

# CITY OF MANCHESTER

## PUBLIC WORKS DEPARTMENT

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**Brent Carter**  
Director

To whom it may concern,

The City of Manchester Public Works Department is going out for bids on a Heavy Duty Trash/Brush Loader, Bulk Trash/Junk Body, Mounted on a New Truck and Chassis, and a Yard Waste Collector ( vacuum collection for leaves and similar debris). All equipment furnished shall be new, unused and of the manufacturer's current production design. Bidder must accurately complete the specification sheets and include it as a portion of the bid response. Failure to submit form indicating any deviations from the specifications shall be grounds for rejection of bids. However any deviations may be considered. The bidder will also need to supply a price per unit and a price for both units with applicable discount available, provided both pieces of equipment are purchased from same vendor.

# **SPECIFICATIONS FOR YARD WASTE COLLECTOR**

**GENERAL:**

It is the intent of these specifications to describe a trailer-mounted, engine driven suction unit for vacuum collection of leaves and similar debris.

The below listed specifications and instructions are in no way intended to eliminate any company, vendor, bidder or product from this bid process. It is the sole intent of these specifications and instructions to describe a vacuum leaf loader that will be the best product available to the City of and its residents.

The City reserves the right to reject any and all bids and act in such way that it is deemed to be the most advantageous to the City and its citizens.

The specification has been written around TARCO model Windy 100 or equal.

Bidders must respond to each section of the specification with a "yes" or "no" for each section. If "yes" is checked, bidder is expected to supply exactly what is described. If "no" is checked, a detailed explanation of the deviation must be provided, on this form or on a separate piece of paper, no matter how minor it may be. Failure to respond to either "yes" or "no", may render the bid response non-compliant.

**SUCTION HOUSING:**

The outer scroll of the suction housing shall be constructed of 10-gauge welded steel.

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The suction housing cover plate and back plate shall be constructed out of 7-gauge steel. To be fitted with a two piece 1/4" thick abrasion resistant steel liner. These are to be continuously supported on all sides and secured without the use of bolts or welding to facilitate ease of removal. The suction inlet port on the suction case shall be on the curbside.

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A full size housing cover plate to be secured by bolting to an external steel flange welded to the housing scroll to make removal of the housing liners easy.

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Suction case to have the following minimum dimensions: 47" diameter, 46" high, and 14" wide.

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**BIDDER'S RESPONSE****YES NO**

For efficient discharge of material in the direction of the leaf receiver box, the suction case shall be rotated so that its initial discharge angle is 45° from horizontal.

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Suction case shall have a clean-out door with an engine kill switch in the event that the door is opened or not shut properly.

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**SUCTION IMPELLER:**

To be statically and dynamically balanced and self-cleaning.

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To have a minimum of six (6) gusseted blades constructed of 3/8" thick T-1 steel with a Brinell hardness of not less than 321.

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For maximum vacuum and performance, the impeller suction blades shall have a forward directional bend.

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The impeller shall be no less than 33" diameter with a 3/16" thick convex back plate,

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The impeller shall be installed on a 2-3/16" diameter shaft with a taper lock hub enabling easy removal for maintenance.

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The impeller shall be supported by no less than two 2-3/16" pillow block bearings

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The bearings shall be installed on a flat 3/8" thick mounting plate. Bearings shall be bolted to the mounting plate with ny-lock nuts. Bearing lube lines shall be external so no guarding has to be removed to lubricate bearings.

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**POWER TRANSMISSION:**

From engine to suction impeller to be by a grip-notched power band 4B drive.

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This drive shall provide a minimum of 1.14 square inches of positive contact for each single brake horsepower the engine develops when running at its normal operating speed.

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Drive to be fully guarded including shielding of impeller shaft and bearings.

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**DISCHARGE ASSEMBLY:**

To be 14" x 16" rectangular, gradual 45 degree turning constructed out of 10-gauge steel and centered over the trailer tongue.

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The steel discharge assembly shall connect to a 16" diameter rubber discharge hose for

**BIDDER'S RESPONSE****YES NO**

connection to the leaf box.

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16" diameter rubber discharge hose shall be 48" long.

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The rubber discharge hose shall have an 18" cuff that enters the leaf box.

