem, box type of 12 gauge steel with 5" rub rails, front and rear mud flaps.

b. A 34" X 24" X 10" deep stainless tool box to be mounted between the frame rails, located on the rear of the truck.

c. Six Halogen powered adjustable work lights, all to be mounted on top of water tank, two forward mounted, two middle mounted and two rear mounted.

d. Lighting – Shall conform to FMVSS #180. Clearance and side marker laps shall be rubber mounted in fender sockets. Three identification lamps shall be mounted at rear top center of water tank. An amber light shall be provided in front and rear of tank. Wiring shall be in conduit and loom.

e. Low point drain valves to be installed in all water plumbing and in water pump.

f. Testing – Water tank to be static air pressure tested at 4 PSI. Hydraulic, water plumbing, spraying and loading systems to be performance tested at maximum design operating pressures.

g. Tank exterior – painted white

h. Tank interior – Stainless finish, no coating required

i. Monitor – 2" inlet, 2" discharge, adjustable fog-stream nozzle 350 GPM, 12-VDC electrically actuated from the cab of the truck, and with remote operation capabilities with vertical travel of 150 degrees horizontal travel of 180 degrees or 334 degrees. On/Off to be fire rated electronically actuated 2" ball valve. Control shall be joy stick

j. Bumper rear – 8" x 8.5"x 95" structural steel channel, bumper mounted to rear frame rails with two tow hooks. Rear cross-member and 40 ton air pintle hitch mounted. The rear cross-member shall have two ½" d-rings and a glad hand for service and emergency air.

k. Service manual – One-operation, maintenance and parts manuals covering all truck body equipment shall be provided at the time of delivery.

31. PAINT: The cab, hood, and fenders shall be finish coated with lead-free Winter White color. The finish coat shall be free from runs, drips, sags, etc., and shall be evenly applied to provide a gloss finish. The finish or top coat shall be compatible for re-coat or touch-up with lead-free DuPont Imron 5000 (#N6431HN H, Winter White), polyurethane enamel. Other components may be finished according to the factory standard finish.

32. NOISE: Noise emitted by each unit delivered in compliance with these specifications shall comply with all California and Federal laws or regulations pertaining to maximum allowable emission of noise, both inside and outside the operator's cab, at the time of delivery of the unit.

Units delivered will be sample tested by State personnel for noise level and must meet the noise requirements before the unit will be accepted.

ADMINISTRATIVE REQUIREMENTS

1. WARRANTY: The truck cab and chassis, including but not limited to the engine, drive train, suspension, electrical system, all modifications made to the unit prior to delivery, etc., and any optional accessory, shall be free from defects in workmanship and materials and be covered (parts and labor) under warranty for one (1) year or 12,000 miles, whichever occurs first, following the date the State puts the unit into service.

2. DELIVERY: Inspection, delivery, and final acceptance of all units on the Purchase Order shall be within 180 calendar days after the Purchase Order date. Failure of any units to comply with the specifications by the final delivery date may place the supplier in default and may be grounds for the State to invoke Paragraph 26 of the General Provisions, Rights and Remedies of the State for Default. The Department of General Services, Procurement Division will be notified at such time.

   Acceptance of delivery or placement in operation of any equipment shall not release the manufacturer from liability for faulty design, workmanship, or materials appearing, even after final payment has been made.

   The vehicle shall be delivered to:

   Prairie City SVRA
   13300 White Road
   Rancho Cordova, CA 95742

   Attn: Terry Harper, 916-445-9982

3. LATE DELIVERY CHARGES: The parties to this agreement acknowledge that the State shall incur actual damages should the supplier fail to perform the work as called out in the contract and specification on the dates set forth herein. The parties, therefore, have agreed to late delivery charges in the amount of $60.00 per unit per work day.

   Workdays are Monday through Friday inclusive, except State holidays observed Monday through Friday inclusive.

   The parties also agree that the amount specified is not unreasonable nor punitive in nature because both parties have carefully considered the amount specified and believe it to be a reasonable estimate, and not excessive at the time the purchase order is entered into.

   It is, therefore agreed, that the supplier will pay the State of California the sum of $60.00 per unit per work day (as stated above) for each work day the work remains uncompleted or unaccepted by the State, provided the total late delivery charges assessed against supplier shall in no event exceed twenty-five percent (25%) of the total value of the entire order, and the supplier agrees to pay said damages as herein provided. In the event such damages are not paid, the supplier agrees that the State may deduct the amount thereof from any monies due or that may become due said supplier.

4. QUESTIONNAIRE: The attached questionnaire shall be filled out and will become a part of each bid submitted. Any portion of the questionnaire which is not applicable to the equipment shall be shown as N/A (not applicable).

   Unless otherwise stated in the purchase order, the requirements of the written purchase order specification shall have precedence over the completed questionnaire; and the completed questionnaire shall have precedence over standard factory specifications or literature.

