

INSTALL EQUIPMENT INTO STEP VAN

I. **DESCRIPTION**: It is the intent of this specification to describe the minimum requirements to furnish and install various equipment such as an electrical generator with lights and wiring, an LP gas heater, a PTO driven air compressor, and air outlets into a City furnished aluminum step van with a 15' cargo area, to be used by the City of Milwaukee Water Department.

II. **WARRANTY**: The vendor shall completely warrant all components installed for a minimum of six months, parts and labor. The vendor shall agree to replace and install without charge within the warranty any defective parts or any parts not suitable for the service intended. All warranty work shall be picked up by the vendor within 48 hours of notification by the City and delivered within 48 hours of completion of repairs. Warranty period to begin when completed unit is placed into service by the City.

Comply ___ *Exception* ___

III. **SERVICE FACILITIES**: The vendor shall operate a service facility capable of performing most repairs associated with the equipment they represent. This facility shall be located within 110 miles of the City of Milwaukee.

Name of Facility _____

Address _____

Contact Name/Number _____

IV. **QUALIFICATION OF BIDDERS**: Bids will only be accepted from vendors who are determined by the City to be experienced in performing the work referenced below.

V. **TECHNICAL REQUIREMENTS**: The City of Milwaukee will provide a step van for installation of the below listed components by the vendor. The vendor shall furnish and install all items listed or indicated below, including necessary modifications. The entire installation shall be similar to City van #23554, and is subject to City approval. All features below shall be incorporated in the equipment and services, and all items furnished and installed into a complete unit ready for operation.

A. **AIR COMPRESSOR**: The vendor shall furnish and install a PTO driven air compressor, installed with all components below the floor of the van.

Comply ___ *Exception* ___

1. **POWER TAKE-OFF: Chelsea 270 Series Power Shift**, with 1-1/4" output shaft, electric actuator and Chelsea Electronic Overspeed Control, located in the cab area. The percent of PTO shall be as required to operate the compressor per manufacturer's requirements with an engine speed of maximum 1800 RPM. The PTO shall be wired to operate when the truck chassis is in neutral ONLY. The

overspeed control shall be set to cut out @2000 RPM, and set to engage @1000 RPM.

Complete PTO Model # _____ **Comply** ___ **Exception** ___

2. AIR COMPRESSOR: **Vanair 160 CFM** rotary screw type air end, shaft driven, with Spicer Series 1280/1310 drive shaft, coated with anti-seize compound prior to assembly. When installed, this shaft shall have a minimum of 1" of slip. The air end and all components shall be installed under the floor area, with right side provisions to check and service the compressor oil. Possible Source: Vanair, Inc., Mr. Dan Kokot, 800-526-8817, or 219-718-4533.

Comply ___ **Exception** ___

- a. CONTROLS: Connected to the auxiliary governor, as provided by the step van vendor, capable of controlling engine speed and operating pressure.

Comply ___ **Exception** ___

- b. AIR CLEANER: A separate air cleaner assembly from the engine, heavy duty, with air restriction indicator.

Comply ___ **Exception** ___

- c. OIL FILTER: Spin-on type, 25 micron rating.

Comply ___ **Exception** ___

- d. AUTOMATIC PROTECTION DEVICES: To include an automatic blow down valve and two velocity fuses installed.

Comply ___ **Exception** ___

- e. MAINTENANCE KIT: The vendor shall provide one **Vanair #1057** maintenance kit, shipped loose with each compressor purchased, containing replacement air and oil filters and four gallons of premium compressor oil.

