UNIVERSITY OF SOUTH CAROLINA

AMENDMENT NO.1

TO: **ALL VENDORS**

FROM: **William (Dennis) Gallman**

SUBJECT: **USC-IFB-2560-DG**

OPENING DATE AND TIME: See Item One

DATE: **March 25, 2014**

This Amendment No. 1 modifies the IFB only in the manner and to the extent as stated herein.

ITEM ONE: **NO CHANGE**

ITEM TWO: **CLARIFICATIONS TO QUESTIONS PRESENTED BY VARIOUS VENDORS**

Question: The specifications switch from the body to call out some form of recycling container lid and or box.
Items O-V

Answer: This section of the specifications should be deleted

Question: On your last truck purchased, you requested a lift axle to be installed. I do not see it on this specification.

Answer: The Chassis Specifications have been modified to add a lift axle, it is located on the bottom of page 4

Question: On the unit we delivered in October, there was a body service hoist that the service guys liked. I do not see that in the specification.

Answer: The service hoist has been added the Body Specifications in Section N, a hopper camera was added to the same section as well

Item Three: DELETE SCOPE OF WORK/SPECIFICATIONS IN SECTION III AND INCORPORATE REVISON 1..

BIDDER SHALL ACKNOWLEDGE RECEIPT OF AMENDMENT NO. 1 IN THE SPACE PROVIDED BELOW AND RETURN IT **WITH THEIR BID RESPONSE**. FAILURE TO DO SO MAY SUBJECT BID TO REJECTION.

Authorized Signature

Firm

Date

REVISION 1

SUGGESTED BID SPECIFICATIONS

FOR HIGH COMPACTION FRONT LOADING
REFUSE COLLECTION TRUCK BODY

INTENT:

This specification describes a hydraulically actuated partial pack front loader with a container hoisting device capable of handling 1-10 cubic yard containers with side pockets. The body shall be capable of compacting and transporting refuse to a landfill or transfer station and dispensing the load by means of hydraulically ejecting the load from the body.

GENERAL TERMS:

The manufacturer of all equipment provided under this contract shall be ISO 9001-2000 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 Z245.1-2007.

GUARANTEE:

Bidder shall state his normal warranty and extended warranty where available.

PARTS MANUAL:

Bidder shall furnish complete parts, maintenance, and operator's manual with each body sold.

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 to be supplied.

SUGGESTED BID SPECIFICATION

BIDDER SHALL COMPLETE BY CHECKING THE FOLLOWING. IF NOT COMPLIANT, STATE SPECIFICALLY ITEM BEING OFFERED.

	YES	NO	OFFERED
A. CAPACITY			
1. The body shall have a capacity, excluding the receiving hopper, of not less than: 28 yd^3	☐	☐	_____
2. The hopper shall have a capacity of twelve (12) cubic yards.	☐	☐	_____
B. BODY DIMENSIONS			
1. Body length including 52"cab shield is 28 yd^3 - 352"	☐	☐	_____
2. Overall length with arms down and forks in full tuck position is 28 yd^3 - 415"	☐	☐	_____
3. Overall length with arms down and forks in horizontal position is 28 yd^3 - 453"	☐	☐	_____
4. Body width, outside shall be no more than 96".	☐	☐	_____
5. Body width, inside should be a maximum of 88".	☐	☐	_____
6. Body height, inside should be a minimum of 87 ½ ".	☐	☐	_____
7. Body height above chassis rail, arms down is 107".	☐	☐	_____
8. Body height above chassis rail, arms up with full tuck forks is 120".	☐	☐	_____
9. Height above frame with tailgate raised including rear underride guard is 199 ".	☐	☐	_____
10. Hopper width (bottom), above guide tracks, must be no less than 80".	☐	☐	_____
11. Hopper width (top) must be a minimum of 81".	☐	☐	_____

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	YES	NO	OFFERED
12. Hopper length at roof must be a minimum of 94".	☐	☐	_____
13. Hopper depth must be a minimum of 91".	☐	☐	_____

C. BODY CONSTRUCTION

1. 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.	☐	☐	_____
2. Roof - Minimum 8 gauge high tensile steel sheet 80,000 PSI minimum yield.	☐	☐	_____
3. Side Walls			
a. Lower hopper sides – minimum 3/16" AR400 abrasion resistant steel plate, 184,000 PSI minimum yield.	☐	☐	_____
b. Upper hopper sides – minimum 8 gauge high tensile steel sheet, 80,000 PSI minimum yield.	☐	☐	_____
c. Body sides – minimum 8 gauge high tensile steel sheet, 80,000 PSI minimum yield.	☐	☐	_____
4. Floor			
a. Hopper floor – minimum 1/4" AR400, 184,000 PSI minimum yield.	☐	☐	_____
b. Body floor – minimum 1/4" AR400, 184,000 PSI minimum yield.	☐	☐	_____
5. Roof and Side Reinforcements			
a. 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.	☐	☐	_____
b. 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.	☐	☐	_____
c. Forward vertical body side bolster shall be 3/16", 80,000 PSI minimum yield 6.72" x 7" deep formed channel			

