

**FINANCE DEPARTMENT  
Certificate of Exemption Form**

Date: 09/25/2017

Originating Department: **BESD**

The City is authorized under limited conditions to make procurements outside of the competitive solicitation process. Chapter 252 of the Local Government Code provides guidance regarding sixteen general exemptions from the competitive solicitation. Please select one exemption.

- a procurement made because of a public calamity that requires funds to relieve the needs of the residents or to preserve city property
- a procurement to preserve or protect the public health or safety of the city's residents
- a procurement necessary because of unforeseen damage to machinery, equipment or other property
- a procurement for personal, professional or planning services
- a procurement for work that is performed and paid for by the day as the work progresses
- a purchase of land or right-of-way
- a procurement of items available from only one source
- a purchase of rare books, papers and other materials for a public library
- paving, drainage, street widening and other public improvements or related matter where at least one-third of the costs are paid by special assessments
- a public improvement project which has been authorized but for which there is deficiency of funds to complete in accordance with the plans as authorized
- a payment under a contract by which a developer participates in the construction of a public improvement as provided by subchap. c, ch 212.
- personal property sold
- services performed by blind or severely disabled persons
- goods purchased by a municipality for subsequent retail sale by the municipality
- electricity
- advertising, other than legal notices

This Certificate of Exemption is executed and filed with the Finance Department as follows:

1. The undersigned is authorized to approve an exemption.
2. An exemption according to Section 252.022 of the Local Government Code exists. More specifically, the following event has occurred:

This purchase of the Peterbilt 520 chassis with the McNeilus ZR automated side loader body and the Heil Durapak Python automated side loader body configuration will be for specific refuse collection routes. This action would provide additional automated side load refuse trucks. These trucks are available from Buy Board Contract # 521-16. SWMD has experienced abnormal down times due to the limited number of suppliers in our region for repairs. This purchase would increase the fleet and expand the number of available suppliers. Refuse truck purchases are joint ventures with chassis and body manufactures; therefore limiting other makers outside of this partnership from participating. SWMD has done a variety of testing beginning the week of July 24, 2017 and selected these configurations as the most viable for the refuse and recycle collection for the citizens of San Antonio.

3. Because the exemption stated above exists, the City of San Antonio intends to contract with Rush Truck Centers of Texas, LP which will cost approximately \$ 2,646,000.00

**Brandon Eliani Cuellar** 

Originator

 9/27/17  
Department Director Approval

 10/19/2017  
Procurement Administrator Approval

City Manager

(approval required only for ratification by City Council)

4.1 SCOPE: The City of San Antonio is issuing this Request for Offer (RFO) to furnish a total 9 Turnkey Refuse Collection Trucks with High Compaction Automated Side Load Body in accordance with the Building and Equipment Services Department - Fleet Services specifications listed herein. These vehicles will include cab and chassis, and refuse body. These trucks will be utilized for refuse collection by the Solid Waste Management Department. These vehicles specified are for 5 Peterbilt 520 Cab & Chassis with a 28 cu yd Heil Durapak Python Refuse Collection Body and 4 Peterbilt 520 Cab & Chassis with a 28 cu yd McNeilus ZR Refuse Collection Body. (NO ALTERNATIVES WILL BE CONSIDERED)

4.2 DELIVERY DATES:

Vendors shall deliver all awarded trucks, ready for use, no later than 285 days after receipt of City's Purchase Order. Time is of the essence in the performance of this contract. City may assess liquidated damages for late delivery in accordance with section 005 – Supplemental Terms & Conditions.

4.3 GENERAL REQUIREMENTS:

4.3.1 The following general conditions will apply to all items within this bid unless specifically excluded within any item. Equipment shall be manufacturer's latest design, standard production model and shall have been manufactured within the last 12 months. All components shall be installed new, unused, and shall be manufacturer's standard equipment unless otherwise specified or replaced herein. Equipment is to be inspected, serviced, and adjusted in accordance with manufacturer's recommended pre-delivery checklist, and ready for operation upon delivery. Manufacturer's Statement of Origin (MSO) showing manufacture within the last 12 calendar months, and completed pre-delivery checklists for chassis and body will be required at delivery. Equipment offered under the below listed specifications will be considered unacceptable if, for any reason, the equipment's, or major component's, long term availability on the U.S. market, or in the local area, is in doubt. Vendor is required to notify the City of all production "cut-off" dates necessary for order submission.

