NOTICE OF AWARD OF CONTRACT

TO: VIRGINIA PUBLIC WORKING EQUIPMENT

DATE ISSUED: SEPTEMBER 16, 2013
CURRENT CONTRACT NO: 760-13
CONTRACT TITLE: LEAF COLLECTION TRUCK

THIS IS A NOTICE OF AWARD OF CONTRACT AND NOT AN ORDER. NO WORK IS AUTHORIZED UNTIL THE VENDOR RECEIVES A VALID COUNTY PURCHASE ORDER ENCUMBERING CONTRACT FUNDS.

Your firm is awarded the above referenced contract in accordance with the response submitted by your on August 20, 2013. The contract term covered by this Notice of Award is effective IMMEDIATELY and expires on SEPTEMBER 30, 2018.

The contract documents consist of the terms and conditions and specifications of Invitation to Bid No. 760-13, including any exhibits, attached or amendments thereto.

CONTRACT PRICING:
1) PRICE ADJUSTMENT FOR EXTENSION OPTIONS BASED ON CPI-U FOR THE MONTH OF NOVEMBER.

ATTACHMENTS:
1) CONTRACTOR BID FORM FOR ITB NO. 760-13
2) SPECIFICATION EXCERPT 760-13-13
3) RIDER CLAUSE

EMPLOYEES NOT TO BENEFIT:
NO COUNTY EMPLOYEE SHALL RECEIVE ANY SHARE OR BENEFIT OF THIS CONTRACT NOT AVAILABLE TO THE GENERAL PUBLIC.

VENDOR CONTACT: AL CLARY
EMAIL: AL@VPWE.COM
TELEPHONE NO.: 804-730-4040

COUNTY CONTACT: ADAM LEHMANN
EMAIL: ALEHMAN@ARLINGTONVA.US
TELEPHONE NO.: 703-228-6466

CONTRACT AUTHORIZATION DISTRIBUTION

IVETTE GONZALEZ, CPPB
Procurement Officer

BID FOLDER: 1

Date 9/16/13
ARLINGTON COUNTY, VIRGINIA
OFFICE OF THE PURCHASING AGENT

INVITATION TO BID NO. 760-13

BID FORM

PAGE 1 OF 4

SUBMIT TWO (2) FULLY-COMPLETED AND SIGNED BID FORMS TO THE OFFICE OF THE BID CLERK, SUITE 511, 2100 CLARENDON BLVD., ARLINGTON, VIRGINIA, 22201 (ONE FORM SHALL CONTAIN AN ORIGINAL LONGHAND SIGNATURE; THE OTHER SHALL BE A PHOTOCOPY OF THE SIGNED ORIGINAL)

BIDS WILL BE OPENED AT 2:30 P.M., ON AUGUST 13, 2013

FOR PROVIDING LEAF COLLECTION TRUCK PER THE TERMS, CONDITIONS AND SPECIFICATIONS OF THIS SOLICITATION:

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<tr>
<th>EQUIPMENT TYPE</th>
<th>COST PER UNIT</th>
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<tr>
<td>LEAF COLLECTION TRUCK</td>
<td>$2,851,088.00</td>
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The undersigned understands and acknowledges the following:

The official, true, and complete copy of the solicitation documents, WHICH SHALL INCLUDE ALL AMENDMENTS THERETO, is the hard copy of the documents available from the Office of the Purchasing Agent.

An electronic copy of the solicitation documents provided at the County Purchasing Agent’s website (http://www.arlingtonva.us/purchasing) is subject to an important disclaimer which must be acknowledged online before the documents can be downloaded.

Each bidder is responsible for determining the accuracy and completeness of ALL solicitation documents they receive, including documents obtained from the County by either of the methods described above, and documents obtained from all other sources.

BIDDER NAME: Virginia Public Works Equipment Co.
BID FORM, PAGE 2 OF 4

TRADE SECRETS OR PROPRIETARY INFORMATION:
Trade secrets or proprietary information submitted by a bidder in connection with a procurement transaction shall not be subject to public disclosure under the Virginia Freedom of Information Act. However, Section 4-111 of the Arlington County Purchasing Resolution states that the bidder must invoke the protection of this section prior to or upon submission of the data or other materials, and must identify the data or other materials to be protected and state the reasons why protection is necessary.

Please mark one:

No, the bid I have submitted does not contain any trade secrets and/or proprietary information.

Yes, the bid I have submitted does contain trade secrets and/or proprietary information.

If Yes, you must clearly identify below the exact data or other materials to be protected and list all applicable page numbers of the bid containing such data or materials:

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

State the specific reason(s) why protection is necessary:

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

If you fail to identify the data or other materials to be protected and state the reasons why protection is necessary in the space provided above, you will not have invoked the protection of Section 4-111 of the Purchasing Resolution. Accordingly, effective upon the award of contract, the bid will be open for public inspection consistent with applicable law.

CERTIFICATION OF NON-COLLUSION: The undersigned certifies that this bid is not the result of, or affected by, any act of collusion with another person (as defined in the Code of Virginia § 59.1-68.6 et seq.), engaged in the same line of business or commerce; or any act of fraud punishable under the Virginia Governmental Frauds Act (Code of Virginia § 18.2-498.1 et seq.).