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	YES	NO	OFFERED
conforming to the curved body sides and fully welded to the body sides.	☐	☐	_____
d. 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.	☐	☐	_____
6. Hopper Side Reinforcements			
a. The bottom side brace shall be 7 gauge formed 6" x 2" channel, 50,000 PSI minimum yield.	☐	☐	_____
b. Lower and intermediate side bracing – minimum of five (5) 11 gauge 80,000 PSI minimum yield 7-1/4" x 1-1/2" formed angles of lap construction.	☐	☐	_____
c. All external welds of hopper side bracing shall be continuous full seam.	☐	☐	_____
7. Floor Reinforcements			
a. 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.	☐	☐	_____
b. Cross members shall interlace with body longitudinals to fully support the floor.	☐	☐	_____
8. Body Longitudinals (Long Members) - Shall be minimum of 7 gauge 80,000 PSI minimum yield formed box section.	☐	☐	_____
9. Side Access Door - The side access door shall be located at the front street side of the body with minimum opening of 27" x 29-1/2" (796.5 in^2). 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.	☐	☐	_____
10. 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.	☐	☐	_____
11. Sliding Top Door			

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	YES	NO	OFFERED
a. A hydraulically actuated sliding top door will be provided to cover the hopper for traveling to the discharge site.	☐	☐	_____
b. The top door cylinder shall be double acting and have a minimum 2-1/2" bore x 90" stroke with a 1-1/2" diameter chrome plated rod.	☐	☐	_____
c. An in-cab mounted light will be provided to indicate when the top door is not fully open.	☐	☐	_____
12. Hopper Sump - A 32 gallon hopper liquid sump with a 14" x 5.5" door each side of the hopper will be provided for ease of clean out.			
13. Hopper Sump Drain – A 3" sump drain valve located on the streetside and curbside shall be provided for the removal of liquid waste from the hopper sump	☐	☐	_____
14. Front Head Closure - A 51" x 79" 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.	☐	☐	_____
15. The body shall be equipped with a rear hinge style to allow for the manual raising of the body for serviceability. Two (2) inter-connected tubular aluminum body props will be provided to hold the empty body in a partially raised position for servicing the unit. When the props are released and the body is raised the props automatically position themselves in the support pockets. The props will have a 2" through shaft hinge and will be secured under the body by a positive type chain lock	☐	☐	_____
16. A plastic shovel and bracket shall be mounted for sump area cleanout.	☐	☐	_____
17. A single 20lb fire extinguisher shall be provided and be readily accessible.	☐	☐	_____
18. Front and Rear mud flaps shall be provided to give the utmost protection from road debris.	☐	☐	_____
19. A safety Triangle kit shall be provided in the cab.	☐	☐	_____

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	YES	NO	OFFERED
D. PACKING MECHANISM			
1. 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.	☐	☐	_____
2. The lower packing panel face will be a minimum 3/16" AR400 184,000 PSI minimum yield, 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.	☐	☐	_____
3. Packing mechanism guide rails			
a. 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.	☐	☐	_____
b. Abrasion resistant wear bars, AR500 215,000 PSI minimum yield x 500 BHN, shall be clad to the hopper zone guide rails, each side, in the following manner:			
i. Bottom horizontal track wear bar shall be 1/4" thick x 3-1/2" wide and located 3-1/2" above floor at corner.	☐	☐	_____
ii. Top horizontal track wear bar shall be 1/4" thick x 2-1/2" wide.	☐	☐	_____
iii. Outer vertical track wear bar shall be 1/4" thick x 2-1/2" wide.	☐	☐	_____
c. 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.	☐	☐	_____
d. The packer panel shall be guided on each side of the body with 3" x 6" x 1/4" ASTM A500 Grade B structural			

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	YES	NO	OFFERED
tubing clad with AR500 215,000 PSI minimum yield abrasion resistant wear bars in the following manner:			
i. Bottom horizontal packer panel wear bar shall be 3/8" thick x 3" wide x 41" long.	☐	☐	_____
ii. Top horizontal packer panel wear bar shall be 1/4" thick x 3" wide x 41" long.	☐	☐	_____
iii. Two (2) vertical packer panel wear bars, located below the structural tubing, shall be 1/4" thick x 2" wide x 18" long.	☐	☐	_____
4. Bolt-on lugs			
a. 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) ¾" diameter bolts for each lug assembly.	☐	☐	_____
b. The body front head shall also be provided with bolt-on lugs for packing cylinders. The lugs shall retain cylinder pins with four (4) ¾" diameter bolts.	☐	☐	_____
5. Packer cylinders			
a. The packer will be hydraulically actuated by two (2) double acting telescopic cylinders with 5-1/2" bore	☐	☐	_____
b. Packer cylinders shall have spherical bearings on both ends.			
c. The Packer cylinder grease zerks that are located on the rod and base end shall be equipped with a remote lube system that is accessible from the ground	☐	☐	_____
6. Packing force – minimum cylinder compaction force shall be 105,000 pounds.	☐	☐	_____

