

## NOTICE TO BIDDERS

### Leaf Collection Machines

The Board of Public Works and Safety of the City of West Lafayette, Indiana will receive sealed bids for **two (2) 2014 or newer heavy duty self-contained engine-driven vacuum leaf collection machines** until the hour of **8:30 AM** local time on **Tuesday, June 3, 2014** at the Office of the Clerk-Treasurer, West Lafayette Police Station, 711 West Navajo Street, West Lafayette, Indiana 47906. All bids received by said time will be held unopened and then taken to the Board of Public Works meeting at the Morton Community Center, Multi-Purpose Room, 222 N. Chauncey Ave., West Lafayette, and there be publicly opened and read aloud. Late bids will be returned unopened. No oral, telephoned, telegraphed, facsimile, or email bids or changes to bids will be considered.

Each bidder will submit his bid upon forms provided in the bid packet and enclosed in a sealed envelope marked, "**Leaf Collection Machines.**" Specifications and bid forms are available on the City website at [www.westlafayette.in.gov](http://www.westlafayette.in.gov), at the Street Dept., 705 S. River Rd., West Lafayette, phone 775-5242, or at the Office of the Clerk-Treasurer.

The bid must be accompanied by a bidders bond or certified check of not less than 5% of the total bid made in favor of the City of West Lafayette, Indiana

The Board of Public Works and Safety expressly reserves the right to reject any or all bids and waive irregularities of bidding.

BOARD OF PUBLIC WORKS AND SAFETY  
JUDITH C. RHODES  
CLERK-TREASURER

PUBLISH: May 9, 2014, and May 16, 2014

**City of West Lafayette  
Leaf Collection Machines Bid**

**Bid FORM 1 of 3  
Bid PRICE SHEET**

ITEM	UNIT PRICE	QUANTITY	TOTAL AMOUNT
Base Price			
Option (if applicable) Costs			
Discounts or Other Price Adjustments			
Destination Charges			
Dealer Preparation Charges			
Any Additional Charges			
Trade-In Allowance			
<b>TOTAL BID</b>			

Bidder: \_\_\_\_\_  
                    Company

Signature: \_\_\_\_\_ Title: \_\_\_\_\_  
                    Name

Date: \_\_\_\_\_

# City of West Lafayette

## BID FORM 2 of 3 BID SPECIFICATIONS CHECK SHEET Leaf Collection Machines

**INSTRUCTIONS:** The specifications herein describe the **minimum acceptable features** and **performance requirements** for two (2) 2014 or newer heavy duty self-contained engine-driven vacuum leaf collection machines to be purchased by the West Lafayette Street Department.

Bidders must offer a regularly-manufactured machine and supply descriptive literature and complete specifications. Bidders are to have thoroughly read and understood these specifications prior to bid submission. If any part of an item is not in compliance, an explanation can be provided on a separate sheet with the benefits of that item to the City. It will be up to the purchasers' discretion what items will be termed greater than or equal to specified item. Bids shall be good for a minimum of 90 days.

Bidders shall place a check mark in the specification column to indicate if the item being bid is exactly as specified. If an item is left blank, the City will assume the bidder cannot meet the specifications and may cause rejection of the bid.

By checking any of the "NO" spaces the bidder states that the product being bid does not conform to that specification. All variations and/or exceptions must be documented, referencing applicable paragraph(s), and explained in detail on a separate page titled "Exceptions". If the City of West Lafayette determines by any means that exceptions exist which were not identified on such list, then that bid will be disqualified as being non-responsive. If no exceptions are taken, it will be assumed that the bid meets all specifications as stated.

Complete the following check sheet items #1 through #20.

Sign and Date on page 6.

### **SPECIFICATIONS: Heavy Duty Self-Contained Engine-Driven Vacuum Leaf Collection Machines**

The leaf collector is trailer mounted, designed for one-person operation, and capable of picking up and completely mulching leaves from curb sides, median strips, ditches, open spillways, and other areas, then depositing the mulch in an integral 25 cubic yard all-steel hopper. These specifications shall be regarded as MINIMUM. Bidders must furnish all descriptive literature, manufacturer's compliance certificates and all other necessary data on the equipment proposed as required in the specification. Bidder must also include an Indiana User's List consisting of a minimum of ten municipalities that are using the current model being bid.

