



RE
Mississippi Valley State University

**THIS IS
NOT AN
ORDER**

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Itta Bena MS 38941-1400

Web Address: www.mvsu.edu/purchasing/

Phone No: (662) 254-3319 Fax (662) 254-3314

Bid Title:

Date:

Requester and Requesting Department:

Bid No.

Number of Pages

Change Order:

Term – End of Month

Bids/Proposals – Do not include State or Federal Taxes in your bids/proposals. The University is exempted from these taxes. All order will be placed with successful bidder by Official Purchase Order.

Mississippi Valley State University is considering the purchase of the following item (s). **We ask that you submit your Bids/Proposals in three copies.** Rights are reserved to accept, or reject any and all parts of your bid/proposals. Your bid/proposals will be given consideration if received in this Office on or before the date and time below.

- This bid/proposal will be awarded on a line by line basis
- This bid/proposal will be awarded on a all or none basis

However, the University reserves the rights to award any and all bids/proposals in the best interest of the University.

Bid/Proposal opening {Date and Time}
Mississippi Valley State University
By: Billy D. Scott Purchasing Agent

Email: bscott@mvsu.edu

NOTE: If you cannot quote on the exact material shown, please indicate any exceptions, giving brand names and complete specifications on any alternate. Mississippi Valley State University reserves the rights to accept any alternate of equal or greater quality or performance. We also reserve the rights to waiver any irregularities that may appear in the Bids/Proposals specifications.

ITEM	QUANTITY	DESCRIPTIONS	UNIT PRICE	TOTAL NET PRICE
<i>Please show Bid/Proposals No. on outside of Envelope</i>				

If checked, Mississippi Valley State University reserves the rights for an additional 60 days to purchase and additional 20% of this bid/proposal at the same cost.
We quote you as above F.O.B – Mississippi Valley State University. Shipment can be made within _____ days from receipt of the order.

<p>Terms: <input style="width: 100%;" type="text"/></p> <p>Date: <input style="width: 100%;" type="text"/></p> <p>Phone/Fax: <input style="width: 100%;" type="text"/></p> <p style="text-align: center;">Official Signature:</p>	<p style="text-align: center;">Company Quoting</p>
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**MISSISSIPPI VALLEY STATE UNIVERSITY
BID SPECIFICATIONS**

*NEW 28 yd³ YARD HIGH COMPACTION FRONT LOADING
REFUSE COLLECTION BODY MOUNTED ON CUSTOMER'S EXISTING CHASSIS*

INTENT:

This specification describes a new/unused hydraulically actuated partial pack front loader body with a container hoisting device capable of handling 1-10 cubic yard containers with side pockets. Body to be mounted on chassis provided by Mississippi Valley State University (MVSU).

Bidder's price shall include transport of the University's existing front loader body/chassis to installation location, removal and disposal of current body, installation of new front loader body, and return of complete unit to MVSU.

Existing unit can be picked up from MVSU campus no earlier than July 9, 2018. Completed unit should be returned to MVSU campus no later than 45 days.

Bid shall include any chassis repairs or modifications deemed necessary to meet original equipment (both chassis and new body) specifications and requirements. Inspection of current chassis may occur by appointment only prior to bid submittal.

GENERAL TERMS:

The manufacturer of all equipment provided under this contract shall be ISO 9001 certified. All equipment furnished under this contract shall be new, unused and the same as the manufacturer's current production model. Accessories not specifically mentioned herein, but necessary to furnish complete unit ready for use, shall also be included. Unit shall conform to the best practice known to the body trade in design, quality of material and workmanship. Assemblies, sub-assemblies and component parts shall be standard and interchangeable throughout the entire quantity of units as specified in this invitation to bid. The equipment furnished shall conform to ANSI Safety Standard Z245.1-1999, and shall be manufactured in the United States of America.

GUARANTEE:

The body shall be covered by a twelve (12) month warranty.

BID QUOTATION:

Bidder shall complete every space in the specification bidder's proposal column with a check mark to indicate if the item being bid is exactly as specified. If not, the "NO" column must be checked and a detailed description of the deviation from the specification must be supplied. Bidder shall complete every space in the specification bidder's proposal column

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YES NO OFFERED

with a check mark to indicate if the item being bid is exactly as specified. Bidder shall provide, with his bid package, complete body and complete chassis specification. Failure to provide these required specifications or misrepresentation of the bidder's compliance to the bid specifications will cause the bid to be deemed "non-responsive".