CONTACT PERSON AND MAILING ADDRESS FOR DELIVERY OF NOTICES
Provide the name and address of the person designated by the Bidder to receive notices and other communications (Refer to section headed Notices in the Contract Terms and Conditions of this solicitation for further details):

AL CLARY
Virginia Public Works Equipment Co.
8383 Old Richmond Rd.
Mechanicsville, Va 23116

BIDDER NAME: Virginia Public Works Equipment Co.
BID FORM, PAGE 3 OF 4

THE PROPER LEGAL NAME OF THE FIRM OR ENTITY SUBMITTING THIS BID MUST BE WRITTEN IN THE SPACE PROVIDED BELOW. THIS BID FORM, AND ALL OTHER DOCUMENTS REQUIRED BY THE INVITATION TO BID TO BE SUBMITTED WITH THIS BID FORM, INCLUDING, BUT NOT LIMITED TO ALL ISSUED AMENDMENTS, MUST BE FULLY AND ACCURATELY COMPLETED AND SIGNED BELOW BY A PERSON AUTHORIZED TO LEGALLY BIND THE BIDDER, OR THE BID MAY BE REJECTED:

AUTHORIZED SIGNATURE  

PRINT NAME AND TITLE  

INDICATE THE NAME AND CONTACT INFORMATION OF THE PERSON WHO CAN RESPOND AUTHORITATIVELY TO ANY QUESTIONS REGARDING THIS BID (I.E. PROJECT MANAGER):

NAME (PRINTED):  

E-MAIL ADDRESS:  

TEL. NO.:  

SUBMITTED BY: (LEGAL NAME OF ENTITY)  

ADDRESS:  

CITY/STATE/ZIP:  

TELEPHONE NO:  

FACSIMILE NO.:  

TAX ID NUMBER (EIN/SSN):  

VA. CONTRACTOR LICENSE #:  

THIS FIRM IS A:  

☐ CORPORATION,  

☐ GENERAL PARTNERSHIP,  

☐ LIMITED PARTNERSHIP,  

☐ UNINCORPORATED ASSOCIATION,  

☐ LIMITED LIABILITY COMPANY,  

☐ SOLE PROPRIETORSHIP  

IS FIRM AUTHORIZED TO TRANSACT BUSINESS IN THE COMMONWEALTH OF VA?  

IDENTIFICATION NO. ISSUED TO THE FIRM BY THE SCC:  

ANY BIDDER EXEMPT FROM SCC AUTHORIZATION REQUIREMENT SHALL INCLUDE A STATEMENT WITH ITS BID WHY THEY ARE NOT REQUIRED TO BE SO AUTHORIZED  

IS YOUR FIRM OR ANY OF ITS PRINCIPALS CURRENTLY DEBARRED FROM SUBMITTING BIDS TO ARLINGTON COUNTY, VIRGINIA, OR ANY OTHER STATE OR POLITICAL SUBDIVISION?  

BIDDER STATUS:  

MINORITY OWNED:  

WOMAN OWNED:  

NEITHER:  

36  

760-13
USE OF CONTRACT(S) BY MEMBERS COMPRISING THE METROPOLITAN WASHINGTON COUNCIL OF GOVERNMENTS PURCHASING OFFICERS' COMMITTEE.

A. If authorized by the bidder(s), resultant contract(s) will be extended to any or all of the listed members as designated by the bidder to purchase at contract prices in accordance with contract terms.

B. Any member utilizing such contract(s) will place its own order(s) directly with the successful contractor. There shall be no obligation on the part of any participating member to utilize the contract(s).

C. A negative reply will not adversely affect consideration of your bid/proposal.

D. It is the awarded vendor's responsibility to notify the members shown below of the availability of the Contract(s).

E. Each participating jurisdiction has the option of executing a separate contract with the awardee. Contracts entered into with a participating jurisdiction may contain terms and conditions unique to that jurisdiction including, by way of illustration and not limitation, clauses covering minority participation, non-discrimination, indemnification, naming the jurisdiction as an additional insured under any required Comprehensive General Liability policies, and venue. If, when preparing such a contract, the general terms and conditions of a jurisdiction are unacceptable to the awardee, the awardee may withdraw its extension of the award to that jurisdiction.

F. The issuing jurisdiction shall not be held liable for any costs or damages incurred by another jurisdiction as a result of any award extended to that jurisdiction by the awardee.

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BIDDER NAME: Virginia Public Works Equipment Co.
CURRENT MODEL YEAR CRANE CARRIER, MODEL COE2, 4X2, DUAL STEER; w/ REMOTE CONTROL LEAF COLLECTION SYSTEM AND 20 CUBIC YARD COMPACTION BODY "BARREL" FOR UP TO FIVE (5) YEARS.

GENERAL SPECIFICATIONS:
1. This specification describes a current model year Crane Carrier, model COE2, 4X2, Dual Steer: "or Equivalent" w/Remote Controlled Leaf Collection System and 20 Cubic Yard Compaction Barrel. Equipped with all of the standard features for this model along with the items in the "Detailed Specifications Sections".
2. Registered Owner: County of Arlington, Board, 2701 S. Taylor St., Arlington, VA 22206
3. Delivery: FOB: ARLINGTON COUNTY, Equipment Bureau

