ORDINANCE NO. 89-64 AC CMS

AN ORDINANCE ACCEPTING THE BID OF SUTPHEN EQUIPMENT COMPANY OF COLUMBUS, OHIO, FOR THE FURNISHING OF A FIREPUMPER TRUCK FOR THE CITY OF OBERLIN, OHIO

BE IT ORDAINED by the Council of the City of Oberlin, County of Lorain, State of Ohio, a majority of all members elected thereto concurring:

SECTION 1. That the bid of Sutphen Equipment Company of Columbus, Ohio, for the furnishing of a firepumper truck for the City of Oberlin, Ohio, is hereby accepted, said bid being in an amount of $204,916 less a discount of $5,997, a copy of said bid being attached hereto as "Exhibit A" and incorporated herein by reference.

SECTION 2. That the City Manager is hereby authorized and directed to enter into a contract accordingly, and said monies are hereby appropriated, including an additional $13,919 from the income tax fund.

SECTION 3. It is hereby found and determined that all formal actions of this Council concerning or relating to the adoption of this ordinance were adopted in an open meeting of the Council and that all deliberations of this Council and of any of its committees that resulted in such formal action were in meetings open to the public in compliance with all legal requirements, including Section 121.22 of the Ohio Revised Code.

SECTION 4. That this ordinance shall take effect at the earliest date allowed by law.

PASSED: 1st Reading- July 10, 1989 (Emergency)
2nd Reading-
3rd Reading-

ATTEST:

Julia A. Simonson
Clerk of Council

Chairman of Council

POSTED: July 12, 1989

EFFECTIVE DATE: July 10, 1989

ORDINANCE NO. 89-64 AC CMS EXHIBIT A

Sutphen Since 1890

CORPORATION

PROPOSAL

TO THE DATE JUNE 22, 1989

CITY OF OBERLIN

c/o CITY MANAGER

85 SOUTH MAIN STREET

OBERLIN, OHIO 44074

GENTLEMEN:

We hereby propose and agree to furnish the following fire fighting equipment upon your acceptance of this proposal:

ONE (1) SUTPHEN CUSTOM MODEL HS-1500, CLASS A, TRIPLE COMBINATION PUMPER COMPLETE AS SPECIFIED FOR THE TOTAL SUM OF $199,919.00

Which will be manufactured completely in accordance to the following proposal and delivered about

12 months (240 working days) after approval of contract, and delivery of chassis, subject to delays from all causes beyond our control. Unless accepted within 60 days from date, the right is reserved to withdraw this proposition.

Respectfully submitted,

SUTPHEN CORPORATION
7000 Columbus-Marysville-Post Office, Amlin Ohio

By Sales Representative

DANIEL A. HERB

SUTPHEN CUSTOM PUMPER CHASSIS

The chassis is engineered and custom-built by the Sutphen Corporation and specifically designed for use with our apparatus to strict standards of quality and service. There are no divided responsibilities in the production of our custom pumper as the chassis and body are completely manufactured in our plant.

WHEELBASE: 175" CAB-TO-AXLE: 120" G.V.W.R.: 38,400

CAB DESIGN: 94" wide 5 person, 2 door, custom cab forward mounted at six (6) points on Lord cab mounts. Cab construction shall be aluminum, with a two-piece curved tinted windshield 2700 sq. in. Cab doors with manual crank windows. Large windows each side of canopy and double sliding window between cab and canopy 1170 sq. in. Stainless steel air intake grille (one (1) each side), five (5) automatic adjusting and retractable seatbelts, access panel in rear canopy roof removable for engine removal. Aluminum treadplate cab floor. Full length doors with 9" deep x 26" wide cab entry step area, polished stainless steel full length piano hinges on cab doors with a double seal around the doors. A glove box 7" x 24" x 4" and a map or notebook holder in front of officer's seat. Window rubber to have chrome bead insert. All windows shall be tinted. Three (3) map dome lights and two (2) canopy dome lights. Full width fiberglass removable wheelwell liners with a back wall. Polished stainless steel fenders provided.

COMPONENT LISTING:

AIR HORNS: Two (2) #1510 Grover Stuttertone (24" long) chrome plated rectangular horns. One (1) mounted each side of cab recessed in front of cab controlled by driver's left foot switch

ALTERNATOR: 160 amp Leece Neville, Model 2800JB dual 1/2" belt driven. 130 amp output at idle.

AXLES: (Front) Rockwell Model FG941, capacity: 14,600 lbs. with Stemco oil seals and readout gauges.

(Rear) Rockwell Model RS-24-160, capacity: 24,000 lbs. with Stemco oil seals.

Rear Axle Ratio: 4.33 No-Spin: -----

BATTERIES: Dual 240 amp negative ground system with (2) 12 volt Exide 8D batteries. Cranking performance 1150 amp @ 0°F. Cole Hersee M714 4-position master switch mounted near right side of driver's seat with pilot lights. Both batteries mounted at right jumpseat area in a removable aluminum box with hinged 3/16" aluminum treadplate lid for cell inspection, fully vented. Circuit breaker and flasher box located at officers right side, lower firewall with removable cover and schematic provided with notebook holder on outside cover. Two (2) battery charging plugs provided.

Battery cable terminals are soldered dipped, color coded and labelled on heat shrink tubing and a rubber boot, color coded, protects the terminal from corrosion. A special acid absorbing blanket will be provided over each battery.

BRAKES: (Front) Rockwell ADB1540 (80 sq. in.)

~~Cam~~XXXXXXXXXXXXXXX Disc yes

(Rear) Rockwell ADB1560 (120 sq. in.)

~~Cam~~XXXXXXXXXXXXXX Disc yes

TOTAL BRAKE SURFACE- 200 sq. in.

PARKING BRAKE: Spring brake actuated from dash (rear only). 16.1 CFM air compressor lubricated from engine oil and cooled by engine cooling system is provided. Direct gear driven at rear of engine. Four (4) supply tanks with AD-4 Bendix air dryer with automatic moisture ejector with quick build-up design. Total air tank capacity 4622 in. The brake hoses from frame to axle have spring guards on both ends as they move with the suspension. All main brake lines are color coded and in high temperature rated split plastic looms. All fittings for brake system plumbing are brass; no steel fittings. Full air system meeting all current FMVSS-121 standards. Brake pedal to be E-7 type with all brake switches inside the cab to eliminate exposure to the elements. Accessories plumbed from air system to go through a PR3 valve and to a manifold so if accessories fail it will not interfere with air brake system. A Schrader fill valve shall be mounted on wet tank behind bumper under the cab.