5. GENERAL: Each unit and any accessory shall be delivered completely assembled and ready to operate.

   The component parts of the unit shall be new and of proper size and design to safely withstand the maximum stresses imposed.

   The manufacturer's torque rating of each driven part shall be equal to or exceed the torque rating of its driving member.

   All equipment and accessories cataloged as standard, unless superseded by these specifications, are to be furnished and included in purchase price of this unit.

   Bids will be considered only on equipment represented by a supplier capable of providing adequate repair parts, warranty, technical assistance, and training in the United States as of the bid opening date. The supplier shall be capable of supplying repair parts to Caltrans within five (5) working days after a purchase order for parts is submitted to the supplier, whether by phone, fax, or mail. Bidders may be required to provide documentation supporting this requirement prior to award of the contract.

   Suppliers shall be the equipment manufacturer, an authorized factory dealer or representative thereof, or shall have authorization from the equipment manufacturer or authorized factory dealer to solicit the equipment bid. The bidder shall be capable of providing parts, service, warranty, and training for the equipment bid as specified herein. If the bidder cannot provide these items for the equipment bid, the equipment manufacturer or an authorized factory dealer may provide these items for the bidder. Upon request, the signed agreement between the bidder and the equipment manufacturer or authorized factory dealer, stating who will be responsible for providing parts, service, warranty, and training for the equipment bid, shall be provided to the State.

   Bids will not be considered if supplier's designated f.o.b. delivery destination is other than the delivery address stated in the invitation to bid.

   Only new models in current production, which are cataloged by the manufacturer and for which manufacturer's published literature and printed specifications are currently available, will be considered. Special options may be included only when recommended by the manufacturer of the unit and approved by the State.

All equipment is to be factory installed. If the equipment/options are not available factory installed, dealer installed equipment/options may be acceptable. The bidder is to specify those items which will be dealer installed. "Caravan" or "drive-away" deliveries from points outside the State of California will not be accepted.

The State reserves the right to amend the contract, up to 10% of the Purchase Order amount, to cover deficiencies or inconsistencies within or between the drawings and the technical specifications. These amendments shall cover the cost of any materials involved, and/or the standard shop labor rate for modification or installation.

The State reserves the right to purchase a minimum of one (1) unit, or up to an additional 25% of the quantity on the Purchase order, at bid prices, for State Agencies and California Local Government Agencies. Orders for such additional units shall be placed within 180 days of bid award.

6. CHANGE ORDERS: This contract may be amended, modified or terminated at any time by mutual agreement of the parties. Change orders amending, modifying, or terminating the contract including any modification of the compensation payable, may be issued only by the State Procurement Officer and shall be in writing. Termination, as that term is used in this section, does not include termination for default of the supplier.

7. VEHICLE REGISTRATION DOCUMENTS REQUIRED

The original dealer's Report of Sale shall be furnished by California licensed dealers at the time of delivery of each unit covered by these specifications.

If the supplier is not a registered California dealer, a Manufacturer's Statement of Origin and original Bill of Sale on the vendor's letterhead shall be supplied for each unit in lieu of a dealer's Report of Sale. Statement of origin shall be properly endorsed to indicate transfer of ownership to the Department of Parks and Recreation.

Vendor shall furnish a weight slip from a certified weighmaster for each unit at time of delivery.

Each unit shall be registered as follows:

Department of Parks and Recreation
1416 9th St.
Sacramento, CA 94236-000

8. WORKMANSHIP: The equipment and any accessories shall be a product of good workmanship and shall be free from any defects that will affect their appearance or serviceability.

9. OPERATOR'S AND LUBE INSTRUCTIONS: One set of standard operator's and lubrication instructions shall be supplied with each unit.

10. SAFETY: The entire unit and accessories shall comply to the applicable provisions of the California Vehicle Code, the Safety Orders of the Division of Industrial Relations, and all Federal regulations in effect at the time of manufacture.

11. INSPECTIONS

Pre-Delivery Inspection: Prior to final shipment to the delivery destination as indicated on the purchase order, each unit will be inspected to determine compliance with this specification. The inspection shall be held at the supplier's place of business in California. This inspection trip shall be State-financed at no cost to the supplier. Each unit shall be serviced, washed, and ready for delivery. Additionally, where applicable, the supplier shall complete and sign the supplier pre-delivery inspection (PDI) form and the supplier shall note the appropriate Purchase Order Number and Line Item on each form.

The Office of Fleet Administration at (916) 654-0727 shall conduct the inspection when a unit is complete and ready for inspection.

A written inspection report will be submitted to the supplier indicating that the unit(s) is either acceptable or not acceptable. If a unit is determined unacceptable, the inspection report will list those deficiencies that must be corrected to make the unit acceptable. All deficiencies must be corrected prior to final shipment. If necessary, State personnel will re-inspect each unit to determine compliance.