Comply ___ **Exception** ___

- f. SERVICE OUTLETS: One self-winding locking type live hose reel, installed on the left side of the second compartment. A 1/4 turn shut-off valve shall be plumbed just prior to the reel. There shall be a **Dayco-Eastman 60TA-12 X 12** 45° swivel elbow installed within the reel prior to the hose. The hose shall be a 50' length of 3/4" inside diameter air hose, double braid rayon, 300 PSI working pressure, with a high oil, grease and abrasion resistant neoprene outer covering, and permanently attached **Dixon AM6**, or equal, hose coupling installed at the hose end. NOTE: a bolt-on hose coupling is not acceptable. With the door closed, the hose end shall feed through a squared hole in the door. The door shall be reinforced as needed, and stainless steel or aluminum rollers shall be provided on all sides of the hose opening. In addition, the vendor shall install a service outlet with valve inside the van per City approval, on the curb side near the center of the workbench. This outlet

shall be plugged, as the City will furnish and install a quick-disconnect fitting.

Comply ___ *Exception* ___

- g. INSTALLATION: When installed, no components such as sensors, switches, or wires shall protrude below the level of the transmission oil pan. All wire ends, connectors and switch and sensor terminals shall be protected with minimum two coats of **3M Scotchkote** electrical coating. All bare metal pipes and fittings shall be painted to prevent corrosion.

Comply ___ *Exception* ___

- B. GENERATOR: **Honda 6010** gasoline powered, single phase electric generator, 6000 watt, 120 volt, for compartment mount, mounted in a City approved location under the floor within a custom fabricated enclosure.

Comply ___ *Exception* ___

1. GENERATOR FUEL TANK: Minimum 20-gallon fuel tank, under-floor mounted. The filler shall be configured the same as the fuel filler for the step van engine. NOTE: If possible, the generator fuel filler shall be mounted on the opposite side of the van as the existing filler for the step van engine.

Comply ___ *Exception* ___

2. ENCLOSURE: The enclosure shall be constructed of heavy gauge aluminum or powder-coated steel, and provide complete protection from road splash. The generator shall be mounted on heavy-duty slide rails or a slide-out tray, with stops, for running and servicing positions. The outside access door shall be constructed of an aluminum frame and skin, and include a louvered or screened section to provide adequate engine cooling for continuous use. There shall be an aluminum rain gutter installed above the door, and a latch assembly for holding the door in the open position. The exhaust shall be routed toward the same side as the van engine exhaust. Isolation tape shall be applied between all aluminum component and steel component contact points.

Comply ___ *Exception* ___

3. CONTROLS: The generator shall include a dashboard mounted control box with an hourmeter, and a START/STOP switch with pilot light.

Comply ___ *Exception* ___

4. CIRCUIT BREAKERS/OUTLETS: A 6-circuit breaker distribution center shall be installed in a City approved location within the cargo area. Five total 120 volt duplex outlets shall be installed in City approved locations, one at the front and rear curb side corners of the van, one inside the cab area on the passenger side, and one inside near each side of the workbench area. All outlets shall be connected to ground fault interrupter circuits. All outside outlets shall be weatherproofed.

Comply ___ *Exception* ___

5. WIRING: All 120-volt wiring shall be enclosed within rigid PVC or metal conduit.

Comply ___ *Exception* ___

6. CHARGING SYSTEM: A minimum 40 amp automatic marine type battery charger/converter shall be installed near the circuit breaker center, to draw power from the 120 volt AC power source and charge the chassis engine batteries. **NOTE:** In order to separate the charging sources to the chassis batteries, the vendor shall install a relay to prevent 120 volt power from operating the battery charger when the chassis engine is running.

Comply ___ *Exception* ___

- C. L.P. GAS HEATER: **Suburban #NT30SP**, complete with regulator, hoses, thermostat and vent, installed in the left front ceiling area of the cargo area, on a 2" x 2" x 1/4" aluminum angle frame. Two heat outlets shall be directed into the cargo area, one at the floor, and the third outlet shall be routed through the bottom of the partition into the driver/passenger area, complete with a heat register.