BRAKE OPTIONS: Air valve with inlet/outlet at driver's door with a 25 ft. air line and air tire chuck.

BUMPER: 12" stainless steel wrap-around extended bumper with aluminum treadplate cab skirt between bumper and cab. 1/4" X 10" x 48" steel plate reinforced. Reinforced plate shall be attached to four-sided boxed lower frame rail extention plates for superior safety protection. Bumper extension shall be approximately 9".

Extended bumper with hose trough for front suction: YES x ~~NO~~XXXXXX

Three (3) wells provided.

DRIVE LINE: Spicer 1710HD series, bearing cap type. Drive shaft tubing is 4.095 O.D. X .180 wall thickness with dual grease fittings in universal joints.

ENGINE: ~~Detroit Diesel~~ CUMMINS NTC 350

(350 H.P. @ 2100 RPM), 1175 lb. ft. torque @ 1300

R.P.M. 855 cu. in. displacement.

SUTPHEN

EXHAUST SYSTEM: Constructed from heavy duty truck components manufactured by Riker Mfg. All the exhaust tubing is aluminized. The exhaust outlet is directed to the right side with a chrome tip deflector to minimize noise. A 30" piece of stainless steel flex tube is used to isolate the exhaust system from engine. The muffler is a double wrapped aluminized type meeting the engine manufacturer's specifications and meets the noise level tests. A fiberglass heat absorbing sleeve is used on the exhaust pipe in the engine compartment area to keep the heat down and to protect hands when checking oil or adding oil in the engine compartment.

FRAME: 3/8" thick formed channel 10" x 3 1/2" flange, section modulus 34.68 $in.^3$, resisting bending moment 1,734,000 in./lbs. Rear axle area on frame has double liner bolted to frame to provide additional strength to high stress area. There are six (6) crossmembers, 3/8" thick, formed channels with formed gussetted ends at frame rail attachment. Aircraft Huck bolt type fasteners are used on all permanently attached brackets to the frame to eliminate the need for bolt re-torquing. Lifetime warranty barring accident or abuse.

FUEL TANK: A 50 gallon diesel fuel tank is installed outside the left frame rail, behind the cab. The tank is removable by six (6) bolted connections. One (1) tank baffle is used. The tank is enclosed by a 3/8" thick aluminum treadplate step. A hinged 3/16" heavy aluminum treadplate door is furnished on top for access to a 2" fill port, pick-up tube and gauge sending unit. Primary filter is Racor fuel filter/water separator. A small removable hood shall be provided for ease of access to the filter. All fuel lines are covered in high temperature rated split plastic loom. All fuel lines are extended to front of engine for access to fuel lines.

HANDRAILS: Four (4) 24" long 1 1/4" diameter, stainless steel rails (one (1) each side at cab and canopy). One (1) 12" long x 1 1/4" diameter stainless steel rail below glove compartment on dash.

HEATER AND DEFROSTER: 48,000 BTU SGM heater with 3-speed fan. Two (2) adjustable defroster louvers on dash. Lighted control panel for heater and defroster on dash. Heater located in center forward of cab and of the fresh air design thus drawing outside air to maximize the defroster's ability to defog the windows. Two (2) shutoff valves for heater shall be supplied.

ENGINE HOOD: Bevelled aluminum treadplate engine hood is provided with three (3) large removable doors. Inspection door for radiator fill and engine and transmission dipstick. The hood is lined with heat and sound deadening insulation. Designed to provide maximum room in jump seat area. Two (2) underhood lights on separate switches are provided. The air inlet is 7" polished stainless steel and designed to bring in fresh air from above the hood. Transmission and engine dipsticks are color coded and rubber coated for easy checking of fluid levels while hot. A small door is provided on the right side of hood for access to dipsticks.

INSTRUMENT PANEL: Panel is a deluxe type with a non-glare black and wood finish. The panel is hinged to tilt outward. The gauges and controls have back light function identification. All main gauges can be seen through the center of the steering wheel.

Instruments to include: tachometer, speedometer/odometer, hourmeter, off-on ignition switch (no key), rapid build-up gauges and reserve air system gauge, low air warning light with buzzer. Engine temperature gauge, engine oil pressure gauge, voltmeter, ammeter, fuel gauge, transmission temperature gauge, two (2) engine start switches. Indicator lights are as follows: hi-beam, ignition, turnsignal, open door and pump in-gear light. Headlight switch, 14 illuminated rocker switches with back light identification under rocker. Twenty-one (21) fixed thermo reset circuit breakers. All wiring is XL high temperature crosslink and is 10 gauge, 12 gauge or 14 gauge depending on load. All wiring is color coded and every 4" of wire length is function stamped and number stamped. All wire is high temperature rated, covered with split plastic loom for access to wire for trouble shooting. All electrical connections and main connectors throughout chassis are treated to prevent corrosion or sealed in multi-wire connectors.

LIGHTS: Dual halogen rectangular sealed beam headlights in stainless steel custom housings are provided at cab front. Two (2) 4-light (red) halogen sequential warning flashers in stainless steel custom housings are provided above headlights each side of cab front. Five (5) dome lights with individual switches (3 cab-2 canopy). Two (2) 8" backup lights, two (2) 8" rear brake lights, two (2) 8" rear red arrow turnsignal lights. The turnsignal switch, when pushed forward, activates the hi-beam. All federal required ICC lights and reflectors are provided.

SPOTLIGHTS: Two (2) rectangular halogen sealed beam cab spotlights with controls in the cab shall be provided.

MIRRORS: Two (2) stainless steel Velvac 1-piece break-away mirrors. Lower section of mirror is wide angle type, adjustable and properly braced for least amount of vibration.

RADIATOR: 1250 sq. in. frontal area, 4 1/2" thick core, 76 qt. system capacity, bolted tank design, full deaeration system built into top tank. Posi-temp temperature control system (shutters not required). A 30" 8-blade high performance fan on the engine is provided. The cooling system is treated with Nalcool 3000 additive in anti-freeze for protection of the radiator and engine. Spring-loaded constant torque radiator hose clamps are used on all main radiator hose connections to prevent leaks. System tested and passes Detroit Diesel Engine Installation EPQ Approval.