<b>1. POWER UNIT (Deere 4045TF Tier 4 74 HP)</b>		<b>YES</b>	<b>NO</b>
1.1	Type: In-Line 4 cylinder, 4 cycle, Turbo Diesel		
1.2	Displacement: 275 Cubic Inches (4.5 Liters)		
1.3	Gross Power: 74 HP (55kW) Intermittent at 2400 RPM		
1.4	Instruments: Curb side, in shock-mounted panel. Vernier type throttle, On/Start/Off switch, combination voltmeter-tachometer-hour meter-water temperature and oil pressure with safety shut-off.		
1.5	Accessories: Gear-driven variable speed governor, gear-driven hydraulic pump, 18.6 GPM at 1800 PSI		
1.6	Alternator: 72 Ampere		
1.7	Battery: 950 cold cranking amps, 185 minute reserve		
1.8	Muffler: Vertical, external		
1.9	Fuel Tank: 30 U.S. gallons- high density, cross linking, non-permeating polyethylene. Molded as one piece, no weld seams or add-ons		

<b>2. RADIATOR SCREEN</b>		<b>YES</b>	<b>NO</b>
2.1	A pleated aluminum auxiliary screen, mounted in a hinged frame, is provided, for additional protection to the radiator with no reduction of air flow.		

<b>3. FAN DRIVE</b>		<b>YES</b>	<b>NO</b>
3.1	The 25" diameter suction fan is direct driven by a heavy duty fluid coupler through a 2 1/4" diameter straight output shaft.		
3.2	The fan hub is coated with anti-seize material and is positioned on the shaft by a 5/8" square by 4-1/4" long key and secured by a 1"-14 by 2" long grade 5 bolt and split 'lock' washer. The 1" bolt clamps a 1/2" by 4" flat washer to the end of output shaft and the washer is secured to the fan hub with four 3/8"-16 by 1" socket head cap screws and split 'lock' washers.		
3.3	The housing has a double lip seal. The fluid coupler has a sealed pilot bearing and heavy duty roller bearings. The fluid coupler provides smooth engagement as the engine RPM is increased from idle and disengages when the engine RPM is returned to idle. This eliminates clutch wear and damage done by high RPM engagement that can occur with any clutch type PTO.		

<b>4. SUCTION FAN</b>		<b>YES</b>	<b>NO</b>
4.1	The fan is 25" diameter, 8-1/4" wide at the tip and has a minimum of six radial blades.		
4.2	The fan backing plate is 1/4" thick steel and the blades are 3/8" thick AR400 abrasion resisting alloy steel with 1/8" formed reinforcing welded to the back faces.		
4.3	After welding, the complete fan is stress relieved for two hours at 1100 degrees F using an atmosphere controlled gas fired heat treatment process. This treatment relieves stresses induced by welding and reduces the possibility of weld failure due to shock loads. Non gas fired heat treatment or vibratory stress relieving processes are not acceptable as they produce brittle fans subject to cracking and early failure.		
4.4	The fan produces 16,600 C.F.M. of air movement through a 16" diameter by 10' long hose under normal working conditions.		

<b>5. FAN TO HOUSING EFFICIENCY</b>		<b>YES</b>	<b>NO</b>
5.1	The high efficiency fan and housing design combines a 25" diameter fan and low fan tip clearance. This provides substantial engine horsepower reserve for picking up dense debris under adverse conditions and prevents engine stall-out. It also prevents excessive		

	material build-up in the fan housing and produces the most efficient ratio of intake material to hopper air exhaust.		
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**6. FAN HOUSING**

**YES**

**NO**

6.1	The fan housing is approximately 32-3/8" high, 34-1/4" long, and 10-1/2" wide, made of 1/4" steel plate.		
6.2	For added resistance to abrasive debris, the housing includes a two-piece replaceable liner made of 1/4" thick steel.		
6.3	To prevent worn liner sections from being drawn into the rotating fan blades, the sections are secured by ten alloy steel flat head socket cap screws and stover lock nuts. Non-bolted or slip in liners are not acceptable and may pose a safety hazard as they may dislodge during operation. Deviations not accepted.		
6.4	The fan housing is rigidly attached to the engine frame. To prevent severe engine and fluid coupler damage should large foreign objects be sucked into the blower housing, the back of the blower housing incorporates a safety band clamped to the fluid coupler housing, to divert shock loads to the engine frame rather than to the fluid coupler housing and engine block.		
6.5	Fan removal is accomplished by removing eleven bolts on the adaptor flange at the front of the housing. In order to change the fan, it is not necessary to remove the entire blower housing.		