4.3.2 Warranty and Parts – Dealer and manufacturer must provide the maximum standard manufacturer's warranty on all components parts and service included. All components, parts, and service are required to provide, as a minimum, a 1 year unlimited mileage/hour warranty. All warranty times will start the date the vehicle is placed in service, not on the delivery date. The dealer will be notified by letter of the in-service date of each vehicle by serial number. Vendor will fully explained the warranty by attaching separate, authenticated correspondence or entering such information in the remarks section of this bid. Warranty, reliability, and replacement captive parts costs and availability shall be a consideration in award of this bid. Warranty parts and service must be available within a 50 mile radius of San Antonio City Hall and by a factory-authorized dealer identified on the Price Schedule page (NO EXCEPTIONS). All warranty repairs must be completed within 3 days from the date equipment is delivered to the vendor unless otherwise approved by the appropriate City of San Antonio maintenance superintendent. By submitting an offer, Vendors certifies that all repairs needed after the warranty period will be available within 50 mile radius of San Antonio City Hall.

4.3.3 Delivery - All deliveries are to be made inside the City limits of San Antonio. Vendor must deliver equipment to the following address:

Vendor must deliver equipment to:

City of San Antonio,  
Northeast Service Center,  
10303 Tool Yard, Bldg #2,  
San Antonio, TX 78233  
Attn: Acquisitions

Delivery to a non-specified location will result in non-acceptance of the equipment by the City. All deliveries must be pre-arranged with a minimum 24-hour notification, NO EXCEPTIONS. Vehicles will be accepted 8:00 A.M. to 3:00 P.M. CT. Vehicles with more than 3700 miles accumulated on the odometer will not be accepted. All vehicles are required to have a full tank(s) when delivered to City specified location.

**4.3.4 DOCUMENTS AND EQUIPMENT MANUALS** – The supplier shall furnish (4) complete sets per vehicle type, of the following: Parts Manual, Maintenance Manual, Service Manual, and Operators Manual or on-line access per model of all equipment, accessories, and components. All bids must include complete manufacturer's specifications for each model being offered

4.3.4.1 The Manufacturer's Statement of Origin (MSO), Dealer Temporary license plates/tags, proper Invoice, Texas State Inspection Certificate, signed 130U form and State Weight Certificate/slip (for trucks over one ton) are required upon delivery of each vehicle. Any of these missing items will deem the vehicle delivered *Not as Specified* and will not be processed or accepted vehicle all required paperwork is completed and provided to Fleet Acquisition.

4.3.4.2 All bodies and components in this bid will be installed in accordance with the appropriate complete Vehicle Data Manual. Certification of compliance will be posted on the left door post of the vehicle. Except for manufacturer's data plates (maximum 4" x 6"), vendor or manufacturer's identifying markings (decals and plates) will not be applied to the vehicle or mounted components. Installation will be completed in compliance with Federal Motor Vehicle Department of Transportation Standards and Texas State Highway requirements. Installation of body and accessories on City furnished vehicles will be accomplished by drilling holes in the frame. Welding on or cutting of frame is **not** authorized forward of the rear spring hanger or support. Bidders will be responsible for the relocation of any truck components to facilitate installation of the body and equipment. Such relocation must be included as part of the basic bid. No dealership nameplates, markings or decals will be permitted on the vehicles.

4.3.4.3 Upon contract award, vendor shall provide written acknowledgement of order placement. A copy of the finalized build sheet with a Solid Waste Management representative signature confirming equipment build out shall be provided to the City prior to equipment delivery. The delivery date for the completed unit shall be communicated when the build sheet is finalized. Electrical wiring schematics that include lighting and air conditioning systems for body shall be provided at time of delivery. Electrical wiring schematics and finalized build sheet shall be provided in paper, or in Adobe PDF format.

**4.3.5 VEHICLE INSPECTION:** The vendor shall have each vehicle properly inspected in compliance with Texas motor vehicle laws. A Texas Vehicle Inspection Report shall be provided for each truck being purchased.

4.3.5.1 **PRIOR TO DELIVERY:** City of San Antonio shall be notified and allowed a final Inspection of the first unit of each configuration prior to delivery. If such final inspection occurs outside of the City of San Antonio, accommodations including airfare and lodging will be provided by the vendor at no cost to the City of San Antonio for up to 2 City employees. The final inspection will occur at the body installer's facility.

4.3.5.2 **CHECK-IN INSPECTION:** The City shall check the vehicle upon delivery to ensure compliance with this specification and any other specific requirements. The vendor shall deliver with the vehicle the manufacturer's invoice, and Manufacturer's Statement of Origin (MSO), or any official documentation to verify the fact that ordered options, GVWR rating, and other requirements have been met.