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	YES	NO	OFFERED
E. BUSTILE TAILGATE			
1. Tailgate must be one piece; top hinged and shall open approximately 30° above horizontal.	☐	☐	_____
2. Tailgate back sheets shall be constructed of a minimum 10 gauge, 80,000 PSI minimum yield steel.	☐	☐	_____
3. Tailgate side sheets shall be constructed of a minimum 11 gauge, 80,000 PSI minimum yield steel.	☐	☐	_____
4. The tailgate shall be reinforced by a minimum 1/4" 80,000 PSI minimum yield, horizontal boxed braces.	☐	☐	_____
5. The tailgate will be secured to the body by two (2) sets of hinges with 2" hinge pins at the roof line.			
6. The Tailgate hinge grease zerks shall be equipped with a remote lube system that is accessible from the ground.	☐	☐	_____
7. 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.	☐	☐	_____
8. 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.	☐	☐	_____
9. Hydraulic tailgate			
a. 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.	☐	☐	_____
b. 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.	☐	☐	_____

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	YES	NO	OFFERED
10. All lights will be LED and recessed into the tailgate with the lens flush with the outer skin. Clearance, backup and directional lights shall be a Lexan lens, shock mounted in a protective housing. The whole unit will be "pop-out" and replaceable. All vehicles will meet FMVSS #108 and state lighting and reflector requirements.	☐	☐	_____
11. An in-cab light and audible alarm will be provided to indicate that the tailgate is not fully closed. A mechanical flag device must be included to indicate that the tailgate is locked.	☐	☐	_____
F. LIFT ARMS			
1. The lift arms will be 3" x 8" box reinforced type construction rated and capable of lifting 8,000 pound gross container and payload.	☐	☐	_____
2. Lift arms shall be capable of lifting loaded containers from a truck dock with 10' maximum pocket height.	☐	☐	_____
3. Lift arm cycle time will be approximately 18-20 seconds.	☐	☐	_____
4. Pick-up, dump, and disengagement will be done without the need for assistance and without the driver leaving the cab.	☐	☐	_____
5. The lift arms, during the dump cycle must not obstruct or interfere with the opening of the truck cab doors on either side.	☐	☐	_____
6. 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.	☐	☐	_____
7. 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.	☐	☐	_____
8. Lift arm hydraulics			
a. 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.	☐	☐	_____

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	YES	NO	OFFERED
b. The cylinders will be located outside the body at the body floor level and directly attached to the lift arms.	☐	☐	_____
9. Container Forks			
a. 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.	☐	☐	_____
b. 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.	☐	☐	_____
10. 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.	☐	☐	_____
11. Forks shall be designed to provide the necessary dump angle to assure complete discharge of materials from the refuse containers.	☐	☐	_____
12. Lift arms shall be brought to a smooth stop in the raised and lowered position by use of cushioned hydraulic arm cylinders.	☐	☐	_____
13. 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.	☐	☐	_____
14. 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").	☐	☐	_____
15. An in-cab mounted warning light will be provided to indicate when any part of the arms are raised above the body.	☐	☐	_____

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	YES	NO	OFFERED
G. HYDRAULICS			
1. The maximum operating pressure of the system will be 2500 PSI.	☐	☐	_____
2. The hydraulic pump shall be a front engine, crank driven, Denison 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 shall comply with specification 219-2303 or equal.	☐	☐	_____
3. 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.	☐	☐	_____
4. Hydraulic Hoses			
a. 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.	☐	☐	_____
b. All pressure hoses shall be protected with fabric guard.	☐	☐	_____
5. Hydraulic Oil Reservoir			
a. The hydraulic oil reservoir shall have a gross capacity of 47 gallons filled with 41 gallons of hydraulic fluid.	☐	☐	_____
b. 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.	☐	☐	_____
c. 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.	☐	☐	_____
d. 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.	☐	☐	_____