**7. 45 DEGREE HOSE ADAPTER**

**YES**

**NO**

7.1	At the fan inlet, a 45 degree hose adapter for added hose movement and storage while keeping sealed air flow throughout the suction process. Bolted design allows for easy interchangeability.		
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**8. FAN DISCHARGE**

**YES**

**NO**

8.1	Discharge is directly from the fan housing to the hopper via a 10 gauge all steel welded chute. The chute has a break-away connection with a 1/4" thick top plate sealed by a half inch thick closed-cell foam rubber gasket.		
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**9. SUCTION HOSE**

**YES**

**NO**

9.1	The suction hose is 16" diameter, 10' long and includes a tube, carcass, reinforcing wire, cover, and cuff.		
9.2	The tube is abrasion-resistant NC/SBR and the inner surface has a wax blooming rubber liner that resists wear, reduces friction, and decreases build-up of leaf material. The carcass is multi-ply woven polyester fabric.		
9.3	The reinforcing wire is 0.177" diameter spring steel rolled at 1-1/2" pitch for easy flexing and long life.		
9.4	The cover consists of black abrasive resistant neoprene over the entire outside of the hose, providing excellent wear and resistance to weather, oil, and ozone.		
9.5	Each end has straight heavy cuffs to allow bolting for strong installation.		
9.6	The hose weighs 7.5 pounds per foot to combine flexibility with heavy duty performance.		
9.7	A metal operator handle and arm assembly is provided at the intake. Pick-up is from the curb side with no interruption of normal traffic flow.		

<b>10. HYDRAULIC HOSE SUPPORT</b>		<b>YES</b>	<b>NO</b>
10.1	The 12 volt electric-hydraulic power unit provides up and down movement of the standard hose boom. This is done through a two inch cylinder that is activated with push button switches mounted in a hand held pendant which can be mounted at the operator's station.		
10.2	The standard hose boom is designed with two flange bearings top and bottom, bolted solid with grease fittings included, less binding or wear on the boom is accomplished. The hose support hydraulic system is independent of the hopper dump circuit.		

<b>11. HOPPER AND HOPPER FRAME</b>		<b>YES</b>	<b>NO</b>
11.1	The hopper frame is 100-3/4" wide, 149" long. The cross members are made of 5" @ 9 pounds per foot channel supporting the width of the hopper.		
11.2	The main channels are made of 6" x 2" x 5/16" wall rectangular tubing and 34" wide by 148-3/4" long and are welded to the cross channels in such a way as to maintain a 6" overall height. The hopper and frame assembly form a unitized structure. Deviations not accepted.		
11.3	The hopper dimensions are 101" wide, 149" long, and 80" high, creating a capacity of 25 cubic yards. Deviations not accepted.		
11.4	The hopper is made from 12 gauge sheet steel all welded construction with five supporting ribs of 3" structural channel encircling the hopper for strength. The inside of the hopper is smooth for ease of dumping a fully packed load.		
11.5	The top of the hopper has slide-in filter screens in framed steel sections reinforced with 1-1/2" expanded metal. The replaceable aluminum mesh screen is bolted to the screen frames.		
11.6	The hopper assembly is attached to the main frame by a 3/8" thick steel plate hinge assembly which is formed, bushed, and welded to the rear of the hopper frame. This hinge assembly attaches to the main frame with a 1-1/2" diameter by 39" long steel pin.		

<b>12. TOP HINGED DOOR</b>		<b>YES</b>	<b>NO</b>
12.1	The hopper has a one-piece top hinged rear door with spring-compensated counter-balance to aid in holding the door open for dumping.		
12.2	The door is made of 12 gauge sheet steel, formed at a 45 degree angle, 8-1/2" from the top and bottom edges.		
12.3	The inside of the door is reinforced on all sides, creating a unitized box around the perimeter of the door. The top and bottom reinforcing angles are 3" by 3" by 3/16".		
12.4	The door hinges are 1/4" steel and incorporate a connecting eye for the counter balance springs. The springs are 3" in diameter with a 24" free length, made from 0.4" diameter wire, and positioned 3" above the top of the hopper. Each spring generates a 460 pound load when extended 10" and 800 pounds when extended 18". Each spring has a tension adjustment of 9" at the hopper end of the spring connection.		
12.5	Plates of 3/16" steel are welded to the bottom of the door to create a positive, easy operated door lock using stainless steel threaded latches.		