SEATS: Black vinyl over deep foam. Driver's seat, Bostrom, deluxe thinline pedestal mounted, adjustable up, down, fore and aft. Bench seat for three (3) passengers in cab. (Vented radio compartment below.) Two individual jumpseats under canopy with fully padded back cushionsXXXX XXXXXXXX. Five (5) adjustable and automatic locking seat belts shall be provided.

Two Zico SEBA Model UN clip size P-6. One mounted in officer's seat and one shipped loose.

SUSPENSION: All spring and suspension mounting fittings are of cast steel and attached to the frame with high strength Huck bolts and self-locking collars. (Front) Semi-elliptic steel leaf springs 41 3/8" x 3 x 11 leaf with heavy duty double acting shock absorbers. (Rear) Semi-elliptic leaf springs 37 1/4 x 3 x 12 leaf with trailing arms. The trailing arms allow free movement of rear axle for bump loads and deflections and react axle wrap up torque from accelerating or braking while holding the axle in chassis alignment. The trailing arms are mounted in maintenance-free rubber bushings at both ends-left arm is adjustable in length for setting the alignment. Kaiser bushings installed on front suspension with oil seals for long life.

STEERING: Ross heavy duty HFB70 power steering. The steering gear is bolted to hanger and frame adjacent to the front crossmember for steering linkage stability and rigidity. Four (4) turns lock to lock. A 20" diameter, leather-wrapped, padded, two-spoke steering wheel with 6-position tilt and 2" telescopic adjustment. A 40° crimp angle is provided each direction providing a very tight turning ability.

TIRES AND WHEELS:

WHEELS: Budd steel disc type wheel: Size: 22.5 x 8.5"

TIRES: Front- 12R22.5 16 ply Tread highway

Rear- 12R22.5 16 ply Tread mud & snow

Goodyear radial

TOW EYES: Two (2) front chrome plated bolt-on tow hooks and two (2) rear painted tow eyes attached to frame.

TRANSMISSION: Allison HT740D automatic transmission. Ratios: Rev.: 6.03; 1st: 3.69; 2nd: 2.02; 3rd: 1.38; 4th: 1.00; torque converter stall ratio: 2.2, with transmission temperature gauge on dash and fourth gear lockup. A heavy duty cooling system is provided.

TURNSIGNALS: Two (2) 4" square front amber turnsignals mounted at the outside of each stainless steel headlamp housing. Built-in self-cancelling turnsignals and a 4-way flash control shall be provided. Two (2) 8" red arrow turnsignals are provided in the rear.

UPHOLSTERY: Cab interior finished in 36 oz. black vinyl. It shall be the rolled and pleated type including full front and rear headliners, rear firewall, panel behind seats and door panels. Bottom of door interior panels shall be scuff resistant bright aluminum treadplate. Behind all panels there are sound deadening inserts to decrease the sound level in cab.

WINDSHIELD WIPERS: Two (2) black anodized finish, individually controlled, two-speed, pantographic (dual arm), electric windshield wipers shall be provided. Windshield washers shall be wet arm type. Wipers to have intermittant feature with master control to activate both wipers from driver's side.

MISCELLANEOUS ITEMS ON CHASSIS:

Automatic cab door courtesy lights.

Koehler #5680 dual battery conditioner.

Silicone radiator hoses.

Mansaver bars installed between engine hood and side of canopy.

Seven year Bodyguard warranty on cab/chassis.

Mud flaps front and rear.

FIRE PUMP

All fire pumps are engineered to provide smooth and efficient performance on the respective make and model of chassis proposed. The pump shall be certified laboratory tested for performance. Pump shall meet the requirements of Pamphlet #1901.

PUMP: HALE, MODEL OSMG STAGES single CAPACITY 1500

PUMP BODY: Fine grain alloy casting of the split casing type.

PUMP SHAFT: Heat treated stainless steel, ground to size. Machine polished under packing.

PUMP IMPELLERS: Bronze cast, accurately machined and carefully balanced with shaft for all speeds. Bronze labyrinth type renewable clearance rings.

BEARINGS: Two deep groove ball bearings; one automatically lubricated bronze bearing. Thrust is balanced at all normal speeds and pressures. This bearing design eliminates packing on high pressure side of pump.

PACKING: Just one packing gland on suction side of pump using square packing rings easily adjusted by hand with screw-driver or small rod. Removable split gland for convenience in replacing packing.

DISCHARGE VALVES: Forged brass, quick opening, ball-type with locking type handles. Chrome plated caps with chains.

SUCTION TUBES: Fine grain alloy casting. Chrome plated long handle caps.

SUCTION TUBE STRAINERS: Grid-type, tinned brass.

DRIVE UNIT: Casing is fine grain casting. Heat treated chrome nickel steel shafts mounted on deep groove radial ball bearings of generous size. Shafts are machine polished under seals to prevent oil leakage. Hardened electric furnace chrome nickel steel gears.

GEARSHIFT: Pump shall have air shift.

TRANSFER VALVE:(Two-Stage Pump Only). Parallel series operation is done manually. The valve consists of a bronze drum, operated in a bronze housing. Control is located on the pump operator's panel, clearly labeled.

PRIMING PUMP: Hale Model SMV electric. The primer is a positive displacement vane type, which provides fast reliable priming on high lifts. It is manually operated from the pump panel by a single control which also operates the priming valve. The primer is automatically lubricated from oil reservoir.

PRESSURE CONTROL: Hale Relief Valve. The Hale Relief Valve is a fully automatic pressure control device which provides precise pump pressure control to protect nozzle operators from sudden pressure raises by keeping even discharge flow to each open outlet in accordance with the pressure desired. The pressure selector wheel is located on the pump operators panel incorporating an indicator light system telling the operator when the valve is functioning.

AUXILIARY COOLING SYSTEM: An auxiliary cooler is furnished to provide additional cooling to the engine under extreme pumping conditions. Water from the pump is piped to the coils of the heat exchanger allowing the engine fluid to be cooled as required. An emergency radiator fill is provided, controlled on the side of the heat exchanger.