	YES	NO	OFFERED
e. 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.	☐	☐	_____
6. The main control valve will be a six (6) section stack valve with relief to prevent overload damage. Valve capacity will be a minimum 50 GPM @ 2500 PSI and designed to properly operate all hydraulic components.	☐	☐	_____
H. CONTROLS			
1. Arm, fork, packer, top door, tailgate raise, and tailgate lock controls shall be provided. Arm and fork movement shall be accomplished by a single 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.	☐	☐	_____
2. 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", "Arms Above Transit Position", "Low Oil", "Arm and Fork Overheight" .	☐	☐	_____
I. ELECTRICAL			
1. A PLC (Programmable Logic Controller) electronic controls center shall be provided to monitor system functions and operate the auto pack function. The PLC shall be installed inside the truck cab and shall possess self diagnosing error codes which identify the trouble source. Both audio and LED outputs must be made available to aid in locating trouble source.	☐	☐	_____
2. 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.	☐	☐	_____
3. All switches not manually operated shall be proximity in type. Mechanical switches are not acceptable.	☐	☐	_____

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	YES	NO	OFFERED
4. 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.	☐	☐	_____
5. All lights 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.			
6. A 360 degree strobe light shall be provided on the lower mid section of the tailgate.	☐	☐	_____
7. A hopper light illuminating the hopper area shall be provided and controlled by an on/off switch in the cab.	☐	☐	_____

J. REAR UNDERRIDE GUARD

1. The body shall be equipped with a rear under-ride guard as standard equipment, to meet Federal Motor Carrier Safety Regulation, 49CFR393.86, TTMA RP No.41-02, and SAE J682, Oct 84.	☐	☐	_____

K. PAINTING

1. First Step – Smoothing - All weld slag, splatter or roughness shall be removed with the appropriate hand tools. No sand, shot or glass air blasting shall be permitted to eliminate contamination and possible damage to bearings or pin surfaces and possible distortion of higher gauge sheet materials used on the body.	☐	☐	_____
2. Second Step – Purgation - A heated pressure wash shall drench the entire body with a silicated alkaline phosphate based pre-cleaner to clean all metal surfaces. This solution shall soak through and break down the oil film and other contaminants found on steel. The solution shall be non-corrosive to metals and shall be environmentally friendly.	☐	☐	_____
3. Third Step – Pre-Treatment – An organically accelerated phosphoric acid based pretreatment will be applied to all metal surfaces. This step provides a chemical conversion coating which changes the chemical and physical nature of			

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	YES	NO	OFFERED
the surface by providing a surface that the next application (prime) will adhere to.	☐	☐	_____
4. Fourth Step – Sealing - The entire body shall be coated with an application of the patented Dry-In-Place Seal from Henkel Surface Technologies. This process shall dramatically improve the surface finish's resistance to rusting that occurs from general wear and tear, and shall provide improvements to paint adhesion and other related corrosion that occurs over the life of the products. This shall help retain the "as new" appearance of the factory paint surface.	☐	☐	_____
5. Fifth Step - Primer Coat Paint - The seal coat shall be painted using DuPont Corlar - a high performance, low VOC/HAPS epoxy polyamide primer-sealer. Corlar is a two-component gray primer-sealer that is lead and chromate free. This shall be applied in an amount necessary to achieve a dry film thickness of 1.2 mil.	☐	☐	_____
6. Sixth Step - Finish Top Coat Paint - A high luster finish coat shall be applied using DuPont Imron 5000 – a high-performance, low VOC (<3.5 lbs/gal RTS) two-component polyurethane enamel. An ample amount shall be applied to achieve a dry film thickness of 2 mil and shall result in a finish of 3.2 mil minimum film thickness.	☐	☐	_____
L. Body Undercoating			
1. Body Undercoating shall be provided and cover all surfaces under the body.	☐	☐	_____
M. Warranty			
1. A one year complete body warranty covering parts and labor shall take effect on the body contract date.	☐	☐	_____

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	YES	NO	OFFERED

N. Required Options :

1. Factory Mounting
2. Service Hoist equipped with a 12 VDC motor and pump and separate cylinder to lift the body and a safety prop rod.
3. Dennison Front Mount PTO
4. Peterson Smart Lights / Full LED Body Lights
5. Hopper Worklight
6. Side Assist Lights
7. Strobe Light @ Lower Tailgate
8. Rear Vision and Hopper Camera and 7" Color Monitor
9. 12 Month Body Warranty
10. 5 Year Cylinder Warranty
11. Fork Stop Kit
12. 3" Body Drain Valve
13. Caution Decal @ Lower Tailgate
14. BinMaxx scale system
15. Freight

SUGGESTED BID SPECIFICATION

BIDDER SHALL COMPLETE BY CHECKING THE FOLLOWING.
IF NOT COMPLIANT, STATE SPECIFICALLY ITEM BEING OFFERED.