4.3.5.3 Failure to provide required documentation as listed may cause the delay of payment. Payment will be made within 30 days after vehicle's acceptance or receipt of correct invoice, whichever is later. Acceptance will not be made, nor payment initiated on vehicles failing to meet specifications (unless they are brought into full compliance), and all necessary documents (i.e. MSO, odometer statement, etc.) are received by the City.

4.3.5.4 Vendor shall remove noncompliant vehicle(s) from City premises within 5 working days after receiving written notification from Fleet Acquisition staff. If vehicle is not removed by vendor within the specified time frame, the City may arrange for vehicle to be removed and secured by a

local towing and storage facility. Vendor will be responsible for payment of all related towing and storage charges. The City will not be responsible or liable for damage or loss of noncompliant vehicles which remain on City premises, or which are removed by towing company, 5 working days after vendor notification.

4.3.6 As used in this bid the left and right side is determined by sitting in the operator seat.

4.3.7 CONVENIENCE FEATURES: Vehicle shall be equipped with Air ride adjustable driver and a fixed passenger seat, intermittent wipers, when applicable. All vehicles are to be equipped at the factory with air conditioning/Heater/defroster, (Maximum capacity cooling system offered by manufacturer), full headliner minimum OEM AM/FM radio, power steering, power ABS brakes, power windows, power door locks, power mirrors and manual tilt steering wheel. Each unit shall have a minimum three sets of keys.

4.3.8 Any diesel engine being bid must conform to latest NOx EPA and GHG emission standard in effect at the time of offer. Vendor must supply a copy of the latest Emissions Certificate of Conformity for the vehicles bid. Only engines using selective catalytic reduction (SCR) technology will be accepted.

4.3.9 BASIC MAINTENANCE TRAINING: The vendor shall hold a training seminar at a City of San Antonio facility at a time that will be agreed to by both the City and Vendor within 30 days of delivery. The training seminar shall provide maintenance staff with the basic knowledge and skills to maintain the chassis

4.3.10 All bids must include complete manufacturer's specifications for each model being bid.

ITEM	QUANTITY	DESCRIPTION
1	5	<b>Peterbilt 520 Cab &amp; Chassis with a 28 cu yd Heil Durapak Python Automated Side Loader</b>

**ENGINE:** Engine to be a Cummins ISX12; 350 HP @ 2100 RPM with a minimum 1,450 lbs/ft torque.

**CAB:** All doors to be keyed alike. Unit to be 53in LCF ProBilt Cab with RH drive, dual door stops, door locks, tinted safety glass thru-out. Doors to be equipped with mounted arm rests, power windows, and full insulation. Cab and Door must be equipped with mounted entry grab handles, and an ergonomic center console. Driver seat to be Sears C2 Air Ride with mid-back support. Passenger seat to be Peterbilt Non-Air Ride. Material to be vinyl and seatbelt color to be bright orange (NO EXCEPTIONS). Interior color to be gray. Unit to come equipped with an adjustable steering column, Tilt/Telescope. Driver side flooring to be diamond plate covering on floor. Rear window back of cab standard tint. A combo fresh air heater/air conditioner with radiator mounted condenser, dedicated side window defrosters, Bi-level heater/ defroster controls, 54,500 BTU/HR; silicone heater hoses. Velvac VMAX III black motorized and heated mirrors with cameras; one (1) mirror to be mounted on right side door and one (1) mirror to be mounted on front of cab left side. Unit to have (1) Air Horn equipped. Electric Windshield Wipers with intermittent feature and rain gutters over driver and passenger doors. Headlights are to be dual rectangular halogen type. Unit to have a 5 lb ABC fire extinguisher mounted in cab out of drivers operation and equipped with a triangle kit.

**CHASSIS:** Base Model 520, 6-wheel truck; RH sit down drive package. Wheelbase, to meet body manufactures specifications for cab to trunnion. Frame Rails, 10.75"x3.5"x375", steel section modulus 17.8 cu. in. with a RBM of a minimum 2,136,000 in lbs per rail; with a full steel liner; (2) solid mount cable hooks; Bendix AD -IS EP Air Dryer with heater, air tank valve guards, steep painter air tanks and nylon chassis Hose. An aluminum space saver battery box LH bottom of cab to be equipped with a

rubber battery pad in bottom of battery box; mount space saver battery box, top of 8in below top of frame; steel bumper swept back, Painted.