DETAILED SPECIFICATIONS for CAB & CHASSIS:
1. Year - Make & Model: current model year Crane Carrier, COE2 4 X 2 Dual Steer "or Equivalent"
2. Minimum Engine: Cummins, Clean Idle ISC8.3-300 hp 8.3 Liter, 24-valve, in-line 6-cylinder turbocharged diesel, charge-air-cooled with Interact electronic control system(s) with advanced diagnostics, prognostic and programming options. Engine shall be rated for 300 hp @ 2,000 RPM, 2,200 Max. RPM; Torque rating is 860 lbs. ft. @ 1,300 RPM.
3. Engine Protection: Automatic type, with 30-second warning before shutdown for low engine oil pressure, low coolant level and high coolant temperature.
4. Transmission: Allison 3500 RDS, 4th Generation controls with oil, filter and clutch condition monitors, 6-speed automatic w/5-speed programming, electronic shift type, includes two (2) 10-bolt PTO mounting pads, with internal oil filter, integral oil cooler in radiator. Low range torque reduction. Prognostic enabled, includes TCM program, SEM Shift Energy Management, LRTP Low Range Torque Protection; Allison Refuse GRP. 105, PKG. 145 (AG) program. TranSynd oil and Allison’s (5) five year extended warranty.
5. Transmission Shifter (Dual): 4th Generation pushbutton style shift controller, illuminated digital display with indicator lights, gear / mode selection display.
6. Minimum GVWR: 47,000 lb.
7. Frame: Straight full-depth, formed "C" shaped side member rails measuring 11" x 3.5" x .38" thick @ 21.5 lbs. per foot, 120,000 psi min. yield. Section Modulus, (SM): 18.61 in.3; rated RMB: 2,233,200 in. lbs. minimum per rail from front axle to end of frame. 30' length ladder type frame with 34" nominal width outside frame rails, fabricated and reinforced tubular cross members, fastened with torque prevailing SAE Grade 8 flanged head nuts and bolts: no rivets in ladder frame assembly.
8. Wheelbase: 206" from axle centerlines.
9. Minimum Radiator: 839 sq. in., aluminum extrusion, down flow design and construction with welded top and bottom tanks; Shell Rotella ELC Pre-diluted, 50/50 mix to -34°F freeze protection Extended Life Coolant; thermostatically controlled on-off fan drive; silicone coolant hoses with stainless steel constant torque type hose clamps. Radiator is mounted in front of the engine. Reinforced plastic molded 11-blade, 28" diameter sucker type fan and fabricated shroud; low coolant probe in surge tank. Maximum ambient operating temperatures are: 97°F at continuous peak torque; 106°F at continuous peak horsepower.
10. Air Cooler: Heavy-duty welded type air cooler has a welded construction aluminum core and formed aluminum tank construction. Silicone rubber molded hoses with stainless steel constant torque type hose clamps; solid mounted in front of radiator.
11. Air Intake: Parker Eco III XL-13" / dry element, 2-stage filtration type with safety element; air restriction / service indicator on air filter outlet; air intake includes 90° ram air hood with water / snow separator located approximately 14" above cab, LH side; aluminized stack.
12. Starter: Delco-Remy 39MT Heavy Duty Soft Start w/Over-Crank Protection (OCP) & Starter Lock Out (SLO), Positork motor; 12-volt, negative ground.
13. Minimum Alternator: Delco-Remy 24-SI, 160-amp brush type, 12-volt negative ground, belt driven, high output at idle and high temperature design with dual internal fans. Maximum speed 10,000 rpm continuous.

14. Batteries: Three (3) 12-volt Group 31, low maintenance type; with combined rating of 2,775 CCA; 925 CCA each. Battery cables are 0000 sized, with molded color-coded ends, covered with heat resistant corrugated plastic loom. External battery “jumper-studs” with color coded rubber boots shall be located externally of the battery box. Shall be equipped with a battery disconnect switch externally mounted of cab and easily accessible.

15. Fuel Filter: in addition to the standard filter, a Fleetguard FS1000 fuel water separator, with heater, sight glass, and drain. Also required is a light mounted on the dash to indicate water in the separator.

16. Air Compressor: Cummins-Wabco 18.7 CFM air compressor, direct coupled drive, piped directly through engine air intake piping.

17. PTO: “Hot-shift” powered through Allison RDS transmission only. “Shall be installed by and warranted through leaf collection body manufacturer.”

18. Front Axle: Dana-Spicer D2000P wide track; 20,000 lbs. capacity, with maximum tire cramp angle.

19. Front Suspension: Tapered, parabolic springs 4" wide x 50.56" long; 17,000 lbs. capacity at the ground for a smoother ride. Springs are of front eye and rear slipper configuration, featuring replaceable rear slipper wear pads and encapsulated, non-lubricated spring-eye bushings for long life and durability. Front suspensions include two (2) heavy-duty 1.62" bore hydraulically dampened, double-acting type shock absorbers.

20. Steering: Sheppard XD-120 integral power assist type steering gear, frame mounted; 4-quart remote reservoir with dipstick and three (3) replaceable filters; glide coated slip shaft splines on intermediate shaft between gear and column.

21. Steering Columns and Instrumentation (Dual Steer): Tilt / telescopic; headlight dimmer switch mounted on column; self-canceling turn signal switch integral to steering column and 4-way hazards lever. 18" steering wheel for maximum driver space. Full instrumentation on both LH & RH sides including Engine, Trans. and Coolant temp, gauges, hour meter, speedometer, tachometer etc.

22. Rear Axle: Dana-Spicer model S30-190 single reduction gearing, 18.5" diameter ring gear; On-Highway rating 30,000 lbs. capacity, single axle, Ratio 6.14:1 for 57 mph.