PUMP CONNECTIONS: Suctions and Discharges. All suction and discharge piping (except pump manifolds) 1" and larger shall be heavy duty galvanized pipe. Areas where piping is subject to flexing, a flexible connection shall be furnished to eliminate any damage to the piping. All lines shall be drained by a master drain or a separate drain provided at the connection. National Standard Threads are provided as standard on all inlets and outlets unless otherwise indicated.

SUCTION INLETS: A 6 " pump suction inlet shall be provided on each side of the truck, complete with removable strainer and long handle chrome cap.

Two 2 1/2" gated inlet(s) shall be provided one each side of truck with 2 1/2" female swivel connection, removable strainer, chrome plug and chain.

One adjustable inlet relief valve on right side pump panel.

DISCHARGE CONNECTIONS: Five 2 1/2" discharges with bronze, quarter turn ball valves, recessed behind the pump panel, two on left hand side, one on right hand side, two at rear, others located as follows:

Rear discharges to have 3" valve and piping. Three 30 degree elbows 2½" to be included. Five 2½" x 1½" reducers.

All 2 1/2" discharges shall be controlled from pump panel and have locking handles. Each discharge is provided with a 3/4" push/pull drain valve, located directly below the outlet. All 2 1/2" discharges shall have NST male threads with female chrome caps and chains. One 4" discharge out right side terminating in 4" storz cap. 4" discharge capable of flowing 1500 GPM. One 3" deluge riser over pump area with 3" valve at pump and controlled at pump panel. A second 3" valve located at point of deluge gun.

Three crosslay hose beds with 1 1/2" discharges. Valves to be of the "drop-out" style, controlled from the pump panel, shall include: chicksan swivels, slatted flooring, stainless steel rollers with capacity of 250 ft. 2" double jacketed fire hose. Crosslays to have 2" valves, piping and swivels. Stainless steel rollers for crosslays. Hinged aluminum cover for crosslays.

A separate 1½" line shall be provided to refill booster tank from pump, with screw style bronze valve, which shall also serve as a pump recirculating line between pump and tank. Instruction plate located at screw valve handle.

One Stang C3347-1 master stream appliance with ground plate and 1½, 1½ and 1 3/4" stacked tips.

PUMP OPERATOR'S SIDE MOUNT CONTROL PANEL

The pump gauge and control panel is located on left side of apparatus and is designed for ease of operation and maintenance.

Gauge and control panels are encased and recessed in an especially designed aluminum extruded frame, polished to a bright finish. Black vinly gauge panel with a built-in four bulb full length lightbar is hinged for quick access to gauges. The left side control panel is layed out to accommodate up to six (6) horizontal locking handles and six (6) chrome push/pull handles with gauges located beside or above each control handle for simplicity of operation.

The entire panel assembly is removable for a 55" high x 34" wide pump access opening. Also, an access door is located on right side.

The right side panel shall be full height type and be framed in a heavy duty polished extruded type frame like the left side panel. The upper half shall be vertically hinged providing a large pump access door. This hinged access shall be a minimum of 35" wide x 20" tall and shall be hinged on the forward side. The pump primer tank shall be located just inside the pump inspection door. Lights shall be provided just inside each pump access.

The pump mode module shall be built separate from the main body for ease of repair if needed as well as the elimination of stress at this stress prone area. A rubber covered flex joint is provided at the rear of the pump panel.

The following are provided as standard:

- Main pump pressure gauge-~~4x4x2~~" 6diameter, 3"-0-600 lb.
- Main pump compound gauge-~~4x4x2~~6 diameter, 30"-0-600 lb.
- Two (2) certified laboratory test gauge outlets
- Engine tachometer
- Pump hourmeter
- Half engine speed test outlet
- Engine oil pressure gauge
- Engine temperature gauge
- Water tank level gauge M. C. 4-light
- Vernier throttle control for engine
- Pump primer control
- Pump relief valve control with indicator light
- Master pump drain control
- Transfer valve control. (If two-stage pump provided)
- Combination tank fill and pump cooler valve control
- Tank to pump valve control
- Pump pressure rating plate
- All discharge controls

All gauges are located immediately adjacent to the control handle when possible.

Other gauges and controls:

The three crosslays to have flowmeters. eAch discharge to have a liquid filled pressure gauge. M. C. heat tapes on all gauges. All handles and pump tags to be color coded.

APPARATUS ALUMINUM EXTRUDED BODY

All deluge model pumper and tanker bodies are custom built and engineered for correct load distribution on the chassis.

The chassis shall be fitted with a sub-frame system to give broad support to the pump and body modules as well as the running boards and rear step. The sub-frame system shall consist of eight (8) .25" steel plate gusset legs extending down and out from the chassis rails each side to carry the running boards and rear compartments. This rear platform shall be constructed of .25" steel formed into 5" main channels and 5" to 2" tapered side legs for broad support of the rear compartments and rear step. The rear tow eyes shall be an integral part of the rear platform frame extension.

The compartment sub-assemblies are supported at the sides and beneath the floors and rear compartments. The rear step shall be supported by a sub-frame of 5" structural channel and .25" plate gusset legs to provide broad support to the compartment floors in addition to supporting the rear portion of the body weight.

The body shall be constructed of #5052 aluminum sheet, #3003 bright aluminum diamond plate and heavy duty structural aluminum extrusions. The entire body shall be of a modular or segmented design to allow proper flexing of the truck chassis. A special insulator material shall be used wherever aluminum and steel are in contact.

The compartments shall be fabricated as separate units with smooth ceilings and floors and diamond plate walls. The floors shall be not less than .190" thick and be of unobstructed, sweep out design. The compartment boxes shall be made to fit into an outer frame of specially designed extrusions which form the compartment openings with door seal recessments built in. The compartment/frame units each side shall be fastened to a central sub-frame of 3" x 1.50" structural channel and tube to form a cradle for the water tank. There shall be no less than eight (8) crossmembers for proper support of the tank. These shall be lined with heavy duty "Marine Grade" or "Non Porous" rubber padding. The cradle shall rest on the chassis frame rails.

The hose body side metal shall be used as a load-bearing member and shall be formed with a double break along the top and down the rear beavertail panels for additional strength. This hose body side metal shall be 3/16" #5052 heavy aluminum sheet. The hose body wall shall be natural aluminum finish. The side metal shall be fastened to the compartments through structural angles and the entire body shall be a completely independent module which is mounted onto the chassis where it shall be supported on top of the chassis by the frame rails and from underneath the compartments by the chassis sub-frame. The body shall be fastened to the sub-frame with mechanical Huck bolts at the base of the compartment units for broad and even load distribution. The Huck bolt construction shall lend itself to easy repair when needed.