	YES	NO	OFFERED

University of South Carolina Front Load Truck Chassis Specifications

ORDER/CUSTOMER/VEHICLE INFORMATION

INITIAL REGISTRATION LOCATION, UNITED STATES

IDLE EMISSION CERTIFICATION, IDLE EMISSION CERTIFICATION - CARB 08

TYPE OF SERVICE, COMMERCIAL

VEHICLE APPLICATION CLASS, HEAVY VOCATIONAL - Unlimited operation on concrete, asphalt, or maintained gravel/packed dirt with a maximum 3% grade; limited operation on unmaintained surfaces with maximum 5% grade; limited operation on concrete, asphalt, or maintained gravel/packed dirt with maximum 10% grade. (3 AXLES) 78,000 lbs (35,281 kg) MAX GVW. (4 AXLES) 80,000 lbs (36,288 kg) MAX GVW.

CARRIER APPLICATION, WITH CRD150-151, Unlimited miles on 3% grade maintained gravel/packed dirt or paved, Max 15% miles on 10% grade maintained gravel/packed dirt or paved, Max 10% miles on 5% unmaintained, maintained gravel, packed dirt, or paved. 90000# (41000 kg) MAX GCW. (Carrier Code USA-V1)

VEHICLE TYPE, STRAIGHT TRUCK WITHOUT TRAILER

VEHICLE USE AND BODY/TRAILER TYPE, REFUSE, FRONT LOADER On/Off Hwy

COMMODITIES, REFUSE

BVS/WHEELBASE/PLATFORM

CHASSIS (BASE MODEL, 6-WHEEL TRUCK

FRAME RAILS, 13.25" x 3.25" x .3125" (337 x 83 x 8mm) STEEL Combined rating w/inside channel reinforcement Section Modulus 26.06 cu in/RBM 3,127,200 in lbs per rail.

WHEELBASE, 210" (5334 mm) WB 207" CA (5258 mm)

PLATFORM, 297" LP (7544 mm) 90" AF (2286 mm) USED WITH 210" WB

FRAME REINFORCEMENT - INSIDE, 1/4" STEEL CHANNEL

ENGINE/TRANSMISSION/CLUTCH

ENGINE, 345 HP @1500-1700 RPM (PEAK) 1280 LB. FT. MAX. TORQUE @ 1100-1300 RPM TRANSMISSION, 6 SPEED

AUTOMATIC, ALLISON 4500-RDS-6 (4.70/0.67) RUGGED DUTY SERIES GEN 4 INCLUDES DIRECT MOUNT OIL COOLER, INTERNAL FILTER, AND OIL LEVEL SENSOR.

CLUTCH, OMIT CLUTCH

EXHAUST/EMISSIONS

DPF, CLEARTECH VV DPF VERTICAL LH SIDE BACK OF CAB W/SCR VERT RH SIDE BOC

EXHAUST AFTER-TREATMENT SYSTEM, EXHAUST AFTER-TREATMENT SYSTEM DIESEL PARTIC FILTER CERAMIC ACTIVE REGEN

DPF REGENERATION CONTROL, AUTO IN MOTION, MAN. STATIONARY MAN. INHIBIT DPF

SMART SWITCH, LOCKING INHIBIT DPF REGENERATION SWITCH

EXHAUST, DPF, OUTBOARD, SINGLE (R/S) VERTICAL STRAIGHT EXHAUST STACK PLAIN END, SIDE OUTLET DIFFUSER

ENGINE EQUIPMENT

AIR COMPRESSOR, MERITOR/WABCO 636 (37.4 CFM)

AIR CLEANER, 13" (330 mm) DIAMETER BEHIND CAB W/SNORKEL, SINGLE ELEMENT DRY TYPE PRE-CLEANER (DRY TYPE CLEANER)

ALTERNATOR, LEECE NEVILLE 12V 160A BRUSH-TYPE

BATTERIES, (3) 12V 650/1950 CCA THREADED STUD TYPE TO -34 DEGREES F (-37 DEGREES C)

COOLANT CONDITIONER

COOLING PERFORMANCE, W/O AUXILIARY COOLING

ENGINE BRAKE

ENGINE BLOCK HEATER, 120V 1500 WATT ENGINE BLOCK HEATER

ENGINE HOSES AND TUBING, SILICONE (DOES NOT INCLUDE HEATER & RADIATOR HOSES)

FAN DRIVE, BEHR FAN AND ELECTRONIC MODULATING FAN DRIVE

FLYWHEEL HOUSING, ALUMINUM

FUEL-WATER SEPARATOR, W/MANUAL DRAIN VALVE (INTEGRAL W/PRIMARY FUEL FILTER)