23. Rear Spring: Reyco 102CC multi-leaf with a 30,000 lbs. capacity.

24. Brakes:
   a. Front: Air operated 16.5" x 7", "S"-cam type with ES (Extended Service) linings, cast iron drums, dust shields, Bendix automatic slack adjusters, 30" Bendix brake chambers; rubber plugged brake lining inspection holes in dust shields.
   b. Brakes Rear: Air operated 16.5" x 7", "S"-cam brakes with non-asbestos ES (Extended Service) linings, cast iron drums, dust shields, spring type "piggy-back" park brake chambers all rear wheels, anti-compound brake system, Bendix automatic slack adjusters; 30/36" piggyback Bendix brake chambers; rubber plugged brake lining inspection holes in dust shields.

All chambers shall be equipped with "BrakeSentry" visual brake stroke indicator. 

http://www.bra kesentry.com/

25. Air System: FMVSS 121 dual circuit ABS / 4-channel type air braking system, color coded nylon tubing, quick connect/disconnect brake line fittings, Bendix B/W AS-SI-EP heated air dryer w/13.2 cfm, Remote mounted manifold with Bendix DV-2 auto moisture ejectors for all air tanks, stainless steel braided / Teflon lined air compressor discharge line. Three (3) steel air tanks are located inboard of frame rails; 6,360 cu. in. minimum air reservoir capacity. Includes low-pressure warning light and alarm when air brake system pressure drops below 60 PSI.

26. ABS Brakes: Bendix / 4-channel cab mount system with wheel end sensors, dash mounted indicator lamp and code check switch. The 4S/4M ABS system configuration maintains four (4) wheel end sensors and four (4) electronically controlled modulator valves. one (1) at each wheel end, or two (2) per axle. Data links are configured for SAE J1587.

27. Tires:
28. **Wheels:** Ten (10) hole, 11.25" B.C. hub piloted, "Black" powder coated steel disc wheels, with minimum of two (2) hand holes; 22.5" x 8.25" steel disc wheels.

All outboard wheel positions shall be equipped with GREEN "Wheel Check" (or equal) loose nut indicators. [http://www.wheel-check.com/](http://www.wheel-check.com/)

29. **Fuel Tank:** FHWA approved 26" diameter steel tank construction, 60-gallon capacity, right / curb side frame mounted 80.50" behind centerline of front axle, 29" long tank, 2.5" below top flange of frame. Top of tank draw and return fuel line ports, steel braided hoses, 4" fill neck on center, vented tank and threaded cap.

30. **DEF Tank:** Rectangular plastic tank, 10 gallon capacity, 18" tall, 22.5" deep, 8" wide, with 12" wide bands mounted 38" from centerline of front axle to back of tank on right/curb side. Mounted flush with top of frame rail. Magnetic lock ring in filler neck; coolant heaters to keep DEF from freezing; DEF fluid lines are electrically heated. DEF low level light bar included in fuel gauge.

31. **Exhaust:** Diesel Particulate Filter (DPF) & Selective Catalytic Reduction (SCR); stainless steel exhaust tubing wrapped with insulation; DPF & SCR packaged outboard above frame rail behind the cab mounted horizontal above the engine; 4" diameter tailpipe w/curved elbow outlet to left side with 36" vertical exhaust stack.

32. **Cab:** Tilt cab, 95.68" wide x 58" deep x 64" high, forward of front axle. A 45" floor height from ground on both sides of cab is provided with standard front tires. Design provides seating for dual sided driving. One (1) LH seat and one (1) RH seat. All panels are 2-sided aluminum for corrosion resistance. No rivets in cab front skin.

33. **Grab Handles:** One (1) Black, on each side; 14" long entry assist handle inside cab, bolted to "A" pillar post above dash. One (1) Black, on each side; 10" long entry assist handle inside cab, bolted to "A" pillar post below dash. One (1) Aluminum finish, on each side; 18" long inside cab behind door. One (1) Black, on each side; 32.5" outside cab behind door.

34. **Bumper:** Full width of cab; .25" thick steel, formed 18" tall channel; struts from bumper to frame; bolted to chassis frame; 20" of ground clearance shall be provided for increased approach angle, cutouts for radiator ventilation, recessed turn signals. Top of bumper shall be 38" above ground. Shall be painted Black.

35. **Lights:** All marker, brake/turn signal, clearance/marker, and backup lights shall be LED. Shall be equipped with Daytime Running lights.

36. **Additional Safety Warning Lights:** Two (2) Whelen Super-LED Beacon L360 Series "model L31H+F" with branch guard kit "model L360BGB" and mirror mounting brackets "model MIRROR40" mounted one on each side to the top of the mirror bracket. Two (2) Whelen 5G Lighthouse "model 5GA00FAR" flush mounted in the front bumper. Shall be equipped with Daytime Running lights.

37. **Interior Components:** Shall include AM/FM Stereo with dual speakers, Two (2) 12V power outlets, Integral Air Conditioning, Two (2) dash mounted cab fans, four (4) matching chassis keys.

38. **Seats & Belts:** air ride bucket seat LH and RH sides with over the shoulder belts. Seats vinyl covered and orange seat belts.

39. **Mirrors:** Two (2) West Coast style, Stainless steel rectangular 7" x 16" power and heated mirrors with separate 7" x 8" rectangular convex spot mirrors. One (1) Lang-Mekra "Look Down Mirror" (11" x 6") RH side.

40. **Wipers:** Electric 2-speed wipers with intermittent and include one (1) gallon fluid reservoir, with two (2) wet-arm type, 18" long wipers on 25" long wet arms with washers. Wipers shall be equipped with automatic headlight on feature.