The pump housing, or module, shall be a completely independent unit separated from the cab and body modules by flex joints. The front face of the pump module shall be fabricated of bright aluminum diamond-plate. The rear corners of the module shall be formed by specially designed flex joint extrusions, incorporating flared rubber seals between the pump and body modules.

There shall be removable bolted in type rear fender liners with a back wall seal feature.

BODY COMPARTMENTS

All compartments shall be designed to utilize available space. Compartments shall be designed so that there are no seams across inside ceilings. The top side compartments will be covered with aluminum treadplate, flanged down at the edges to form a full length drip molding and up the body side panels to form kick plates.

The compartment doors shall be of the box pan construction. The door's outer skin shall be flat aluminum .190" #5052H33. The doors inner structure shall be constructed of a C-channel #6063T5 alloy extrusion mitred and attached to the outer skin. Said extrusion shall also incorporate an off-set flange 1/8" high to allow flush fit of the inner pan which is to be made of 1/8" aluminum treadplate. The inner pan shall be easily removable to allow access to door latching mechanisms and the attachment of mounting brackets on the doors. Overall door thickness is not to exceed 1 1/8".

The door rubber shall be specially designed P-section closed cell. The flange portion of the rubber is to lap over outside of recessment, forming a double seal when door is closed. Door rubber is to be affixed to the door, not to the body.

The hinges shall be heavy duty stainless steel piano type.

Door hardware shall be stainless "D" ring type with rubber gaskets between the door and the latch assembly. Door latches shall be Eberhard #206 with adjustable latches. Gas assist cylinder hold-open hardware shall be provided on all lift up doors.

The floors shall be sweep-out type.

Each compartment shall be vented and shall have a 5" light with an automatic switch and tell-tale door open light in cab.

There shall be one (1) full width compartment at rear step. This compartment shall be approximately 30" deep x 53.5" wide x 28" high and shall be open to side compartments. This compartment to have an anodized roll up Todco door.

There shall be two (2) side compartments each side, one (1) ahead and one (1) behind the rear wheel housings. Each compartment ahead of rear wheels to be recessed to frame depth approximately 30 wide x 28" high x 28" deep. Each compartment behind the rear wheels shall be approximately 28" high x 40" wide open to the rear step compartment. Rear side compartment to have a painted Todco roll up door.

EXTRUDED APPARATUS BODY AND COMPARTMENT CONSTRUCTION

One (1) 36" x 24" (minimum) pump access door on right side of apparatus (hinged type).

Four compartments to have adjustable shelves as specified. Each compartment shall be vented.

One ball bearing slide out tray to be installed in right rear compartment. Each compartment shall have an automatic 5" dome light.

Two compartments over pump area with lift up aluminum treadplate doors. Each compartment door is finish painted inside and out and provided with removable natural finish brushed aluminum inner panel.

OTHER COMPARTMENTS: High side compartment on left side 128"Lx30"Hx11"D. There will be one compartment each side ahead of pump panel as large as possible. One compartment over rear step compartment with drop down door approximately 45"Wx10"Hx20"D. Four (4) air bottle compartments two each side in rear fender area.

HOSE BED

The hose bed will be provided with slatted aluminum or hardwood flooring radiused at the edges to prevent hose damage from sharp edges or splinters. Each hose bed flooring section is easily removable for access to the booster tank. Three (3) adjustable hose bed dividers to be constructed of reinforced aluminum with reinforced radius edging and arranged as follows:

~~A red vinyl hosebed cover with lift-o-dot fastners on one side and shock~~ cord on other side, weighted at rear.

RUNNING BOARDS AND REAR STEP

The running boards and rear step shall be made of 3/16" aluminum treadplate with minimum step of 18" deep. In an effort to minimize future rust and metal deterioration, the running boards and rub rails, as proposed, will be spaced outward from the apparatus body side panels by one-half inch. The running boards will be flanged up at the inner edges to form a kickplate. The running boards are secured in place with stainless steel bolts and locking nuts and shall be a minimum 11" of depth. The corners of the rear step are provided with polished aluminum corner castings. The rear step and compartment sub-structure consist of heavy duty 3" and 5" steel channel providing unequaled support.

RUB RAILS

Body shall be equipped with heavy extruded aluminum rub rails at sides. Rub rails shall be spaced away from the body by 1/2" polymer spacers. Rub rails shall be polished to a bright finish and be fitted with polished custom cast end caps.

HANDRAILS AND STEPS

Stainless steel 1 1/4" diameter polished stainless steel handrails will be provided as follows:

One (1) reinforced handrail above the hose bed and between the body stanchions.

One (1) 30" vertical handrail at each rear beavertail.

Three folding steps mounted as specified. One rubber covered hand rail just below hose bed floor. All handrails to be rubber covered.

Four (4) 27" long 1 1/4" diameter stainless steel rails, one (1) each side of cab and canopy; one (1) 12" long 1 1/4" diameter stainless steel rail on right side of dash.

Four (4) steps shall be provided, two (2) at the front of the side compartment and two (2) at the rear step area.

TREADPLATE

All load bearing aluminum treadplate such as running boards and rear step shall be 3/16" bright annealed finish. All non-load bearing trim treadplate will be 1/8" bright annealed finish. In areas where aluminum treadplate will function as a load bearing surface there shall be a heavy steel sub-structure with this aluminum treadplate being properly separated by a special 3-M spacer material. This shall assure that there will be no flexing or cracking of running boards.

Treadplate locations:

- Skirting around front bumper
- The step at the cab entrance
- The cab floor
- The jump seat steps
- The body header at the jump seat header
- The running boards
- The bevelled engine hood
- The rear step
- The rear end of the apparatus and inside the beavertails
- The top of the compartments
- The front of the side compartments
- The inside bottom area of cab body

BOOSTER TANK

Booster tank capacity 500 gallons. Tank Warranty: lifetime

The booster tank is designed and built to rigid standards as prescribed by the Sutphen Corporation to meet the requirements and performance of the unit in which it is installed. To insure the lowest possible center of gravity, booster tanks are "T" shaped and full-width to the wheel wells.