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The interior of the rubber discharge hose shall be smooth, not corrugated.

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The discharge hose shall be capable of extending horizontally up to 24" to accommodate different trucks.

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**HYDRAULIC HOSE CARRIER:**

A hydraulic hose carrier shall be mounted on the side of the suction housing.

The suction hose shall be suspended from the carrier with a steel chain.

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For operator safety, the use of springs or cables to support the suction hose is NOT acceptable. The lift cylinder shall be a double-acting; 2.5" diameter with 1-1/4" diameter piston rod and 8" stroke.

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The hose carrier shall raise and lower the hose assembly by means of a double acting hydraulic cylinder.

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Adjustable hydraulic flow control valves shall be provided to adjust the speed of the boom up/down function.

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The carrier assembly shall consist of a solid pivot shaft, 2" diameter x 32" long (minimum). The shaft shall rotate in two - 2" diameter cast iron two bolt flange bearings.

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On the outboard sides of the boom pivot point shall include two 1-1/4" diameter 2-bolt flange bearings, with grease fittings.

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Each bearing shall be mounted on a 3/8" thick mounting plate. The pivot shaft and bearing assembly shall be mounted to the suction case cover plate for maximum structural support and strength. The hose carrier support arm shall be a minimum of 6 ft. in length constructed of 2" x 4" rectangular tubing.

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A remote (2) way joystick shall be provided to move hose up or down.

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Means shall be provided to secure the hose for transport.

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**HOSE SUCTION ASSEMBLY:**

**BIDDER'S RESPONSE**

**YES NO**

Heavy-duty 16" diameter suction hose shall be 16" diameter x 8' long, maximum.

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Wall thickness at cuff shall be 6 ply minimum .406" thickness, the thickness along the body shall be .150" minimum with a minimum 3 ply.

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The weight of the hose per foot shall not exceed 10 pounds and be a minimum of nine (9) pounds.

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The hose shall incorporate a reinforcing galvanized wire with a minimum diameter of .192".

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The suction hose connection to the blower housing shall allow the hose to be stored in the travel position without causing the hose to kink.

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A 45 degree, rear facing inlet hose connection shall be secured to the blower housing utilizing two horizontal pins.

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The suction hose shall be furnished with a safety switch that shuts down the engine when the hose is improperly connected to the machine, or removed from the machine.

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The 16" diameter hose shall be supplied with a 90° steel elbow to prevent premature hose wear.

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The hose shall be supplied with a 16" diameter steel suction snout.

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The 16" diameter steel suction snout shall be attached to the 90° steel elbow by an over-center clamp mechanism.

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**ENGINE:**

Shall be a John Deere 4045T diesel engine, with the new **TIER III** emissions rating, or equal, four (4) cylinder, four cycle, 276 cubic inch displacement

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Engine must be a John Deere factory approved engine package using major components supplied by John Deere. These approved components include the radiator cooling package and the air filtration package. These components are to be warrantied by John Deere.

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Engine shall be equipped with an Auto Clutch Model 1300 D PTO with 2 year Warranty.

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Engine shall have wet-sleeve cylinder liners for greater heat dissipation.

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Engine shall incorporate a counter balanced crankshaft for vibration free performance.

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**BIDDER'S RESPONSE****YES NO**

Engine shall be rated at 85 horsepower at 2500 R.P.M.

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Engine to be equipped with a 12-volt electric starting system, 75 AMP alternator, governor, dry type air cleaner and a vertical muffler with rain cap.

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Engine to be equipped with an electric throttle.

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The 30-gallon fuel tank shall be formed and welded and constructed of #10 gauge steel, with sight gauge.

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Fuel tank shall be mounted on top of the trailer base separately from the engine and blower housing so fuel fumes are not trapped in a confined area.

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Fuel tank fill cap shall be accessible from the driver side of the machine only.

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Engine to be supplied with a two (2) year Manufacturer's warranty.  
to this requirement supply Manufacturer's warranty statement with bid.

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Engine to be mounted on rubber isolators to eliminate engine vibration. Engines that are rigid mounted are not acceptable. Trailer base shall be 1/4" thick steel plate and the engine shall be bolted to (2) 4" x 4" steel tubes minimum equipped with engine/power band take-up assembly.