41. **Tow Hooks:** Two (2) tow eyes mounted under front bumper.

42. **Horns:** one (1) electric & one (1) air horn.

43. **Back-up Alarm:** Warn or equal with adjustable Db.

44. **Safety Equipment:** Two (2) 5 bl. fire extinguishers, DOT required traffic triangle kit and standard first aide kit.

45. **State Safety Inspection:** Unit(s) shall have a valid inspection sticker from the month the unit(s) it is delivered to the County.
46. **Exterior Paint:** Cab Bright White (Dupont; White / N0007) and frame, wheels, front and back bumpers Black
47. **Electrical:** Circuit breakers required in lieu of fuses.
48. **Warranty:** Standard warranty.
49. **Minimum Extended Warranty:** shall be 72 months or 4500 engine hours or mile equivalent to cover; engine and engine electronics, including injectors and aftertreatment components/devices (SCR assembly, aftertreatment injector, decomposition reactor, mid-bed Ammonia sensor, DPF assembly, and hydrocarbon doser system). Warranty coverage periods shall commence when the unit is actually put into service as evidenced by owner’s records, rather than commencing upon delivery.
50. **Manuals and Software:** Operation/Maintenance/Parts Manuals on CD (compact disk). Software and software updates will be furnished at no charge for the entire warranty period for the engine, transmission and any chassis/body multiplexing, so that diagnostic tests can be performed by maintenance staff.

Should the County order multiple units from a vendor at one time then only three (3) complete set of manuals/software is required, so long as all units are identical.

51. **Technical Training:** Manufacturer shall provide complete operational and technical training for software and systems for Equipment Bureau staff. The training shall be provided at the Equipment Bureau facility; 2701 South Taylor Street, Arlington, VA 22003. The training shall consist of two (2) consecutive eight (8) hour days and shall include complete explanation and demonstration of all maintenance, operation, repairs, and technical diagnostic procedures of the CCC chassis into include the engine. The cost for training shall be included in the price of the unit(s). This training shall be provided within the first fifteen (15) business day of the delivery of the first unit to the Equipment Bureau.

**REMOTE CONTROLLED LEAF COLLECTION SYSTEM SPECIFICATION:**

1. **General:** The intent of these specifications is to cover the requirement to provide a heavy-duty chassis mounted vacuum leaf collector that vacuum from the right (passenger) side of the unit.

   The design of the unit shall incorporate the latest available technology and engineering capacities. All bolts shall have aircraft quality nylon lock nuts on the unit and any component that is riveted shall use only stainless steel rivets. For superior strength and durability of the machine, tab and slot construction procedures shall be used for all metal fabricated components.

2. **Power:**
   a. John Deere model 4045T four-cylinder diesel engine certified and rated for 74HP at 2500 RPMs *No Substitute*
   b. The engine is equipped with a 12-volt starter, alternator and a heavy-duty air cleaner.
   c. A heavy-duty 6.62” diameter X 21” long muffler that is horizontally mounted shall be supplied.
   d. The engine sound rating shall be no higher than 80 DBA at 50 feet.
   e. 12-volt battery shall be provided with a mounting bracket.
   f. To reduce the possibility of the radiator from becoming clogged with leaf dust, a pressurized “trash” style radiator shall be used. The radiator shall have a minimum of 3 cores to provide maximum cooling. For maximum engine cooling, an 18” diameter fan with seven 5” wide blades shall be provided. The fan blades shall be at a 40 chord angle and are capable of producing 7,600 cfm to pull the air through the radiator. The radiator shall be equipped with a bottom hinged secondary screen. The radiator screen shall be constructed out of ¾” expanded metal backed with 1/8” hardware screening. The use of fine window screening is not acceptable due to the lack of air that can pass through and the overall durability of it. The secondary radiator screen shall be held in place by two adjustable over-center clamps and can be opened and cleaned without powering down the unit.

3. **Engine Controls:**
a. The engine controls and instrument panel are to be mounted inside cab in clear
view of operator and reachable with ease.
b. The instrument panel shall be side hinged to allow easy access to the instrument
control wiring.
c. Controls include voltmeter, oil pressure gauge, water temperature gauge,
throttle, and tachometer and hour meter.
d. All engine-monitoring gauges must be illuminated with back lighting for early
morning or late evening operation.
e. All engine gauges shall be of marine quality to insure proper functioning in all
weather conditions.
f. All electrical controls and gauges are connected via circuit board with circuit
breaker protection. The use of electrical wiring strips and fuses is not
acceptable.
g. A relay shall be provided to isolate any external loads from the control circuit.
h. All electrical connections associated with the engine shall be made with heat
shrink connectors, no exceptions.
i. An automatic safety engine shutdown for low oil pressure and high water
temperature shall be provided.

4. Engine Enclosure:
   a. The engine is fully enclosed in a custom metal housing
   b. The enclosure shall have front and rear access doors that protect operators from
      all belts, fans and moving parts.
   c. Front and rear access doors shall have stamped louvers for optimum ventilation;
      open holes used for ventilation will not be acceptable.
   d. The top of the engine enclosure shall be completely removable without the use of
      tools; enclosures that are bolted together will not be acceptable.
   e. All access doors shall be securely held in place by adjustable twist latches.
   f. The top of the engine compartment shall have hinged doors for convenient access
      to the radiator cap and oil fill.
   g. Adjustable twist latches shall secure the top access door.