Tank is polyester reinforced fiberglass of molded, machine chopped-hand layup process. All tanks have a built-in freeze proof sump with anti-swirl baffle which allows water to be taken from tank rapidly without attracting air. A one-quarter turn full flow ball type valve is located between pump and sump suction with control handle on body panel. Tank to pump line shall be 3" size.

The complete tank assembly is constructed of 1/2" reinforced fiberglass and rests on a minimum of 8 cross supports 3" x 1/4" neoprene rubber sills. These sills are placed on the 3" channel steel crossmembers which comprise our initial body frame work. The entire unit is held in place by steel angle iron corner blocks. There are no bolts or welds securing tank to frame or body. No discharge or suction piping runs through the tank. Tank is equipped with a 12" square fill tower, spring loaded lid and removable non-ferrous screen type strainer. Tank is equipped with a fully removable lid, and is baffled, dividing tank into compartments to meet N.F.P.A. pamphlet #1901 requirements. A 4" tank over-flow is provided to divert tank overflow behind the rear wheels.

ELECTRICAL EQUIPMENT

All wiring is color, number and function coded and runs through a special wiring harness with split loom accessibility designed for fire service application. Standards, as set by Society of Automotive Engineers, are rigidly followed. All gauges and wiring controls are labeled and arranged in a convenient and orderly manner. The following will be provided:

CAB SPOTLIGHTS: Two (2) 6" chrome plated halogen sealed beam square type spotlights with 360 degree continuous rotation, individual switch and controlled from inside of cab.

HOSE BODY LIGHTS: Two (2) 6" chrome plated sealed beam lights having full 360 degree rotation (in either direction) with individual switch and mounted on top of rear hose body stanchions.

CAB WARNING LIGHT(S): Quantity One Make Federal Model 24AEH

Location mounting cab roof Lens and bulbs red & clear

REAR WARNING LIGHTS: Quantity Two Make Code 3 Model 550

Mounted on rear body stanchions

OTHER:

SIREN: Make Federal Model PA300

Location of speaker with 200 watt speaker

Speakers wired to horn button including toggle switch selector plus one (1) switch on right floor of cab for officer.

OTHER LIGHTS AND ELECTRICAL EQUIPMENT:

Two (2) 8" red spotlights with chrome bezels mounted at rear of truck, one (1) each side.

Two (2) 8" turnsignal lights with chrome bezels mounted at rear of truck, one (1) each side.

Two (2) 8" white back-up lights with chrome bezels mounted at rear of truck, one (1) each side. When back-up lights are on, the intermittent back-up alarm is activated.

Four (4) step lights, two (2) at front of compartments and (2) at rear step.

One (1) heavy duty backup alarm is provided.

Two 500 watt quartz lights mounted on telescopic poles, wired to a Vanner inverter.
Two Whelen max beam strobe lights mounted on rear.

LADDER EQUIPMENT

One 24 foot 2 section fire department type extension ladder.

Make Duo Safety Model _____.

One 14 foot roof ladder with folding hooks. Make Duo Safety

Model _____ Ladders mounted on side of body and held in place by chrome plated quick release spring locks.

Three 6 ft. pike pole, mounted, fiberglass H-beam handle.

One 10 ft. pike pole, mounted, fiberglass H-beam handle.

OTHER Pike poles to be mounted in tubes over top of right side compartment.

One 10 ft. folding ladder, mounted. One skull saver on rear of ladders.

FIRE AXES

One 6 lb. pick head axe with chrome plated mountings, fiberglass handle.

One 6 lb. flat head axe with chrome plated mountings, fiberglass handle.

NOTE: Equipment as per N.F.P.A. 1901, 10-2.1, Category A is included in this proposal. Equipment as per Category B and/or C of 10-2.1 is not a part of this proposal unless specified in detailed listing in customer's specifications and listed elsewhere in this proposal. If not specified, they are available extra to bid price.

OTHER:

Two (2) Deluxe Operation and Service Manuals

1-Quart Touch-up Paint

1-Bag of stainless steel nuts and bolts for attachment of loose equipment

2 - 10 ft. lengths 4" fire department hard suction hose with lightweight long handle couplings, pin lug male couplings provided. Kocheck Brand hose.

1 - 4" strainer.

Hard suction will be shipped to fire station, not mounted.

2 - 10 ft. lenghts 6" fire department hard suction hose with lightweight long handle couplings and pin lug male couplings provided. Hose shall be Kocheck brand.

1 - 6" strainer.

Hard suction will be shipped to fire station, not mounted.

PAINTING, LETTERING AND STRIPING

Apparatus will be painted in fine coach color of high gloss deluxe fire engine finish.

At Sutphen's, both the chassis and the apparatus body under go extensive pre-paint preparation. All cab and body trim parts are removed prior to painting. All appliance mounting holes are drilled and de-burred prior to painting. This allows mounting holes to be primed and painted. Before prime

and finish coats are applied, the complete apparatus is properly prepared and treated to provide the best possible adhesion of the primer and finish coats.

All materials, from the bare metal to the lustrous smooth painted surface, are of the highest quality. Modern methods are employed to assure the finest finish surface possible. Each primer coat is hand wet-sanded to facilitate the finest end result. All priming, surfacing and painting is done in our modern paint facilities. Experienced and special trained personnel are utilized in this very important area of manufacturing in order to provide the highest quality and most enduring paint finish available.

Lettering in genuine 23 carat hand applied goldleaf will be provided on each cab door. A stripe in goldleaf will also be provided on each side of the apparatus in the quality tradition of Sutphen Corporation. All goldleaf lettering and striping will be swirled to provide extra brilliance.