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I. BODY

CAPACITY

The body shall have a capacity, excluding the receiving hopper, of not less than: 28 yd³ _____

The hopper shall have a capacity of twelve (12) cubic yards. _____

Body shall be ANSI Z 245.1-1999 compliant and be manufactured in an ISO 9001 certified facility. _____

BODY DIMENSIONS

Body length including 52"cab shield is 352" _____

Overall length with arms down and forks in full tuck position is 415" _____

Overall length with arms down and forks in horizontal position is 453" _____

Body width, outside shall be no more than 96". _____

Body width, inside should be a maximum of 88". _____

Body height, inside should be a minimum of 87 ½ ". _____

Body height above chassis rail, arms down is 107". _____

Body height above chassis rail, arms up with full tuck forks is 120". _____

Height above frame with tailgate raised including rear underride guard is 199 ". _____

Hopper width (bottom), above guide tracks, must be no less than 80". _____

Hopper width (top) must be a minimum of 81". _____

Hopper length at roof must be a minimum of 94". _____

Hopper depth must be a minimum of 91". _____

BODY CONSTRUCTION

Packer body will have flat hopper and body floor with curved roof and body sides and of overhead loading design. Hopper will be designed to properly handle containers from 1-10 cubic yard capacity. _____

Roof - Minimum 8 gauge high tensile steel sheet 80,000 PSI minimum. _____

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Body sides – minimum 8 gauge high tensile steel sheet, 80,000 PSI minimum. _____

Body floor – minimum 1/4" AR400, 184,000 PSI minimum. _____

Cross members shall be 7 gauge 80,000 PSI minimum yield, 6" x 3" formed channel. Members shall be spaced on approximately 21-1/2" centers in low compaction zone and 17-1/4" centers in high compaction zone. Cross members shall be full width, single piece construction. _____

Cross members shall interlace with body longitudinal to fully support the floor. _____

Body Longitudinal (Long Members) - Shall be minimum of 7 gauge 80,000 PSI minimum yield formed box section. _____

Upper longitudinal corner brace shall be 11 gauge 80,000 PSI minimum yield 4" x 6" deep formed channel fully welded to the roof and body side sheets. _____

Lower longitudinal corner brace shall be 11 gauge 80,000 PSI minimum yield 4" x 16" deep formed channel fully welded to the body side sheets. _____

Forward vertical body side bolster shall be 3/16", 80,000 PSI minimum yield 6.72" x 7" deep formed channel conforming to the curved body sides and fully welded to the body sides. _____

Rear vertical body side bolster shall be 3/16", 80,000 PSI minimum yield 6.7" x 5" deep formed channel conforming to the curved body sides and fully welded to the body sides. _____

Side Access Door - The side access door shall be located at the front street side of the body with minimum opening of 26.5" x 29.5" (796.5 in²). Steps and grab handles shall be provided for ease of entry. An electrical interlock shall be provided to disable the pump whenever the side door is open. _____

Roof Access Ladder - A ladder shall be provided on the rear of the tailgate for access to the body roof. Steps must be of "non-slip" material. _____

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Front Head Closure - A 47" x 77" front head closure screen made of expanded metal shall be provided to prevent loose debris from entering the area in front of the packer and to prevent unauthorized entry by non-service personnel. _____

Serviceable eject – includes body props and rear pivot _____

HOPPER

Hopper floor – minimum 1/4" AR400, 184,000 PSI minimum yield. _____

Lower hopper sides – minimum 3/16" AR400 abrasion resistant steel plate, 184,000 PSI minimum yield. _____

Upper hopper sides – minimum 8 gauge high tensile steel sheet, 80,000 PSI minimum. _____

The bottom side brace shall be 7 gauge formed 6" x 2" channel, 50,000 PSI minimum. _____

Lower and intermediate side bracing – minimum of four (4) 11 gauge 80,000 PSI minimum yield 7-1/4" x 1-1/2" formed angles of lap construction. _____

All external welds of hopper side bracing shall be continuous full seam. _____

A hydraulically actuated sliding top door will be provided to cover the hopper for traveling to the discharge site. The top door cylinder shall be double acting and have a minimum 2-3/4" bore x 90" stroke with a 1-1/2" diameter chrome plated rod. An in-cab mounted light will be provided to indicate when the top door is not fully open. _____