Once a unit is determined to be acceptable, the supplier can commence final shipment of said unit.

Final Inspection: After final shipment of a unit, the State will conduct a final inspection to check for shipping damage, determine that all deficiencies have been corrected, and verify receipt of all required documents and manuals.

The supplier must correct any deficiencies noted at the final inspection before the unit will be considered for final acceptance and payment. Delivered units will not be considered for final acceptance and payment until all required documents (e.g., invoice, vehicle registration documents, parts books, operator's manuals, service manuals, lubrication instructions and charts, warranty information, certifications, questionnaires, etc.) are received by the Department of Parks and Recreation

Within seven day after the vendor first received notice that the unit does not meet specifications, whether written or oral, the vendor shall remove said item from the State's facilities. If the vendor fails to remove said item from the State's facilities within the specified period, the State may forward said item to the vendor by common carrier at the vendor's expense and risk.

Acceptance of delivery or placement in operation of any unit shall not release the manufacturer from liability for faulty design, workmanship, or materials appearing, even after final payment has been made.

QUESTIONNAIRE FOR DIESEL TRUCK CAB AND CHASSIS (with Tank)

NOTE: This questionnaire shall become part of this bid and take precedence over any accompanying literature. The bidder must complete the following in full.

Make International
Model PAYSTAR

1. **Capacity:**
   - Manufacturer GVWR 67,000
   - Manufacturer GCWR 80,000
   - Total Curb Weight 20,346 CAB + Chassis only

2. **Wheelbase:**
   - Wheelbase 205 In.
   - Cab to Axle 135 In.
   - Back of Cab to Rear of Frame 240 In.

3. **Engine:**
   - Make Cummins
   - Model ISM
   - Displacement 661 Cu in.
   - Gross HP 310 @ 2100 RPM
   - Gross Torque 1150 @ 1200 RPM

4. **Frame:**
   - Minimum RBM 2,457,000 Lbs. In./Rail
   - Minimum RBM at Engine Notch 1,719,900 Lbs. In./Rail
   - Section Modulus 22.34 In^3
   - Yield Strength 110,000 PSI

5. **Transmission – Specification:**
   - Manufacturer ALLISON
   - Model 4500 RDS P
   - Lubricant change interval 350,000 months/miles

6. **Cooling System:**
   - Coolant w/ 100,000 mile (min.) warranty **or** filter and conditioner? Yes
     - Coolant product name Schell
     - Coolant change interval 150,000 months/miles

7. **Exhaust:**
   Number of Mufflers 1
   Vertical or Horizontal Horizontal
   Number of Stacks 1
   Vertical or Horizontal VERTICAL

8. **Front Axle:**
   Make/Model Meritor RF21-160
   Manufacturer Rating 21,000 Lbs.
   Set-Back? (Yes/No) Yes Distance 52 In.
   GAWR 21,000 Lbs.
   Hubs filled with synthetic gear lubricant? (y/n) Y
   Lubricant product name EMGard 50
   Lubricant change interval 100,000 months/miles
   Increased product warranty w/ syn. Lube? (y/n) ND months/miles

9. **Rear Axle:**
   Make/Model Meritor RT-46-160
   Mfg Rating 46000 Lbs.
   Ratio 4.89 Single or Two Speed Single
   Electronic Traction Control? (Yes/No) Yes
   Both Axles? (Yes/No) Yes
   GAWR 46000 Lbs.
   Differentials filled with synthetic gear lubricant? (y/n) Yes
   Lubricant product name EMGard 75W-90
   Lubricant change interval 100,000 months/miles
   Increased product warranty w/ syn. Lube? (y/n) ND months/miles

8. **Rear Suspension:**
   Spring Type:
   Make/Model Hendrickson HMX-460
   Capacity at ground 46,000

11. **Air Brakes:**
    Type (S-cam?) S-CAM

12. **Wheels:**

	Front	Rear
Rim Size	22.5	22.5

13. **Tires:**

	Front	Rear
Size/Load Range	425/65R22.5 - L	11 R22.5 - G
Manufacturer/Model	Goodyear - G286	Goodyear - G 338

NOTE: THIS QUESTIONNAIRE SHALL BECOME PART OF THIS BID AND TAKE PRECEDENT OVER ACCOMPANYING LITERATURE. THE BIDDER MUST COMPLETE THE FOLLOWING IN FULL.

International Truck & Engine	E Reed
Company	Signature
3017 Douglas Blvd Suite 300	ERNIE Reed - Regional Account Execut
Street Address	Name and Title
Roseville, CA 95661	916 - 774-7571
City, State, Zip Code	Telephone Number

LIST ANY ADDITIONAL INFORMATION OR EXCEPTIONS TO THE SPECIFICATIONS BELOW

TANK to be painted