Comply ___ *Exception* ___

1. HEATER FUEL TANK: One 20 gallon propane capacity **Manchester** motor fuel tank shall be installed underneath the van body, with a tank mounted gauge. A corresponding opening shall be cut into the side of the van, large enough for use with an LG1E dispensing nozzle, with the opening fitted with a rubber protection edge. The 80% valve shall have a remote discharge hose attached, vented toward the ground.

Comply ___ *Exception* ___

- D. CRANE ASSEMBLY: A fixed arm crane with swiveling base and electric winch shall be fabricated and installed into the front facing wall of the third compartment of the step van body. The winch shall be a **Superwinch T1500** 12-volt electric winch. The crane body shall consist of heavy wall steel tubing, approximately 1-7/8" OD, minimum 3/16" thick wall, with an arm permanently attached and gusseted onto the upper end of the main shaft, at 90°, height as needed to allow the crane to clear the top of the compartment opening. The overall length of the crane and attached arm shall be 24". The overall height of the installed crane shall be equal to the interior height of the third compartment of the van. The compartment interior shall be reinforced as needed for the crane to lift a maximum of 500 lbs. The crane top and bottom mounting shall consist of flange bearings with lubrication fittings, such as **McGill FC4-25 1-7/8**. The upper-outer end of the crane arm shall have a 5" long x 4" wide x 1/4" thick plate welded to the underside, with rounded corners, to be used for the mounting of the winch. The wiring shall be of adequate size for the winch motor, run from a permanently labeled circuit breaker at the firewall to the crane area, and include a hand-held pendant with a 4' length of cable, and a storage hook on the outer facing crane arm gusset. A rotary ON-OFF switch shall be installed on the compartment wall near the top of the crane, protected within a steel box. All wiring on the crane shall be fastened to the crane boom with nylon tie straps. A rubber strap assembly shall be installed on the front compartment wall to secure the crane while it is not being used. The

crane body shall be painted red. The exact crane assembly mounting location shall be approved by the City.

Comply ___ *Exception* ___

- E. TOOL STORAGE RACK: A structure consisting of 1-1/2" x 1-1/2" x 1/8" thick aluminum tubing and eight PVC pipes, 4" ID x 8' long, shall be fabricated and installed into the van body. The tool storage rack shall conform to the dimensions and design indicated on City Drawing #2003-1, copy attached. The front ends of the PVC pipe shall be blocked off, using 1/2" thick plywood. The rack shall be located at the street side rear of the step van interior, 12" forward of the closed rear door, and mounted to the van floor and side wall using all stainless steel hardware. When mounted, the rack shall provide a 5-1/2" air gap from the side wall, to provide storage space for plywood sheets.

Comply ___ *Exception* ___

- VI. PAINTING: All items and accessories installed on the exterior of the van, and all exterior body areas affected by the installation shall be painted and blended with DuPont Centari yellow acrylic enamel over suitable primer, to match the yellow paint on the van.

Comply ___ *Exception* ___

- A. FLOOR COVERING: The finished floor area shall be covered with full cargo area length x 36" wide **3M Safety Walk**, installed directly in front of the workbench area.

Comply ___ *Exception* ___

- VII. PARTS LISTS/SHOP MANUALS: A total of three parts lists and shop manuals shall be furnished to cover all items installed, such as the electrical generator. All manuals shall be delivered to 2142 W. Canal Street, Room 216, Milwaukee, 414-286-2719.

Comply ___ *Exception* ___

- VIII. DELIVERY: Upon completion, the vendor shall deliver the van to 2142 W. Canal Street.

Comply ___ *Exception* ___

- IX. EXCEPTIONS: Bidders shall attach information to fully explain any exceptions taken to the above specification items. Unless otherwise noted, the above are minimum requirements for the equipment described in this specification. All requirements must be met. An exception that provides a component which exceeds the minimum requirement, such as a larger horsepower engine, will usually be considered as acceptable, provided all other criteria are met. ***Likewise, an exception that provides a component which does not meet the minimum requirement will usually be considered unacceptable.***