**TRANSMISSION/ DRIVE:** Unit shall be equipped with an Allison 4500 Series, 6 Speed Vocation, RDS -P with Retarder, Refuse- VOC 400XXX with a control module, refuse w/ auto-neutral & Service B, VP170 transmission. Transmission is to include direct mount oil cooler, external oil cooler, internal filter, and oil level sensor. The primary performance and secondary economy and six speed transmission controls to be Allison push button. The latest Generation 5 Allison Output Retarder for RDS Transmission w/ Prognostics is to be equipped. The transmission retarder is to be audible and include an audible alarm. Allison output function S with a neutral indicator for PTO. Unit will come equipped with a rolling direction change shift inhibitor feature. The transmission mounted driveshaft and Spicer 1810HD half round transmission all to be under the Allison 5 Yr Edge Warranty w/ Transmission Retarder and PTO.

**FRONT AXLE:** Front axle to be Dana Spicer D2000F 20,000 lb., 3.5in Drop Factory front axle alignment to improve handling and reduce tire wear. Zerk fittings on tie rod ends, king pins, and draglink ball joints. Taper leaf springs, shocks 20,000 lb. Bendix Air Cam Front Drum Brakes 16.5x7 for use with 16,000-22,000lbs steer axles.

**REAR AXLE:** Rear Drive Axle-Single & Tandem, shall be Hendrickson Haulmaax HMX460 46,000lb, 54in Axle spacing, 60K creep rating. Rear brakes to be Bendix Air Cam rear drum brakes 16.5x8.6; SBM Valve. Heavy duty brake drums with gusseted cam brackets. A divider lockout w/warning light and buzzer (includes in cab manual air valve) must be equipped for safety. The rear axle lubricant must be 75-90 Synthetic for transverse torque rods (both axles).

**FUEL SYSTEM:** Aluminum 80 gallon fuel tank LH bottom of cab with a fuel cooler. Top of fuel tank to be 5 in below top of frame; DEF Tank mounted LH bottom of cab.

**FRONT TIRES/ WHEELS:** Tire size & load range to be 315/80R 22.5L and wheels to be 10-hole piloted steel disc type; 22.5" x 9.0. All wheels will have fluorescent orange loose wheel lug nut indicators installed Front and Rear.

**REAR TIRES/ WHEELS:** Tire size & load range to be 315/80R 22.5L and wheels to be 10-hole piloted steel disc type; 22.5" x 9.0.

**LIGHTING:** Front head light lamps to be halogen. Ft v-turn and clearance lights, turn signal & flasher switch, self-canceling turn signals and marker lamps to all be LED. Roof and corner markers, parking lamps are to be Amber LED wired to a battery shut-off switch. Daytime running lamps, identification & clearance lights, (7) marker and clearance lights, provision for local installation of strobe lights. Dome lights, (2) w/self-contained switches (one each side) and side marker lamps and reflectors to meet or exceed Federal Regulations. All electrical connections to be waterproof and sprayed w/protective coating. No LED manual cut-off switches in cab.

**RADIO:** Unit to be equipped with an AM/FM Stereo radio w/ CD,WB, USB, and MP3 connections. Unit must be equipped with an auto shut-off radio entertainment system when vehicle is engaged in reverse.

**COLOR:** Cab & Chassis of unit and Sanitation body to be OEM White.

**BODY WRAP:** Both sides of refuse body will be wrapped with the City of San Antonio Solid Waste Management Department quatrefoil. Size and dimension of graphic will be coordinated with the Solid Waste Management Department prior to delivery in order to identify exact location on body for quatrefoil wrap.

## **HEIL DURAPACK 28 cu yd REFUSE COLLECTION BODY- HIGH COMPACTION-ASL SPECIFICATION**

**CAPACITY:** The packer body to have a capacity, excluding the receiving hopper, of not less than 28-cubic yards. Body will have a 150,000-psi body liner, a 3/16" 150,000-psi hopper floor liner, and manufacturer's severe duty packer wear kit.

**HOPPER:** Minimum capacity of 4-cubic yards. The structural integrity of the body must allow high density loading of up to 1,000-pounds per cubic yards of normal refuse. Maximum body, loader and tailgate weight exclusive of special options must not exceed 16,000-pounds. Hopper hood will be provided to prevent debris from blowing out. Manually operated hopper cover, with extended handle, will also be provided inside hopper hood. Hopper cover shall be operated while standing on the ground.