Hopper Sump - A 32 gallon hopper liquid sump with a 14" x 5.5" door and 3" drain on each side of the hopper will be provided for ease of clean out. _____

Hopper shall be equipped with a rear deflector shield to assist in funneling refuse into the hopper. _____

PACKING MECHANISM

A hydraulically actuated packer traversing a minimum of 83-1/2", from the front head, shall clear the hopper of material with a maximum cycle time of twenty-six (26) seconds. _____

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The lower packing panel face will be a minimum 3/16" AR400 184,000 PSI minimum, abrasion resistant steel plate. The upper vertical face will be a minimum 7 gauge, 80,000 PSI minimum yield. The packer will be reinforced with a combination of structural members for maximum rigidity. _____

The hopper zone packer guide rails (2) in the side of the body shall be comprised of 3/8" 50,000 PSI minimum yield structural angle welded to 3-1/2" x 1/4" ASTM A500 Grade B structural tubing on each side of body. The structural tubing shall be of a continuous piece the full interior length of the hopper, 128" long. _____

Abrasion resistant wear bars, 145,000 PSI minimum yield x 500BHN, shall be clad to the hopper zone guide rails, each side, in the following manner: _____

 Bottom horizontal track wear bar shall be 1/4" thick x 3-1/2" wide and located 3-1/2" above floor at corner. _____

 Top horizontal track wear bar shall be 1/4" thick x 2-1/2" wide. _____

 Outer vertical track wear bar shall be 1/4" thick x 2-1/2" wide. _____

The ejection zone guide rails shall be 3/8" 50,000 PSI minimum yield structural angle welded to the full length 3-1/2" x 3-1/2" x 3/16" ASTM A500 Grade B structural tube. A 1/4" x 2-1/2" H.R.S. wear bar shall be welded to the vertical and undersides surface of the guide rail assembly. The top wear surface shall be clad with 1/4" x 3-1/2 H.R.S. steel. _____

The packer panel shall be guided on each side of the body with 3" x 6" x 1/4" ASTM A500 Grade B structural tubing clad with 145,000 PSI minimum yield abrasion resistant wear bars in the following manner: _____

 Bottom horizontal packer panel wear bar: 3/8" thick x 3" wide x 41" long. _____

 Top horizontal packer panel wear bar: 1/4" thick x 3" wide x 41" long. _____

Two (2) vertical packer panel wear bars, located below the structural tubing, shall be 1/4" thick x 2" wide x 18" long. _____

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The packer panel shall be provided with bolt-on lugs for each of the two (2) packing cylinders. The cylinders shall be attached to the packer panel lugs via two inch (2") diameter pins. Cylinder removal may be accomplished by either pulling the pins or by removing the entire bolt-on lugs. The lugs shall be attached to the packing panel with six (6) 3/4" diameter bolts for each lug assembly. _____

The body front head shall also be provided with bolt-on lugs for packing cylinders. The lugs shall retain cylinder pins with four (4) 3/4" diameter bolts. _____

The packer will be hydraulically actuated by two (2) double acting telescopic cylinders with 5-1/2" bore _____

Packer cylinders shall have spherical bearings on both ends. _____

Packing force – minimum cylinder compaction force shall be 117,000 pounds. _____

BUSTILE TAILGATE

Tailgate must be one piece; top hinged and shall open approximately 4° above horizontal. _____

Tailgate back sheets shall be constructed of a minimum 10 gauge, 80,000 PSI minimum yield steel. _____

Tailgate side sheets shall be constructed of a minimum 11 gauge, 80,000 PSI minimum yield steel. _____

The tailgate shall be reinforced by a minimum 1/4" 80,000 PSI minimum yield, horizontal boxed braces. _____

The tailgate will be secured to the body by two (2) sets of hinges with 2" hinge pins at the roof line. _____

The tailgate hinge will utilize greaseless bearings. _____

A heavy duty rear door positive seal of rubberized gasket material will be installed the full length of the bottom and 68" up the sides of the tailgate to prevent leakage. _____

The tailgate shall be secured in the closed position by means of a fully automatic latching mechanism actuated by a separate control in the cab. _____

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The tailgate shall be raised and lowered hydraulically actuated by two (2) double acting cylinders with a minimum bore of 3" x 28-1/4" stroke with 1-1/2" diameter hardened chrome plated rod. Cylinder design shall also include an orifice fitting in the base port which will prevent the rapid descent of the tailgate in the event of a hydraulic failure. _____