TURBOCHARGER HEAT SHIELD

HOSES - RADIATOR/HEATER, SILICONE OIL PAN

HEATER, W/O OIL PAN HEATER STARTER, 12

VOLT GEAR REDUCTION STARTER ELECTRONIC

STARTER INTERLOCK

CLUTCH/TRANS EQUIPMENT/DRIVELINES

CLUTCH PEDAL, W/O CLUTCH PEDAL

TRANSMISSION BELL HOUSING, ALUMINUM

FURNISH FOR ALLISON TRANSMISSION W/DIRECT MOUNT COOLER

SYNTHETIC LUBRICANT - TRANSMISSION, TRANSYND SYNTHETIC LUBE FOR ALLISON TRANS

VOCATIONAL PACKAGE - ALLISON, ALLISON VOCATIONAL PKG. #105142 RUGGED DUTY SERIES (RDS)-REFUSE (AG) - ONE SELECTOR

W/O DRIVESHAFT GUARD

DRIVELINE - MAIN, MERITOR 18N HD W/COATED SPLINES

DRIVELINE - INTERAXLE, MERITOR 17N HD W/COATED SPLINES

CAB (A thru G)

AIR CONDITIONING, INTEGRAL W/HEATER (COMBO HEATER/AIR CONIDITIONER UNIT) W/R134a REFRIGERANT AIR CONDITIONING COMPRESSOR, SANDEN ROTARY

AIR RESTRICTION MONITOR (INTAKE), GRADUATED LOCK UP (AIR CLEANER INTAKE MOUNTED)

CAB, LOW-PROFILE COE (WELDED STEEL GALVANIZED SHELL) INCLUDES RUST PREVENTATIVE PROCEDURES

CAB MOUNTING, FOUR POINT FIXED TYPE

CAB LIFT/TILT, LOCATED IN STD LOCATION

CERTIFIED WEIGHT

COAT HOOK (1)

PARK BRAKE ACTIVATED

MC DOOR ON LH SIDE (ELECTRIC WINDOW)

ENGINE SHUTOFF, KEY TYPE

FENDERS, POLYUREA FOR CHASSIS AND CAB SECTIONS

FLOOR COVERING, RUBBER MATS W/CLOSED CELL VINYL NITRILE FOAM BACKING

GAUGE, DUAL AIR PRESSURE

University of South Carolina Front Load Truck Chassis Specifications

Description

GAUGE, VOLTMETER
GAUGE, ENGINE COOLANT TEMPERATURE
GAUGE, ENGINE OIL PRESSURE
GAUGE, FUEL LEVEL
GAUGES, ENGLISH DISPLAY
GAUGE, SPEEDOMETER W/TRIP ODOMETER (ELECTRONIC 1% ACCURACY)
GAUGE, TACHOMETER
TRANSMISSION GAUGE AND TRANS. OIL HIGH TEMPERATURE LIGHT
GEAR SHIFT, NEUTRAL TO RANGE INHIBIT
GLASS - CAB WINDOW, SAFETY TINTED WINDSHIELD SIDE AND REAR WINDOWS
EXTERIOR GRAB HANDLES, ALUMINUM, RH & LH, BEHIND DOOR AND INTERIOR RH AND LH ON WINDSHIELD POST
GRILLE, STANDARD FINISH

CAB (H thru R)

HORN - AIR, (1) TWIN TRUMPET (MOUNTED UNDER CAB)
HORN - ELECTRIC, SINGLE TONE
IDENTIFICATION/CLEARANCE LIGHTS, LED, (7) MARKER AND CLEARANCE
INSTRUMENT PANEL, TMC RECOMMENDED TYPE (PAINTED SILVER GRAY)
INTERIOR TRIM
CHASSIS KEYED AT RANDOM - 2 KEYS
LOW AIR PRESSURE INDICATOR LIGHT AND BUZZER
MIRRORS - EXTERIOR, WEST COAST, RH & LH BRIGHT FINISH W/STAINLESS STEEL ARMS AND BRACKETS
MIRRORS - CONVEX TYPE, BRIGHT FINISH, LH & RH 8.0" DIA. MOUNTED BELOW LOWER ARM OF WEST COAST MIRROR
MUD FLAPS, 24" FRONT FENDER MOUNTED
FORWARD OVERHEAD STORAGE, (2) RADIO SHELF, DRIVER SIDE
PARKING BRAKE CONTROL W/WARNING LIGHT
AM/FM STEREO CD W/WEATHERBAND
RADIO ANTENNA, CH STYLE COWL MOUNTED ON LH SIDE
FURNISH IN OVERHEAD CONSOLE
REAR WINDOW (FIXED TYPE)

CAB (S thru Z)

SEAT - DRIVER, BOSTROM TALLADEGA 905 (MID-BACK) AIR SUSPENSION
SEAT - RIDER, FIXED (MID-BACK) NON-SUSPENSION
SEAT COVERING, ALL CLOTH, BLACK W/CORDURA COVERING, DRIVER & RIDER SEATS
SEAT BELTS, LAP AND SHOULDER W/LOCKING SEAT BELT RETRACTORS & "KOMFORT LATCH" FOR DRIVER AND RIDER SEATS
DRIVER'S AND RIDER'S SEAT
SIDE MARKERS, LAMPS AND REFLECTORS TO BE L.E.D. AND TO MEET OR EXCEED
FEDERAL REGULATIONS
STARTER SWITCH, KEY TYPE
STEERING COLUMN, FIXED
STEERING WHEEL, TWO SPOKE URETHANE GRIP PAINTED SPOKES & HORN CAP
SUN VISOR - INTERIOR, BOTH SIDES
TURN SIGNALS, FRONT (LED)