**COMPACTION:** Minimum of 900-lbs. per cubic yard as determined by the City of San Antonio. The packing capability of each body purchased will be re-evaluated at periodic intervals during the 12-month warranty period after the unit goes into service. Should the City determine that a body does not meet the minimum compaction requirements during any of these tests, the vendor will be advised and be required to take action to repair the body in question so that it will meet the minimum compaction requirements. Once the repair is accomplished to the satisfaction of the City, the warranty on the body will then be extended for a 12-month period from the date of re-acceptance by the City. The contractor will have the right to inspect compaction units during normal City working hours to assure that proper factory recommended service and maintenance is being performed. Abuse and damage not attributable to faulty design, materials or workmanship will exempt warranty expectations and must be documented by the vendor. A damage statement will be provided to the service center superintendent within 48 hours of inspection.

**BODY CONSTRUCTION:** No hydraulic cylinders, valves, or other hydraulic components will come in contact with refuse packed into the body. Follower Arm Extension to follow packer extension/retract movement to reduce gap on both sides of packer. All body hinges, cylinder rod ends, cylinder base trunnions, and high cycle pivot points must be equipped with accessible grease fittings. Fittings not easily accessible must have a remote lubrication device installed. Street Side lube manifold for packer cylinders inside body, to be accessible from body side door without entry to refuse body. An in-cab mounted light and audible alarm to be provided to indicate that the tailgate is not fully closed and locked.

**LIFTING MECHANISM:** The lift base must support the lift arm, the dump arm, the level pivot, the level link, the pivot link and the reach link. The lift base to rest atop the chassis frame rails for vertical distribution of loads induced into the chassis frame rails. Lift mechanisms mounted alongside the chassis frame rails will not be accepted. The lift base shall consist of a .75" x 16" x 61", 50,000 PSI minimum yield, surface plate for chassis frame mounting and shall be reinforced by four (4) vertical ribs for rigidity and arm pivot placement. The ribs shall utilize .75" x 6.5", 50,000 PSI minimum yield steel. The front-to-rear mounting length shall not exceed 18". Stops will be welded to the vehicle frame to prevent arm assembly from shifting. Arm Stopper shall be 1/2" square rod or larger. The front-to-rear mounting length must not exceed 18-inches. Grip Rite Gripper by Heil.

**LIFTING MECHANISM INTERLOCK:** Interlock shall be in-place to eliminate the grabbers from opening when in the dump position. The lifting mechanism must be capable of lifting containers ranging from 30-110 gallons at level, or 16-inch below and above level container placement, and to be capable of extending, grabbing, raising, dumping and returning a container from any position without the need to retract the lift arm and perform the following lift cycle functions in a maximum 12 seconds at engine idle as follows:

- A. Reach to container
- B. Grab the container
- C. Lift the container to the full dump position
- D. Lower the container to the full down position
- E. Release the grabbers from the container
- F. Retract to body

**HYDRAULICS:** The lifting capacity to be a minimum of 750-pounds at the 9-foot full reach extension to minimize high over turning loads on the truck chassis. The lifting capacity must progressively increase as the reach decreases to achieve a minimum of 2,000-pound lift at 2-foot reach.

**HYDRAULIC PUMP:** The hydraulic pump to be a conventional "on-command" tandem vane design to operate-in-gear, at-idle. The lift hydraulics must operate at a working pressure of minimum 2,300-PSI. The body hydraulics to operate at a working pressure of minimum 2,500-PSI. All hydraulic tubes will be securely clamped to prevent vibration, abrasion, and excessive noise. All hydraulic hoses must conform to SAE standards for designed pressure. Bending radius not to exceed one half that of the S.A.E. standards. This requirement will prevent fiat spots in the hoses. The hydraulic oil reservoir to have a minimum 50-gallon gross capacity and a net capacity of 45-gallons minimum. The tank must be complete with a screened fill pipe and cap, filter breather, clean out cover, oil level sight and temperature gauge. The hydraulic system must be protected with a, minimum 6-micron in-tank return line filter along with a minimum 100-mesh (140-micron) reusable oil strainer in the suction line. A magnet to be used to eliminate contamination and will be accessible for cleaning. One quarter turn ball valves must be installed on suction and outlet lines and to isolate the reservoir and filter assembly for service and maintenance. The return line filter to also include an in cab filter by-pass monitor, which will alert the operator or service personnel when the filter is in need of replacement. A hydraulic pump shut down system must also be installed which will prohibit prolonged operation of the hydraulics when the filter is in the by-pass mode. Quick disconnect fittings to be installed so that a pressure gauge can be easily connected without the use of tools or the need to remove hydraulic fittings.