The tailgate shall be locked by two (2) lock cylinders with a minimum bore of 3" x 3-5/8" stroke with 1-1/2" diameter hardened chrome plated rod. Lock and tailgate raise cylinders shall be actuated by separate controls in the cab, and will have integrated position sensors that will send an alert via light and buzzer to the in cab display that the tailgate is unlocked or in the raised positions. _____

LIFT ARMS

The lift arms will be 3" x 8" box reinforced type construction rated and capable of lifting 8,000 pound gross container and payload. _____

Lift arms shall be capable of lifting loaded containers from a truck dock with 10' maximum pocket height. _____

Lift arm cycle time will be approximately 20-23 seconds. _____

Pick-up, dump, and disengagement will be done without the need for assistance and without the driver leaving the cab. _____

The lift arms, during the dump cycle must not obstruct or interfere with the opening of the truck cab doors on either side.

The two (2) 3" x 8" rigidly constructed lift arms will be held tight to the torque tube using 4" thick ASTM A-487, 60,000 PSI yield cast steel clamping devices, and secured using two (2) 7/8" Grade 8 bolts and lock nuts on each side. _____

The arm torque tube will be mounted in four (4) split bearing blocks with four (4) replaceable split bronze bushings with grease provisions. The split bearing blocks will be rigidly welded to the lower front of the body. _____

The lift arms will be hydraulically actuated by two (2) double acting cylinders 4-1/2" bore x 41-1/2" stroke with a 2-1/2" diameter induction hardened and chrome plated rod. _____

The cylinders will be located outside the body at the body floor level and directly attached to the lift arms. _____

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Two (2) 1-1/2" x 51" grip high tensile, 50,000 PSI minimum yield forks shall be welded to a 4-1/2' O.D. x 3/8" wall C-1018 Seamless tubing fork cross shaft assembly. This assembly shall include rubber bumpers to reduce impact and prevent damage to containers. _____

Fork cross shaft assembly shall be attached to the arms with two (2) split bearing blocks with replaceable split bronze bushings fitted with grease provisions. _____

Fork Hydraulics - The forks will be hydraulically actuated by two (2) double acting cylinders, 4" bore x 25" stroke with a 2" diameter induction hardened and chrome plated rod. _____

Forks shall be designed to provide the necessary dump angle to assure complete discharge of materials from the refuse containers. _____

Lift arms shall be brought to a smooth stop in the raised and lowered position by use of cushioned hydraulic arm cylinders. _____

Heavy duty bolt-on hard rubber arms stops located at the side of the body will cushion and prevent over travel of the lift arms. _____

Maximum height with the lift arms raised in the full up and forks fully tucked position will be 13'6" (based on a chassis rail height of 42"). _____

An in-cab mounted warning light will be provided to indicate when any part of the arms are raised above the body. _____

HYDRAULICS

The maximum operating pressure of the system will be 2500 PSI. _____

The hydraulic pump shall be a front engine, crank driven, single vane pump with electronic over-speed control. The packer panel operation shall be limited to a flow 52 GPM @ 1500 RPM in neutral or foot on brake. _____

Pump-to-body hard plumbing shall be provided and shall be securely supported and clamped to prevent vibration, abrasion, and excessive noise. Flex hoses shall be provided at each end of the hard plumbing to provide adequate flexure to prevent hydraulic leaks. _____

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All hydraulic hoses shall conform to S.A.E standards for designed pressure. Bends shall not be more than recommended by S.A.E. standards. Flat Spots in hoses will not be acceptable. _____

The unit shall be equipped with quick disconnects between the chassis and body hydraulics. _____

The hydraulic oil reservoir shall have a gross capacity of 47 gallons filled with 41 gallons of hydraulic fluid. _____

The tank shall be complete with a screened fill pipe and cap, filter breather, clean out cover, shut off valve, oil level sight, and temperature gauge. _____

The hydraulic system shall be protected by a three (3) micron, in tank, return line filter along with a 100 mesh (140 micron) reusable oil strainer in the suction line. _____

The return line filter shall also include an in-cab filter by-pass monitor which shall alert the operator or service personnel when the filter is need of replacement. _____

A hydraulic pump shut down system shall also be included which shall prohibit prolonged operation of the hydraulics when the filter is in the bypass mode. _____