PAINT: Color RED Number

Two-tone colors: Number

APPLICATION INSTRUCTIONS:

LETTERING: Style Goldleaf yes Other

Swirled gold yes Plain gold

STRIPING AND OTHER DECORATIONS:

All lettering and striping as per customer's specifications

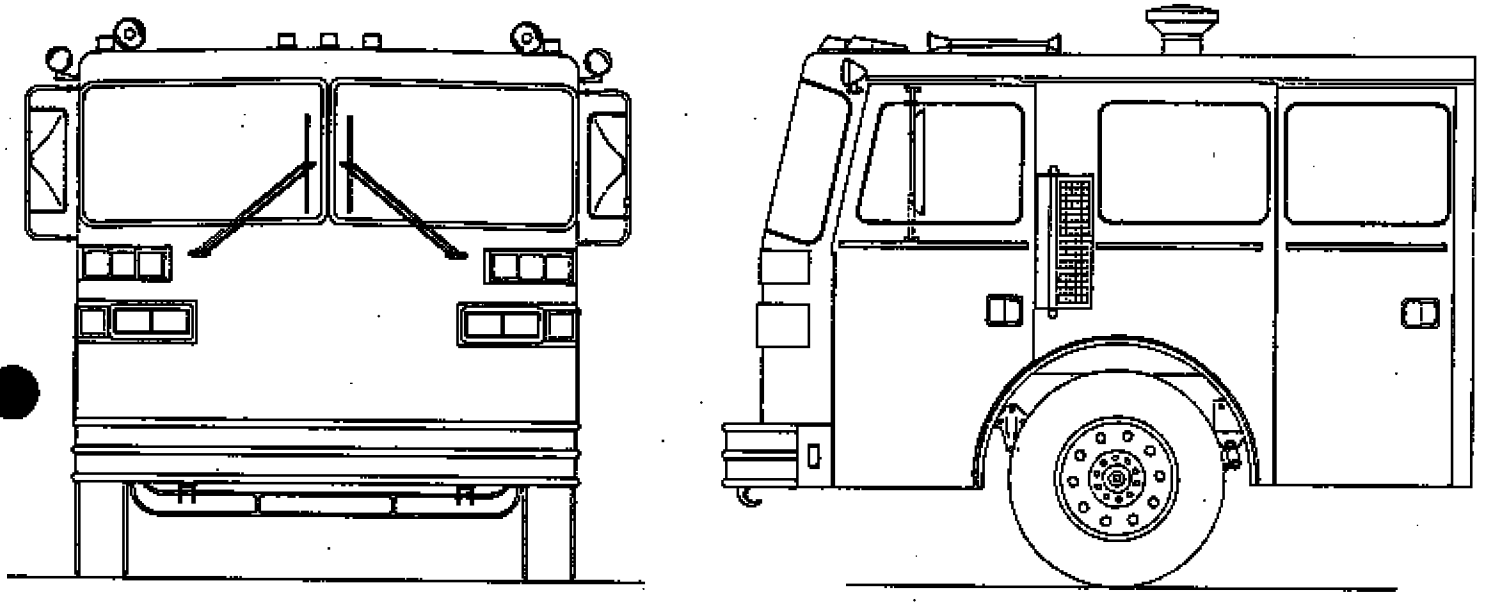
2 - Indian Head insignia, one each side cab door to match existing apparatus.

2 - complete parts/operation manuals.

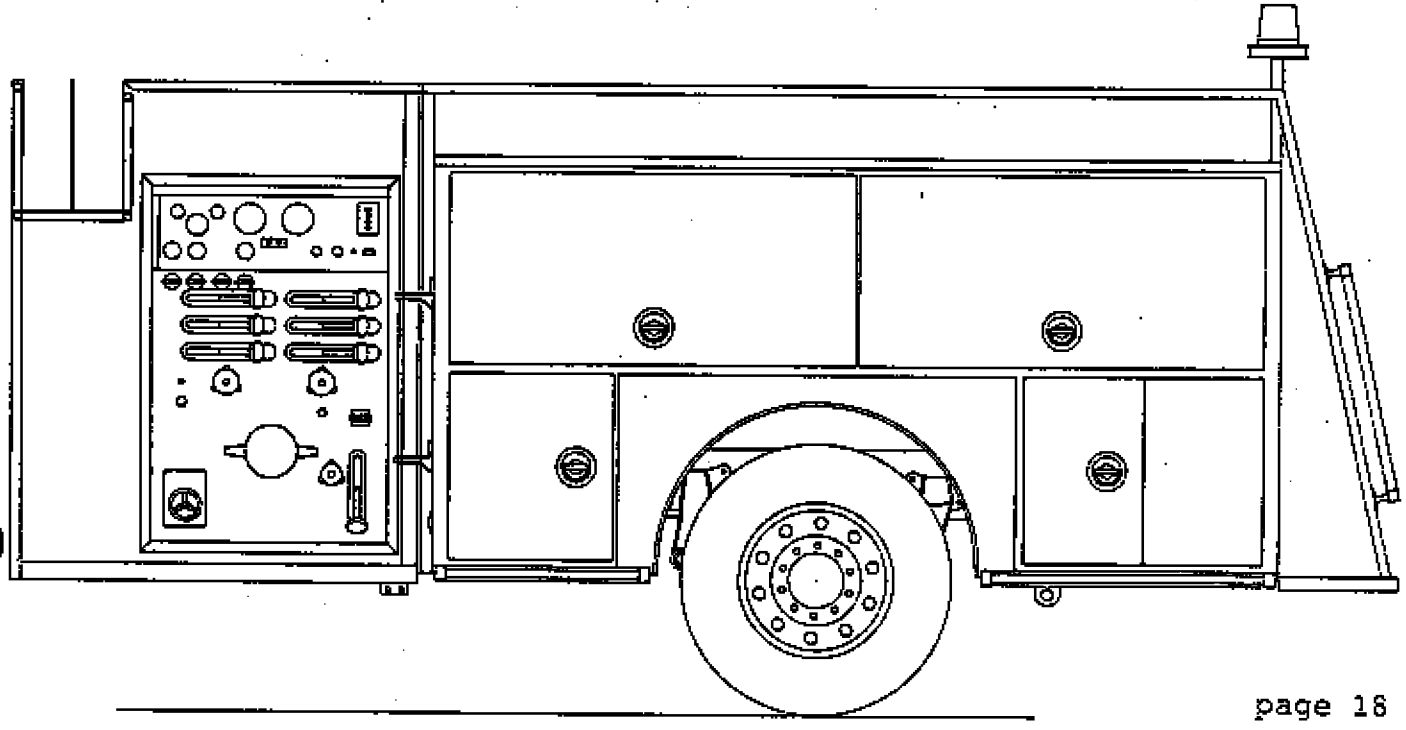
STYLE OF LETTERING

	Half Block Square	Egyptian	Thick-n-Thin	other-describe
Edged	① F	② F	③ N	
Shaded	④ F	⑤ F	⑥ N	

LOCATION OF LETTERING



STRIPING LAYOUT



GENERAL INFORMATION

DELIVERY

Unless otherwise specified, your Sutphen custom built fire apparatus will be driven from our facilities to your community by a factory trained engineer who will thoroughly train firemen in complete apparatus operation and maintenance.