**LUBRICATION:** All lubrication to be performed from a ground level position without the use of ladder or platform. All lube points to be accessible without movement of arm, body or tailgate for position. Bodies requiring technicians to go inside or under body for lubrication are unacceptable. NO EXCEPTIONS

**CONTROLS:** Joystick, air over electronic; Lift controls to be located in the cab and convenient to the operator; Joystick shall operate the lift arm functions in a controlled "smooth shift" fashion without use of hydraulic cushioned cylinders. All hydraulic valves shall be solenoid controlled electronic over hydraulic valves. Pneumatically controlled valves are not acceptable. The body controls shall be electronic over hydraulic and located in the cab convenient to the operator. All valve components are to be easily serviceable without changing entire valve body. Valves are to be of the sectional design rather than monoblock for serviceability. The joystick must be properly labeled and indicate the direction of travel as follows: Reach (extend-retract) (in-out), Grab (grip release), Lift arm (up-down) (lift-lower). The lift controls must be self-centering type, returning to the neutral position when released. Operating the lift controls

while packing must reverse and return the packer to the start position. The packer push button controls to be electrical over hydraulic and located in the cab convenient to the operator. Separate push buttons must be provided for "Pack" and "Retract" to provide complete packer panel movement control in either direction. Pushing the "Pack" button must automatically extend and retract the packer panel for a complete cycle. Tailgate raise and tailgate lock controls to be electric over hydraulic. Toggle switches to be used to control each function individually. The dumping system provided shall be full eject. The load shall be dumped via cab mounted, electrical controls which raise the tailgate and packer body. The tailgate shall be unlatched and opened/closed hydraulically. The controls shall be located in the cab to allow the operator to remain in the cab and seated during the unloading procedure. Tailgate lock and lifting controls shall be isolated from all other controls and shall be designed to eliminate the possibility of accidental operation. Manually operated latching or restraining devices are not acceptable. Remote switch for arm activation will be installed inside of cab on near the right side door. A mobile controller with control center and display shall be provided in the cab to monitor system functions and operation of the truck. This controller 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 with no mechanical relays or switches inside the controller. This controllers shall use IEC 61131-3 software and will have SAE J1939 built into the controller for communication to the vehicle powertrain. The mobile controller shall be installed inside the truck cab and shall display self-diagnosing error codes in readable text format which identify the potential trouble source. Both audio and text alerts must be made available to aid in locating trouble source. A non-resetting counting device will be furnished to track grabber arm cycling. Counter will be securely mounted in cab and advance one number each time the arm is lowered and grabber is opened.

**ELECTRICAL:** The body functions in-cab control center shall be provided for system functions. Return line indicator in cab. All body controls shall be electronic and in easy reach of the operator. Large control box shall be free of obstructing driver view. For ease of service, the lift arm and body function electrical to be independent from all lighting electrical. Separate harnesses for both circuits required. Protected wiring on all applications. All electrical components including wiring shall be free of paint and overspray for ease of maintenance.

**LIGHTING:** All lighting to comply with Federal and local lighting requirements. All lighting to be in shock mounted rubber grommets. All lights to be LED including Strobe and Work lights. LED lighting at Hopper and at curbside. All lighting and reflectors must be provided in accordance with FMVSS #108 and ANSI 245.1-1999, plus mid body turn signals on each side of the body and a high center brake light on the rear. Included to be, four (4) each, minimum 4-inch diameter, minimum 10-diode, LED, combination tail/stop lamps to be installed. Two (2) on the left and right hand side of the upper portion of the tailgate and two (2) on the left side and on the right side below the tailgate. Turn signals will be separate 4-inch Red LED lamps and placed next to each stop/tail light. Each light must be protected by expanded metal shields that are easily removable to repair lights when necessary. A lighted license plate bracket to be installed centered left to right on the bottom third of the tailgate. A minimum of 2 (two), high output, white backup lights to be installed. Four (4) each, flush mounted amber strobe lights, with user selectable flash patterns to be wired to activate whenever battery disconnect switch is in the "on" position (WHELEN TIR-6, PIN 01-0663507A33B, SUPER-LED, 500 SERIES DIRECTIONAL WARNING LIGHT). Strobes will be set to "three flash, pause" pattern. There will be no switch inside the cab that will turn off strobe lights. Two (2) strobe lights to be located on the front grill and two (2) strobe lights to be located at the rear of the body, at approximately center of tailgate, separated by a minimum of 10 inches should be connected to the brake light system. Clearance, marker, stop, back up, and directional lights to be LED with Lexan lens, shock mounted in a protective housing, the entire unit to be replaceable pop out style. All lighting to be wired to standard chassis controls for the type lighting being installed. Two (2) wide-angle halogen or LED



work lights shall be attached to the body in such a manner to provide light at night during the container lift and dump cycle. Controls for spot lights to be mounted in the cab. Reflectors provided shall be rivet secured type; adhesive styles are unacceptable. Reflective conspicuity tape must be applied along both sides and across the back of each packer body.