University of South Carolina Front Load Truck Chassis Specifications

Description

TURN SIGNAL SWITCH, MANUAL CANCELING SWITCH
W/S CORNER WIND DEFLECTOR, WINDSHIELD CORNER
WINDSHIELD PROTECTOR, FURNISH
WINDSHIELD WASHERS, ELECTRIC, WIPER MOUNTED W/7 QT (6.6 L) RESERVOIR
WINDSHIELD WIPERS, 2 SPEED ELECTRIC MOTOR W/INTERMITTENT FEATURE

FRAME EQUIPMENT/FUEL TANKS

BUMPER - FRONT, SWEPT BACK STEEL CHANNEL TYPE EXTENDED 63"/1600 mm BBC W/CENTER TOW PIN (92.62" x 11.25")
CROSSMEMBERS, STEEL 1/2" PL BOLTED BOC & INTERMDT 1/8" BELOW TOP OF RAIL,
CROSSMEMBER (BEHIND REAR AXLE), WEB CHANNEL TYPE
FOR REFUSE SERVICE 13 INCH
SKID PLATE UNDER BUMPER AND RADIATOR
TOWING DEVICE - FRONT, TOW PIN
TOWING DEVICE - REAR, W/O REAR TOWING DEVICE
FUEL TANK - RH, 80 GALLON (300 L) STEEL, 26"x24" RECTANGULAR
6.6 GALLON (25 L) 22" DIAMETER TANK RIGHT SIDE MTD
FUEL DRAW/RETURN SYSTEM, AEROQUIP FIRE RESISTANT HOSE
FOR RH FUEL TANK, INCLUDES SUMP
RELOCATE FUEL TANK, LOCATE RH TANK AS FAR FORWARD AS POSSIBLE, 5" BELOW TOP OF RAIL

FRONT AXLE/EQUIPMENT/TIRES

FRONT AXLES, 20000#
TIRES BRAND/TYPE - FRONT, GOODYEAR - TUBELESS RADIAL PLY, (2) 425/65R22.5 20 L G296MSA (ALL POSITION)
WHEELS - FRONT, STEEL DISC (10-HOLE)
(2) 22.5x12.25 ACCURIDE 10-HOLE HUB PILOTED (11 1/4"/286mm BC)
WHEELS - POLISHED (FRONT), W/O FRONT DISC WHEEL BRIGHT FINISH
BRAKES - FRONT, MERITOR "S" CAM TYPE 16.5" x 6" Q+
BRAKE DRUMS - FRONT, CAST OUTBOARD MOUNTED
DUST SHIELDS - FRONT BRAKE, OMIT
HUBS - FRONT, FERROUS
WITHOUT SHOCK ABSORBERS
SLACK ADJUSTERS - FRONT, HALDEX - AUTOMATIC
SPRINGS - FRONT, MULTILEAF 20000# (9072kg) GROUND LOAD RATING
STATIC LOAD CUSHIONS
STEERING, XD120 SHEPPARD STEERING GEAR (RATIO 23:1)

REAR AXLE/EQUIPMENT/TIRES/RATIOS

REAR AXLE/SUSPENSION, 46000# (20866kg CAST DUCTILE IRON HOUSING, MULTILEAF (CAMELBACK) 46000#
TIRES BRAND/TYPE - REAR, GOODYEAR - TUBELESS RADIAL PLY, (8) 11R22.5 14 G G661HSA (ALL POSITION)
CARRIER/RATIO - REAR AXLE, CRDP150/151, 5.04 RATIO
WHEELS - REAR, STEEL DISC (10 HOLE)
(8) 22.5x8.25 (210 mm) ACCURIDE 10-HOLE HUB PILOTED (TWO HAND HOLE) - HEAVY DUTY
BRAKES - REAR, MERITOR "S" CAM 16.5"x7" (419x178 mm) Q+
BRAKE DIAPHRAGMS, W/O BRAKE DIAPHRAGM OPTION

ION-DRIVE AXLES

'usher Axle, 20000# Steerable, Automatic Lift in Reverse with manual reset, factory installed.