5. Fuel Supply: shall be provided by the chassis fuel system “No self-contain fuel
system will be excepted”

6. Power Transmission Belt Drive:
   a. The power take off is a heavy-duty spring loaded automotive type clutch with a 2-
      1/4” diameter hardened shaft.
   b. PTO shaft shall turn on 2 roller bearings that are pressed into the housing.
   c. The PTO shall be separate from the clutch assembly and bolt directly to the
      engine bell housing.
   d. The clutch shall consist of an automotive style industrial quality 13” pressure
      plate and a one-piece clutch disc.
   e. All clutch linkage must be on the outside of the housing so that it is not
      necessary to remove the clutch housing for adjustments.
   f. Power is transferred from the engine to the impeller shaft via a 4-grooved power
      band belt.
   g. Power band belt shall provide the suction fan with a 1:1 ratio with the engine
      PTO shaft speed, no exceptions.
   h. Both of the drive pulleys shall have a minimum diameter of 11”.
   i. The power band belt shall be constructed with Kevlar to provide the maximum
      amount of life with minimal stretching. No exceptions to this requirement.
   j. To minimize belt stretching, the maximum distance between the engine PTO shaft
      and the impeller drive shaft shall be 18”, no exceptions.

7. PTO Safety Engagement System:
   a. The PTO and clutch shall be equipped with a safety engagement system that
      prevents abrupt engagement of the PTO at high RPM’s. “Documentation MUST be
      provided with bid packet on this item, no exceptions.”
b. The PTO and clutch shall have an adjustable hydraulic cylinder that automatically ensures that every engagement is exactly the same no matter what operator activates it.

c. The assist cylinder shall be leak proof and incorporate a constant velocity speed control to ensure precise engagement speed of the PTO every time.

d. For safety reasons, the operator must be able to completely disengage the drive mechanism while the engine is running; fluid drive couplers are not acceptable alternatives to the PTO safety engagement system.

8. Vacuum Module Skid Frame:
   a. The skid frame shall be constructed of heavy-duty ¼" thick steel that is formed and properly balanced.
   b. The skid shall be designed to mount on any chassis with 32" centers.
   c. All components shall be bolted or riveted to the skid frame. "Bids submitted with components welded to the frame will not be acceptable."
   d. The overall dimensions of the unit shall not exceed 56" high, 101" wide and 48" long.

9. Suction Impeller:
   a. The impeller diameter shall be a minimum of 32” diameter with six gusseted blades.
   b. The blades are constructed out of 3/8" thick abrasive resistant T-1 steel with a Brinell hardness exceeding 400.
   c. For maximum vacuum and superior wear characteristics, the suction blades shall be straight (flat) with no curve or cups formed in them. "No exception to this requirement."
   d. Suction blades are to be welded to a backing plated with a minimum thickness of ¼". "No Exceptions".
   e. The suction impeller blades shall be keyed and notched into the back plating along with external gussets to provide the safest and strongest bond.
   f. The suction impeller blades shall have a gently serrated tip to lower the operating noise level.
   g. The suction impeller shall be secured to the drive shaft via a taper locking hub to provide a better-fit and easy removal.
   h. The taper locking hub shall have a safety ring to protect it from direct impact of foreign material.
   i. The suction impeller shall be both statically and dynamically balanced.
   j. The suction impeller shall be stress relieved via Bonal stress relief technology. This will ensure the safest and most durable impeller. "A copy of the Bonal stress report shall be supplied with each new unit."

10. Impeller Support:
   a. The impeller is supported by a minimum of 2-1/4” diameter X 26.5” long shaft. "No Exceptions".
   b. The impeller shaft shall be supported by two 2-1/4” diameter four bolt flange bearings. "Two bolt ball bearings will not be acceptable."
   c. The four bolt flange bearings shall have a double row of precision spherical roller bearings and shall utilize an eccentric locking collar to lock to the shaft. "The use of single row or ball type bearings is not acceptable."
   d. The flange bearings shall be mounted to steel plates with a thickness not less than 7/16".
   e. The flange bearings shall have a Teflon seal to prevent any foreign material from seeping through the blower-housing opening.
   f. The bearings shall be enclosed in the protective engine compartment. "Bids submitted that require removal of the belt guard to access the bearings will not be acceptable."
   g. After the removal of the blower housing cover plate, the entire suction fan, shaft and bearings shall be removable as a complete assembly by the removal of only 8 bolts. "No exceptions to this requirement."

11. Blower Housing:
a. The blower housing shall be located at the side of the skid and bolted in place.

b. The outer scroll of the blower housing is constructed out of 7-gauge Hardox hardened steel.

c. The front and back plates of the blower housing are constructed out of 7-gauge Hardox hardened steel.

d. The interior of the housing shall be equipped with a two-piece slip in liner constructed out of ¾” thick abrasion resistant steel that requires no bolts.

e. An additional bolt in ¾” thick liner shall be provided to protect the housing from material that gets carried over before it exits the housing. *No Exception*.

f. A barrel style suction inlet shall be located on the curbside of the unit.

g. The barrel style inlet shall provide a travel and working position for the suction hose.

h. Two (2) 1” diameter flange bearings will allow the barrel to pivot; swivel inlets without bearings shall not be acceptable.

i. The pivot point of the barrel inlet shall be in the same line as the bearings that support the suction hose boom for optimum performance.

j. The barrel inlet shall lock into a travel position as well as a working position; swivel inlets that do not lock into position will not be accepted.

k. A spring loaded locking handle shall be located on the bottom side of the barrel inlet to release the swivel and automatically lock it into either the travel.

l. An inspection/clean out door is provided with a safety kill switch that shuts the engine down when opened or improperly closed.

m. The bottom of the blower housing shall have a drain that extends down past the chassis frame rail to help prevent water from accumulating when not in use.

n. A 3 inch LED work light mounted on the fan housing to illuminate the hose working area (light shall be mounted to the front of the housing in such a way that it illuminates the work area but not shine into the right side mirror or cast a glare into the right side door window).