LOCATION

The Sutphen facilities are located at 7000 Columbus-Marysville Road, just two miles west of Dublin, Ohio, on State Route 33. (A Columbus, Ohio, suburb). We maintain a complete stock of parts, and service is available around the clock. We also propose to maintain parts and service for a minimum period of twenty (20) years on each apparatus which is manufactured by the Sutphen Corporation.

NOTATION

To further assure the customer of our ability to manufacture quality fire apparatus, we are proud to state that the Sutphen Corporation is a family owned and operated firm that has been in continuous business since 1890 producing quality apparatus.

MISCELLANEOUS EQUIPMENT:

1 - Motorola Maratrac 100 watt, VHF 8-channel mobile radio. Mounted in cab under passenger's seat. Control head, speaker and microphone located to right of steering wheel in area of dash, within easy reach of driver.

3 - additional weather proof Motorola 8 ohms speakers. One recessed on right side above right side pump panel. One recessed in front panel of left upper side comaprtment located approximately 5 ft. from ground at face level and one recessed in rear panel of left upper side compartment, centered in panel.

1 - recessed microphone compartment with door to be located just above the left speaker with mike.

1 - call encoder, located in area of control head on cab dash. Model 237AY SSC. (Solid State Communication, Inc.) Frequencies and private line tones and codes furnished by fire department/chief. Antenna to be roof mount style.

2 - portable radios, Motorola HT600 5 watt, VHF 2-channel, (both channels with same frequency), Nickel cadmium battery, 16 hour NTN H588A, Heliflex VHF antenna, small leather carrying case and T-strap for each.

2 - vehicle chargers, Motorola 12 volt, for the HT600 radios.

1 - Portable Pump, W. S. Darley, HE18B/S high volume, exhaust primer, no valves, 4" NST male inlet, screen with long handle cap. Flanged discharge 3" female NPT. U972 control panel with liquid filled pressure gauge, 12 volt battery starting system, with battery. 6 gallon fuel tank, hose and adapters. PUmp and equipment shipped to fire station.

1 - valve for portable pump, Akron Swingout valve, 7630, 3", SZ handle, inlet adapter MI-S 3" NPT, outlet adapter M3-S 2½" NST.

1 - generator, Windo, super fire lite, Maxi-watt, 3500 watt, preconnected wiring to start from truck battery, five female plugs on generator, four are to be three blade Hubbell twist and one to be standard receptacle with ground, generator mounted right rear compartment on slide out ball bearing tray.

2 - portable cord reels, Edwards Mfg. Co., Model 600, with 200 ft. 14/3 type SO cable, ends to have female three hold Hubbell twist with rubber boots, end to have male 3-blade Hubbell twist.

3 - Circle D floodlights. 500 watt with mounting brackets, recexxed male 3-blade Hubbell twist.

2 - wheel chocks. Zico AC-1 left side under compartment front of rear wheel with QCH-1

4 - Scott 900014-06 complete with mask and nose cup 801432-00.

MISCELLANEOUS EQUIPMENT, continued

4 - Scott 30 minute air tanks, standard

1 - Akron 3952 NST foam nozzle

2 - Akron 2115 shutoff waterway NST

4 - LifeGard II personal distress devices

2 - Koehler #5520 chargers
4 - Koehler #130 lights

2 - Akron 15 hydrant wrenches

2 - Akron 448 wrench sets

1 - Zico UCC-30-30 bolt cutter

1 - 24 unit first aid kit with mountings

4 - Zico UN-6-30-3-FNH walkaway brackets

1 - KenMar low level strainer NST-F6

1 - Dri-dek flooring material to cover compartment floors

6 - Akron nozzles 1723P pyrolite, turbojet and pistol grip; 95,125,150,200

1 - Akron 1581 pyrolite gate NST 2½"x1½"x1½".

1 - Zico NBM-1 nozzle bracket

36 - 1 3/4" 50 ft. sections, coupled with 1½" pyrolite, NST, National N-Dura. 600 ft yellow, 600 ft. tan and 600 ft. red.

10 - 4" x 100 ft. lenghts fire hose, 4" storz coupled.

4 - 4" x 50 ft. lengths fire hose, 4" storz coupled

3 - 4" x 25 ft. lengths fire hose, 4" storz coupled

2 - 4" storz x 6" female NST swivel - elbow without relief

1 - 4" storz x 6" female NST swivel - with relief

1 - 4" storz x 5" female NST swivel - elbow without relief

6 - 4" blind caps

4 - 4" storz x 3½" NST female elbow swivel

3 - 3½" male NST x 2½" female NST pyrolite adapters

2 - 5" storz x 4" storz

MISCELLANEOUS EQUIPMENT, continued

3 - 4" sotrz x 2½" female NST swivel

2 - 4" storz x 2½" male NST

7 - Akron 285 pyrolite gate valve 2½" NST

10 - Spanners

5 - Pin rock holders

2 - 4" storz x 3" male NST

1 - 4" storz x 3" female NST

2 - 3½" female NST x 2½" male NST pyrolite

6 - Akron #373 holders for 2½"

2 - double female 2½" NST pyrolite

2 - double male 2½" NST pyrolite

EXCEPTIONS:

FRAME: our frame is 50,000 psi with RBM of 1,734,000 and has a lifetime warranty.

AXLE: Rear axle bid is an RS-24-160 Rockwell and is the new updated version. This replaces the R170.

OPTIONS:

If Fire Research flowmeters are not desired on crosslays and 3½" liquid filled gauges are acceptable, you may deduct $2500.00 from bid price.

IF 1/8" running boards, rear steps and body material is acceptable in lieu of 3/16" as specified, you may deduct $1500.00 from bid price.

If 10 gauge steel water tank with 10 year warranty is desired in lieu of 1/2" reinforced fiberglass tank with lifetime warranty, you may deduct $1000.00 from bid price.

If 25% downpayment is not acceptable as per Sutphen Purchase Agreement (contract) you may add $5997.00 to bid price and pay the entire bid price upon delivery of apparatus and acceptance.

If additional funds are available for downpayment over the 25% listed above, we will give 9.0% per annum on those funds.