**PAINTING:** A high luster finish coat must be applied using acrylic urethane, or proven equal. An ample amount to be applied to achieve a minimum dry thickness of two and one-half (2 1/2) mil and will result in a finish of (3) 1 mil minimum thickness and up to 4-mil maximum finish. Body and lifting mechanism to be painted DuPont color number G-8845-WM. Lifting mechanism is to be OEM Black.

**ACCESSORIES:**

- A lockable, water tight, toolbox, approx. 18" x 18" x 20" to be securely mounted to rear bumper of the refuse body. Placement to be approved prior to completion of first unit.
- A 20 lb. Fire extinguisher to be installed on body, curbside, front of body behind first bolster mounted horizontally.
- 3<sup>rd</sup> Eye AWT84MSD DVR Monitor with color video system, with automatic switcher to be installed to enable proper and safe operation of the truck. One camera to be mounted high on the tailgate to assist in backing up, one camera to be installed to providing a view of the hopper operation and two (2) cameras (provided by chassis manufacture and installed in right and left side rear view mirrors), and one forward facing cameras.
- Cameras and connectors must be sealed and waterproof. Flat screen, minimum 8.4-inch monitor to have extended visor and swivel base and be reachable and viewable from either driver position. Automatic switcher with remote switch must be capable of switching between cameras based on operation controls, transmission setting, or operator's preference. Monitor to have split screen capabilities and provisions to add another camera without modification. Cameras to have built in infra-red night vision, minimum 1300 field of view, and sun shade device.
- The hopper camera to provide view when arm is in the lift and dump positions. The rear view camera must be activated when the transmission is shifted to reverse, view from the rear camera to be on the monitor when the truck is in transit (i.e. the truck is in motion and the hydraulic system is not engaged). A back up detection system to be installed - Rear object detection system, beeps faster the closer you get to an object while reversing; it will be ties into the camera system specified. Back up detection system to include automatic braking system to apply brakes with vehicle is within a specified distance of an object.

ITEM	QUANTITY	DESCRIPTION
2	4	<b>Peterbilt 520 Cab &amp; Chassis with a 28 cu yd McNeilus ZR Automated Side Loader</b>

**ENGINE:** Engine to be a Cummins ISX12; 350 HP @ 2100 RPM with a minimum 1,450 lbs/ft torque.

**CAB:** All doors to be keyed alike. Unit to be 53in LCF ProBilt Cab with RH drive, dual door stops, door locks, tinted safety glass thru-out. Doors to be equipped with mounted arm rests, power windows, and full insulation. Cab and Door must be equipped with mounted entry grab handles, and an ergonomic center console. Driver seat to be Sears C2 Air Ride with mid-back support. Passenger seat to be Peterbilt Non-Air Ride. Material to be vinyl and seatbelt color to be bright orange (NO EXCEPTIONS). Interior color to be gray. Unit to come equipped with an adjustable steering column, Tilt/Telescope. Driver side flooring to be diamond plate covering on floor. Rear window back of cab standard tint. A combo fresh air heater/air

conditioner with radiator mounted condenser, dedicated side window defrosters, Bi-level heater/ defroster controls, 54,500 BTU/HR; silicone heater hoses. Velvac VMAX III black motorized and heated mirrors with cameras; one (1) mirror to be mounted on right side door and one (1) mirror to be mounted on front of cab left side. Unit to have (1) Air Horn equipped. Electric Windshield Wipers with intermittent feature and rain gutters over driver and passenger doors. Headlights are to be dual rectangular halogen type. Unit to have a 5 lb ABC fire extinguisher mounted in cab out of drivers operation and equipped with a triangle kit.

**CHASSIS:** Base Model 520, 6-wheel truck; RH sit down drive package. Wheelbase, to meet body manufactures specifications for cab to trunnion. Frame Rails, 10.75"x3.5"x375", steel section modulus 17.8 cu. in. with a RBM of a minimum 2,136,000 in lbs per rail; with a full steel liner; (2) solid mount cable hooks; Bendix AD -IS EP Air Dryer with heater, air tank valve guards, steep painter air tanks and nylon chassis Hose. An aluminum space saver battery box LH bottom of cab to be equipped with a rubber battery pad in bottom of battery box; mount space saver battery box, top of 8in below top of frame; steel bumper swept back, Painted.