12. Exhaust Duct

a. A rectangular extension of the blower housing shall be provided that exits the blower housing horizontally on the topside.

b. The exhaust ductwork shall be constructed out of 7-gauge Hardox hardened steel.

13. Intake Hose:

a. The intake hose shall be 16” diameter X 120” long of heavy-duty wire reinforced flexible rubber hose with a wall thickness of 3/8”.

b. The intake hose shall be suspended from the hydraulic boom arm by an adjustable chain, for operator’s safety, the use of springs or cables will not be acceptable.

c. The hose support tube shall connect to a metal hose support band wrapped around the hose for a secure and safe connection. The use of rubber or belting materials to support the weight of the intake hose is not acceptable.

d. The intake hose is equipped with a 16” nozzle with a handle that is constructed out of 12-gauge steel.

e. The suction nozzle shall have wear strips welded to the bottom to prevent the nozzle from being sucked to the ground surface.

f. The suction hose shall be secured to the barrel swivel inlet via an over-center clamp; hoses that are bolted to the swivel inlet will not acceptable.

g. The hose shall be capable of pivoting backwards and lock to the unit for transport without having to remove the hose.

14. Hydraulic Boom

a. The intake hose raises and lowers via an electric (DC) operated hydraulic pump and motor with controls located on the intake hose nozzle.

b. The hydraulic boom allows the operator to position the intake hose with little effort.

c. The pivot point of the boom shall include a bushing and grease fitting for proper lubrication.

d. The boom shall raise and lower by a hydraulic cylinder with a minimum 1-1/2” diameter piston with a minimum stroke length of 12”.
e. A flow control valve shall be provided so that the downward speed of the boom is adjustable.
f. The hydraulic boom shall pivot into a working and travel position on two heavy-duty two-bolt flange bearing and a 1.5" diameter shaft assembly.
g. The hydraulic boom assembly shall be mounted directly over the center of the suction hose so that it can work freely to the front or rear of the unit. Side mounted booms will not be acceptable.
h. The electric hydraulic pump to power the hose boom shall be conveniently located on the backside of the suction blower housing with a protective cover.
i. The hydraulic boom shall be straight for maximum strength, booms with kinks or bends will not be acceptable.
j. The boom assembly shall be mounted to a pedestal base that has a minimum thickness of ½”.
k. A quick disconnect coupler shall be used on the end of the hydraulic hose.
l. Boom controls shall be single joystick and located in the operator's compartment (chassis cab) mounted on passenger side positioned for ease of control.
m. The boom control joystick must incorporate a dead man safety trigger.
n. The electric hydraulic pump to power the hose boom shall be conveniently located on the backside of the blower housing.

15. Paint:
a. Automotive style paint equal fully primed and painted with Sikken, Imron or better shall be provided. To match cab paint (Bright White Dupont: White / N0007).
b. To provide the long lasting paint job, all components must be painted prior to assembly. "No exceptions to this requirement".
c. The unit’s latches, bolts, nuts, wires, cables, bearings, fittings or grease fittings painted will not be accepted.
d. The unit’s engine shall be left the original color so that no wires or labels are painted over. "No exceptions to this requirement".
e. The entire unit shall be painted with a finish coat including under the skid decking and engine compartment.
f. All hardware shall be cadmium plated and left unpainted.
g. Each component shall be properly prepared, primed with an acid etching primer, than painted with two coats of customer’s choice of color.

16. Warranty:
a. The entire unit shall carry a one-year warranty for parts and labor against manufacturing defects and materials.
b. The John Deere engine and the Auto PTO clutch shall have a minimum two-year warranty.

17. Technical Training: Manufacturer shall provide complete operational and technical training for the individual components software and systems for Equipment Bureau staff. The training shall be provided at the Equipment Bureau facility; 2701 South Taylor Street, Arlington, VA 22003. The training shall consist of two (2) consecutive eight (8) hour days and shall include complete explanation and demonstration of all maintenance, operation and repair procedures of the vacuum module, controls and hydraulic systems for both the vacuum module and the compaction body. The cost for training shall be included in the price of the unit(s). This training shall be provided within the first fifteen (15) business day of the delivery of the first unit to the Equipment Bureau.

18. Operational Training: The vendor shall provide operator training for a minimum of four (4) at the County’s Trade Center facility.

19. Manuals and Software: Operation/Maintenance/Parts Manuals on CD (compact disk). Software and software updates will be furnished at no charge for the entire warranty period for the engine, transmission and any chassis/body multiplexing, so that diagnostic tests can be performed by maintenance staff.
Should the County order multiple units from a vendor at one time then only three (3) complete set of manuals/software is required, so long as all units are identical.