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Engine shall be supplied with a remote oil drain hose.

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Engine shall have a protective metal housing constructed of #14 gauge steel and to cover the engine, hydraulic valve bank, and battery.

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Removable service doors on both sides for easy access to the engine and components. Opening shall be minimum 23" wide and 43" high.

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**ENGINE CONTROLS:**

The following engine analog controls are to be rubber mounted in an enclosed panel and mounted separate from the engine assembly.

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Ammeter

Water temperature gauge

Oil pressure gauge

Murphy shutdown gauge for low oil press/high water temp

Tachometer / hourmeter

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**LARGE AREA RADIATOR SCREEN:**

**BIDDER'S RESPONSE**

YES NO

Radiator shall be protected from clogging by an auxiliary grill system that shall be quickly and completely removable from the engine without the use of tools.

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**STORAGE BATTERY:**

Heavy-duty type, 12-volt battery with a minimum of 675 CCA shall be located in the engine compartment.

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**OPERATOR ACCESSIBLE SAFETY SHUT DOWN:**

For operator safety, a safety shut down "kill switch" shall be provided on the machine within the operators work area.

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**TRAILER:**

To be 1/4" pressed steel unitized support weighing not less than 600 pounds.

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The trailer shall have a wide base design for greater stability and ease of backing the unit up. The trailer base shall have the following minimum dimensions: 87" wide (including fenders) and 92" long.

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Power unit and trailer base shall be supported on a high speed 2-1/2" towing axle equipped with semi-elliptic springs, 6,000 pound rate capacity, "E-Z" lube hub and drum assembly

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The trailer shall be equipped with electric brakes and break away actuator.

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Wheels to be steel with tapered roller bearings equipped with ST225-75-R15 radial tires rated for 5,080 pounds.

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Entire axle and spring assembly shall be movable to provide the exact draw bar characteristics desired regardless of the type or amount of equipment installed on the trailer.

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The towing assembly shall be height adjustable from 19 inches to 32 inches.

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The towing bar is to be adjustable from 68" to 80" and fitted with a pintle eye hitch.

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A heavy duty manual crank parking jack shall be provided with a static load rating of 12,000 lbs and a lifting capacity of 10,000 lbs.

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The tow bar is to be not less than 6" x 4" steel tubing with a minimum wall thickness of 5/16".

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**BIDDER'S RESPONSE**

YES NO

The tow bar shall be secured to the trailer base by a minimum of two horizontally  
mounted 5/8" x 6" grade 8 bolts,

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Two 3-foot adjustable safety chains shall be provided having a combined tensile  
strength rating of approximately 110,000 lb. per square inch.

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**PROTECTIVE FENDERS:**

Steel fenders covering trailer tires shall be provided constructed of not less than 1/8" steel.

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Fenders shall incorporate side panels to protect trailer components.

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**LIGHTING:**

Combination stop/turns, 3-light cluster, side clearance lights, license plate bracket  
with light, red/white reflective tape on rear and sides and DOT reflectors shall be supplied.

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Two 4" diameter amber flasher lights shall be mounted on the rear of the machine.

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A quick disconnect plug shall be supplied at the trailer tongue.

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**PAINTING:**

The entire leaf loader shall be properly prepared, primed with one coat of self-etching  
primer, one coat of epoxy primer, two coats of finish paint and shall be electrostatically  
applied.

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Color: Yellow or Red

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**GENERAL:**

For ease of maintenance and service all components must be welded or bolted to assure  
proper component integrity.

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**DELIVERY:**

Equipment shall be furnished fully serviced and assembled.

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Operators and parts manual shall be supplied covering the entire leaf loader and engine.

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DELIVERY

\_\_\_\_\_DAYS



**BIDDER'S RESPONSE**

**YES NO**

**WARRANTY:**

A one-year warranty covering the leaf loader for materials and workmanship is to be included in the bid price.

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Distributor or representative shall have a service and parts facility within 75 miles of the end user's garage.

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The distributor facility must have adequate stock of parts and mechanics trained to work on their leaf loaders.

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No contract or sub-let maintenance and or warranty service shall be acceptable.

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**Indicate Location of Service/Parts Facility:**

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