University of South Carolina Front Load Truck Chassis Specifications

Description

BRAKE DRUMS - REAR, CAST OUTBOARD MOUNTED
DUST SHIELDS - REAR BRAKE, OMIT
HUBS - REAR, FERROUS
OIL SEALS, STEMCO (VOYAGER)
RAISED REAR BRAKE CHAMBERS (REAR REAR AXLE ONLY)
SLACK ADJUSTERS - REAR, HALDEX - AUTOMATIC
SUSPENSION - AXLE SPACING, 50" AXLE SPACING (BOGIE WHEELBASE)
SPRINGS, ANTI-SWAY
SPRING BRAKE CHAMBERS - QUANTITY, (4) DOUBLE DIAPHRAGM TYPE, MECHANICAL SPRING RELEASE, (2) MOUNTED ON EACH AXLE
SPRING BRAKE CHAMBERS - VENDOR, MGM MODEL TR-T (TAMPER RESISTANT)
SPRING BRAKE CHAMBERS, TYPE 30/30 REAR
TRANSVERSE TORQUE ROD (REAR AXLE ONLY)
BRONZE TRUNNION BUSHING

AIR/BRAKE

AIR LINES (CHASSIS), W/O ALL HOSE CHASSIS (STD AIR PIPING)
AIR BRAKE SYSTEM, DUAL
AIR DRYER, MERITOR/WABCO HEATED AIR DRYER, 1800 W/COALESCING OIL FILTER
AIR RESERVOIRS, STEEL (5100 CUBIC INCH CAPACITY - ONE SUPPLY (WET) TANK AND ONE DUAL COMPARTMENT PRIMARY/SECONDARY TANK)
ANTI-LOCK BRAKE SYSTEM, BENDIX ABS
AIR CONTROL VALVES - VENDOR, BENDIX SWITCHES AND VALVES WHERE POSSIBLE
DRAIN VALVES, AUTOMATIC DRAIN VALVE, HEATED, ON SUPPLY TANK, W/LANYARDS ON ALL OTHER TANKS

ELECTRICAL

BATTERY BOX(ES), STEEL BASE
BATTERY BOX COVERS, STEEL, LOCKABLE
BATTERY BOX - MOUNTING, SINGLE BOX 3 BATTERY MAX. PERP TO FRAME 11" FROM NTOF
FLAMING RIVER BIG SWITCH WIRED ON POSITIVE SIDE
COMPUTER AND 2-WAY RADIO DEDICATED CIRCUIT
ELECTRIC CIRCUIT PROTECTION PACKAGE, 12 VOLT W/CIRCUIT BREAKERS (HEADLAMP CIRCUIT: SAE TYPE I; ALL OTHER CIRCUITS SAE TYPE II) NEGATIVE GROUND SYSTEM
WATERPROOF ELECTRICAL CONNECTIONS SPRAYED W/PROTECTIVE COATING
CONTROL LINK II REFUSE BODYBUILDER ELECTRICAL CONNECTION SYSTEM
CONSOLE INCLUDED WITH CONTROL LINK II
HEADLIGHTS, (2) SINGLE ROUND HALOGEN LAMPS
REAR LIGHTING, FURNISH LEDTAIL-LIGHTS
SIGNAL FLASHER TYPE, TRANSISTORIZED TURN SIGNAL, ACD TRITON
W/O PWR TERMINAL-STROBE LIGHT OPTION

PAINT

PAINT - CAB EXTERIOR, SINGLE COLOR, WHITE (HIGH GLOSS) PAINT
- CAB, URETHANE BASE COAT W/O CLEAR COAT
PAINT - CAB INTERIOR, SILVER GRAY
PAINT - CHASSIS RUNNING GEAR, BLACK (URETHANE)

PAINT - BUMPER, SAME AS
CHASSIS RUNNING GEAR
PAINT - FUEL TANK, SAME
AS CHASSIS RUNNING
GEAR
PAINT - FRONT SPOKE WHEELS, WITHOUT
OPTIONAL SPOKE WHEEL PAINT WITHOUT
OPTIONAL SPOKE WHEEL PAINT
FRONT
WHEELS
PRE-
FINISHED
WHITE
REAR
WHEELS
PRE-
FINISHED
WHITE

PAINT PROCESS CODES

SAME COLOR AS CHASSIS RUNNING GEAR
CHASSIS RUNNING GEAR - STD
COLOR
SAME COLOR AS CHASSIS RUNNING
GEAR (7HB-A1X)
W/O CUSTOM PAINT FOR
HUB&DRUM/SPOKES (5YB-Z1X)
W/O CUSTOM PAINTED
FRONT/REAR RIM/WHEEL (6BB-
Z1X)

PTO/SPECIALTY/ADDITIONAL EQUIPMENT

PTO - CRANKSHAFT ADAPTER, 1350 SERIES FLANGE FOR FRONT END MIXER OR
REFUSE PTO DRIVE (DOES NOT INCLUDE FRONT FRAME EXTENSION)
PTO - REAR ENGINE (REPTO), WITHOUT REAR
ENGINE POWER TAKE OFF HYDRAULIC PUMP,
FURNISH PUMP MTG PROVISIONS FOR LOCAL
INSTALLATION TORQUE CONVERTER TC541