20 CUBIC YARD COMPACTION BODY "BARREL" SPECIFICATION:

1. **Capacity:** 20 Cubic Yards
2. **Body Construction:** 3/16" continuous cylindrical design 3" X 3" X 3/8" square tubing external reinforcing rings
3. **Tailgate Construction:** 3/16" steel with 3" X 3" X 3/8" square tubing reinforcing ring. Two (2) tailgate lift cylinders with pilot check valves. One (1) tailgate locking cylinder.
4. **Body Floor (Cylinder Tray):** 3/8" Hardox hardened steel with ¼" replaceable channels
5. **Compaction Plate:** 3/16" steel design. Three (3) replaceable wear slides per side.
6. **Access Door:** 44" X 35" hinged door on each side of body.
7. **Hydraulic Design:**
   a. Hydraulics to be powered by a transmission mounted Hot-Shift PTO. It will be used for compaction and ejection.
   b. Compaction cycle control shall be push button controlled from inside the truck cab with an electric-over-air operated spool valve.
   c. The oil reservoir shall be not less than 55 U.S. gallons. The top of the reservoir tank not to exceed 54" above ground level in order that oil may be added without the necessity of climbing on unit.
   d. The hydraulic system will be equipped with a hydraulic oil filter on the return line inside, on the top of the tank and a 100 wire mesh suction strainer. There shall be a high pressure, in-line filter of 10 micron capability in the pressure line ahead of the main control valve. The filter will be of the replaceable element type and shall be furnished with a 10 micron cartridge element.
   e. The hydraulic system shall be equipped with a pressure protection device to insure a maximum of 2400 psi operating pressure.
8. **Hydraulic Cylinder:** Minimum of 6 ¼" bore, two stage (skip stage) double action telescopic, 210" stroke.
9. **Warning Lights:** Mounted to rear tailgate door one (1) Whelen Super-LED Beacon L360 "model L31*P" with branch guard "model L360BGB" and mounted to Whelen flat vertical surface mounting bracket "model BBKT30". Two (2) Whelen Super-LED Beacon L360 "model L31*P" with branch guard "model L360BGB" and mounted to Whelen flat vertical surface mounting bracket "model BBKT30" mounted one each side on the side of the barrel just before the rear tailgate door open, 10 inches below the outer center must width of the body. One (1) Whelen Traffic Advisor LED Straight Style with control head "model TAL85". Control shall be mounted in the center of dash so that it can be reach by the drive when they are in either the LF or RF seat. Two (2) flush mounted Whelen 5G Lightheads "model 5GA00FAR" in the rear bumper. All body warning lights shall be wired to the ignition hot circuit of the cab and chassis.
10. **Warning Signage & Decals:** Shall be 3’x 3’ sign with reflective material stating “Caution! Stay Back 50 Feet”. Rear bumper shall be equipped with two (2) strips of red and white reflective tape the full length of the bumper one at the top and the other at the bottom facing rearward.
11. **Backup Camera:** Safety Vision (No Substitution) (http://www.safetyvision.com/)
   a. Monitor (model SV-LCD70RP) shall be mounted to interior cab roof and mounted so that it can be viewed from either the left seat or right seat.
   b. Camera (model SV-700HDUW)
   c. Mounting bracket (model SV-LCDBRKY)
   d. Harness/Cable Kit - fifty (50) feet
12. **Vehicle Tracking System:** RASTRAC (No Substitution) (http://rastrac.com/) installation of the tracking unit, antenna and component micro switches locations will be determined at the final vendor’s facility prior to any unit(s) delivery.
   a. Tracking Unit (model C403)
   b. Antenna (model C101)
   c. Unit Wiring Harness (model C133)
13. **Paint:** entire body assembly shall be properly prepared, primed and painted with acrylic enamel, to match cab paint (Bright White Dupont: White / N0007).
14. **Manuals:** Operation/Maintenance/Parts Manuals on CD (compact disk).
SHOULD THE COUNTY ORDER MULTIPLE UNITS FROM A VENDOR AT ONE TIME THEN ONLY THREE (3) COMPLETE SET OF MANUALS/SOFTWARE IS REQUIRED, SO LONG AS ALL UNITS ARE IDENTICAL.

Each unit delivered shall have a complete set of service filters for the unit's initial annual maintenance service to include (air, engine, transmission, hydraulic, fuel, coolant, etc.)

Each unit delivered shall have a complete as built sheet specifying major component part numbers and serial numbers, as well as significant wear and service items (belts, brake drums, linings, etc.)

Engineering Drawings: Three (3) complete sets of engineering blueprints shall be submitted with the bid.

PRICING ON ADDITIONAL PURCHASES
Initial purchase(s) will be made at the Base Unit Price provided on the Bid Form for the duration of the initial current year or the expiration of the initial Contract Term, whichever occurs first.

The Contract unit price(s) for each ensuing Contract year, if the County elects to extend the Contract, shall be negotiated by the County and the Contractor. Increases in the price(s) for ensuing years shall not exceed the percentage of change in the U.S. Department of Labor, Consumer Price Index, All Items, Unadjusted, Urban Areas (CPI-U) for the twelve (12) month period ending in NOVEMBER of each Contract Year.

If the Contractor and the County do not agree on a price using the procedure set forth above by the thirtieth (30th) day prior to the end of the initial Contract Term or the end of ensuing renewal term or terms, the County will terminate the Contract whether or not the County has previously elected to extend the term.

In addition, if there are cost increases due to EPA or DOT mandated changes, such costs may be added to the Base Unit Price. The Contractor shall provide documentation justifying any such increases.

The Contract unit price(s) changed as a result of the above procedures shall become effective on the anniversary date of the Contract and shall be binding on the Contractor for the ensuing renewal term or terms.

Any subsequent years will be priced in this same manner.