The hydraulic circuit shall consist of two (2) controlling valves: _____

The packing, arms raise/lower, and the fork valve sections will be located under the mid body on the street side of the unit. This valve will be protected with a steel cover to prevent contamination and damage. This valve assembly shall consist of a relief to prevent overload damage to the body. _____

The tailgate cylinders, top door cylinders, and the tailgate lock cylinders shall be controlled by a valve located on the street side rear body side skirt. This valve shall be an electric over hydraulic valve with in cab controls to prevent the operator from exiting the cab to operate. This valve shall also be protected by a steel cover. _____

These valves shall have a minimum capacity of 50 GPM @ 2500 PSI and designed to properly operate all the hydraulic components. _____

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Hydraulic valves located behind the cab near high temperature engine exhausts are not acceptable due to the difficulty of servicing and the potential risk to hydraulic components due to excessive engine temperatures.

CONTROLS

Arm, fork, packer, top door, tailgate raise, and tailgate lock controls shall be provided. Arm and fork movement shall be accomplished by an air over hydraulic, self-centering joystick that returns to the neutral position when released. An arm rest shall be provided for operator comfort. Packer, top door, tailgate raise, and tailgate lock controls shall be air toggle type. All controls shall be located inside the cab within easy access to the driver. A separate in-cab control shall be provided for tailgate lock function.

All controls shall be properly labeled and indicate the direction of travel (i.e., arms up, arms down, etc.) with warning lights to indicate "Tailgate Open", "Top Door Closed" and "Arms Above Transit Position".

All in cab switch banks shall be "CAN bus" style communication switches.

ELECTRICAL

A mobile controller with in cab operator interface display shall be provided to monitor system functions as well as the operation of the truck. This display shall be able to withstand the vibration, moisture, dirt ingress, and climate variations that are present in the cab of the vehicle. The controller shall use solid-state technology, and will have SAE J1939 built in to allow communication to the vehicle powertrain. The mobile controller will enable the display to provide self-diagnosing error codes in readable text format to identify the potential trouble sources. Both audio and text alerts must also be made available to aid in locating trouble source.

Remote mobile controller shall be used to control all tailgate and top door functions to minimize harnessing through the unit.

All packer cylinder monitoring switches shall be arc sensor type, or integrated cylinder position sensors. Mechanical or proximity switches are not acceptable.

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All electrical wiring connectors to be automotive double-seal, with wiring in split convoluted loom. All wiring connections to be soldered with rubber molded covering or crimp type connectors with shrink wrap. Unprotected wiring in any application is unacceptable. _____

All switches not manually operated shall be proximity in type. Mechanical switches are not acceptable. _____

LIGHTING

Clearance, back up, and directional lights shall be Lexan lens, shock mounted in a protective housing. The whole unit shall be pop out and replaceable. _____

Four (4) LED multi-function rear lights, located on the four corners of the rear of the body, providing both strobe and rear turn functions. The light's turn function overrides the strobe functions when the turn indicator is engaged. _____

A 360 degree strobe light shall be provided on the lower mid-section of the tailgate. _____

A hopper light illuminating the hopper area shall be provided and controlled by an on/off switch in the cab. _____

Hopper mounted container work light _____

Reverse activated body side back assist lighting _____

All lighting shall be LED and provided in accordance with FMVSS#108, plus mid body turn signals on each side of the body and a center brake light on the rear. _____

SAFETY & CONVENIENCE

Anti-sail / anti-splash mud flaps shall be mounted to the front and rear of the back tires. _____

Unit equipped with shovel kit mounted on the rear of the packer. Kit includes bracket and plastic scoop. _____

Safety triangle kit shall be provided _____

20lb. Mounted fire extinguisher _____

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The body shall be equipped with a rear under-ride guard as standard equipment, to meet Federal Motor Carrier Safety Regulation. _____

PAINTING

The entire body shall be properly cleaned of all dirt, grease, and weld slag before painting. Cleaning shall be in keeping with accepted industry practices. _____

A seal coat, primer coat and two-component polyurethane enamel topcoat is to be applied. _____

The body is to be equipped with ICC regulation high visibility tape. The reflective tape is to be installed on lower body side perimeter and across rear hopper lip. _____

Body undercoat of external surfaces _____

The body color shall be white. _____

ADDITIONAL FEATURES

Dual vision camera system – rear & hopper views _____