**13. HYDRAULIC SYSTEM****YES****NO**

13.1	The leaf collector has an independent hydraulic pump driven by the engine (not electric driven) to power the hopper dump cylinder.		
13.2	The hopper is self-dumping, using a 6" diameter three-stage hydraulic cylinder with a capacity of 40,000 pounds, applied directly upward at the front of the hopper and allows for a 47 degree dump angle.		
13.3	This front mounted cylinder provides a positive mechanical advantage which permits smaller diameter cylinders at lower operating pressure, compared to high pressure, negative mechanical scissor type hoists.		
13.4	The hydraulic systems include an oil tank, valve for operating the hopper dump cylinder, hydraulic hoses, and all connections operating at a maximum 2,000 psi.		

**14. TRAILER FRAME****YES****NO**

14.1	The leaf collector overall size is 101" wide, 314" long and 118" high.		
14.2	The main frame is 34" wide and 272" long, made of 6" x 2" x 5/16" wall rectangular tubing and 6" @ 10.5 pounds per foot steel channel.		
14.3	A 6" OD, 2-3/4" ID by 1-5/8" wire forged lunette eye is welded and gusseted to a 3/4" by 9" by 14" plate welded and gusseted to the 6" x 4" x 1/2" wall rectangular tube tongue. The plate incorporates eight 1-1/16" diameter holes on 4" centers to adjust for different towing vehicles.		
14.4	12,000 lb. static, 10,000 lb. lift capacity, 4" square, drop leg, side crank jack is bolted to the trailer frame tongue as a parking stand. The trailer has chains with safety hooks for towing.		

**15. DUAL TANDEM AXLE SUSPENSION AND BRAKES RATED AT 9,000 LBS****YES****NO**

15.1	The trailer has two 4" diameter tubular alloy steel axles rated at 9,000 pounds each, four slipper leaf spring assemblies rated at 4,500 pounds each, swivel equalizers between the axles, and oil bath hubs.		
15.2	The unit is equipped with eight 7.5-16 10 ply tires having a 66" track.		
15.3	Axles, springs, and tires are attached to a bogie sub-frame which is bolted to the trailer frame. The sub-frame is fabricated of rectangular 3/16" wall steel tube and is 120" long by 47" wide. There are five supporting cross channels of 6" @ 8.2 pounds per foot structural steel. The tire center line does not exceed the center line of the supporting springs by more than 12", thus distributing the weight of the hopper and contents.		
15.4	The leaf collecting unit has electrically operated brakes on both axles, controlled from the towing vehicle with a plug connector between the trailer frame and the towing vehicle. The unit is equipped with an electronic brake control that requires no hydraulic connection to the towing unit and a break-away safety switch which will apply the brakes on all wheels in the event the towing vehicle and leaf collector become separated.		

<b>16. LIGHTS</b>		<b>YES</b>	<b>NO</b>
16.1	The unit is equipped with LED lights and reflectors in accordance with Federal Motor Vehicle Safety Standards.		

<b>17. SAFETY PACKAGE</b>		<b>YES</b>	<b>NO</b>
17.1	A conspicuity tape located on the side of unit and at the top rear, designed to meet trailer safety requirements.		
17.2	Safety bumper is mounted at rear of unit; approximately 19 inches off ground (depending on axle choice) with stop and turn lights mounted in bumper		
17.3	Bumper is made of 6 x 3 x 1/8 inch wall, 90 inches wide gusseted and capped for strength and rigidity.		

<b>18. PAINT</b>		<b>YES</b>	<b>NO</b>
18.1	The hopper, engine cover, and fan housing are thoroughly cleaned and given two coats of rust inhibiting primer and two coats of white finish. The trailer frame and axles are similarly primed, and finished in black.		

<b>19. WARNING BEACON</b>		<b>YES</b>	<b>NO</b>
19.1	A 360 degree amber strobe is installed on the hopper so that it is visible from the sides and rear of the unit and wired to operate when the engine is running.		

<b>20. DELIVERY TIME</b>		<b>YES</b>	<b>NO</b>
20.1	Delivery time shall be stated and will be a consideration. Delivery must be by September 15, 2014.		

Bidder: \_\_\_\_\_  
 Company

Signature: \_\_\_\_\_ Title: \_\_\_\_\_  
 Name

Date: \_\_\_\_\_