**TRANSMISSION/ DRIVE:** Unit shall be equipped with an Allison 4500 Series, 6 Speed Vocation, RDS -P with Retarder, Refuse- VOC 400XXX with a control module, refuse w/ auto-neutral & Service B, VP170 transmission. Transmission is to include direct mount oil cooler, external oil cooler, internal filter, and oil level sensor. The primary performance and secondary economy and six speed transmission controls to be Allison push button. The latest Generation 5 Allison Output Retarder for RDS Transmission w/ Prognostics is to be equipped. The transmission retarder is to be audible and include an audible alarm. Allison output function S with a neutral indicator for PTO. Unit will come equipped with a rolling direction change shift inhibitor feature. The transmission mounted driveshaft and Spicer 1810HD half round transmission all to be under the Allison 5 Yr Edge Warranty w/ Transmission Retarder and PTO.

**FRONT AXLE:** Front axle to be Dana Spicer D2000F 20,000 lb., 3.5in Drop Factory front axle alignment to improve handling and reduce tire wear. Zerk fittings on tie rod ends, king pins, and draglink ball joints. Taper leaf springs, shocks 20,000 lb. Bendix Air Cam Front Drum Brakes 16.5x7 for use with 16,000-22,000lbs steer axles.

**REAR AXLE:** Rear Drive Axle-Single & Tandem, shall be Hendrickson Haulmaax HMX460 46,000lb, 54in Axle spacing, 60K creep rating. Rear brakes to be Bendix Air Cam rear drum brakes 16.5x8.6; SBM Valve. Heavy duty brake drums with gusseted cam brackets. A divider lockout w/warning light and buzzer (includes in cab manual air valve) must be equipped for safety. The rear axle lubricant must be 75-90 Synthetic for transverse torque rods (both axles).

**FUEL SYSTEM:** Aluminum 80 gallon fuel tank LH bottom of cab with a fuel cooler. Top of fuel tank to be 5 in below top of frame; DEF Tank mounted LH bottom of cab.

**FRONT TIRES/ WHEELS:** Tire size & load range to be 315/80R 22.5L 16 ply and wheels to be 10-hole piloted steel disc type; 22.5" x 9.0. All wheels will have fluorescent orange loose wheel lug nut indicators installed Front and Rear.

**REAR TIRES/ WHEELS:** Tire size & load range to be 315/80R 22.5L 16 ply and wheels to be 10-hole piloted steel disc type; 22.5" x 9.0.

**LIGHTING:** Front head light lamps to be halogen. Ft v-turn and clearance lights, turn signal & flasher switch, self-canceling turn signals and marker lamps to all be LED. Roof and corner markers, parking lamps are to be Amber LED wired to a battery shut-off switch. Daytime running lamps, identification & clearance lights, (7) marker and clearance lights, provision for local installation of strobe lights. Dome

lights, (2) w/self-contained switches (one each side) and side marker lamps and reflectors to meet or exceed Federal Regulations. All electrical connections to be waterproof and sprayed w/protective coating. No LED manual cut-off switches in cab.

**RADIO:** Unit to be equipped with an AM/FM Stereo radio w/ CD, WB, USB, and MP3 connections. Unit must be equipped with an auto shut-off radio entertainment system when vehicle is engaged in reverse.

**COLOR:** Cab & Chassis of unit and Sanitation body to be OEM White.

**BODY WRAP:** Both sides of refuse body will be wrapped with the City of San Antonio Solid Waste Management Department quatrefoil. Size and dimension of graphic will be coordinated with the Solid Waste Management Department prior to delivery in order to identify exact location on body for quatrefoil wrap.

### **McNeilus ZR 28 cu yd REFUSE COLLECTION BODY- HIGH COMPACTION-ASL SPECIFICATIONS**

**CAPACITY:** The packer body to have a capacity, excluding the receiving hopper, of not less than 28-cubic yards. Body will have a 3/16" AR400 hopper floor liner.

**HOPPER:** Minimum capacity of 4.8-cubic yards. The structural integrity of the body must allow high density loading of up to 850-900 lbs/yd<sup>3</sup> typical of normal refuse. Maximum body, loader and tailgate weight exclusive of special options must not exceed 16,000-pounds. Hopper hood will be provided to prevent debris from blowing out. Manually operated hopper cover, moved up/down with button in cab.

**COMPACTION:** Minimum of 900-lbs. per cubic yard as determined by the City of San Antonio. The packing capability of each body purchased will be re-evaluated at periodic intervals during the 12-month warranty period after the unit goes into service. Should the City determine that a body does not meet the minimum compaction requirements during any of these tests, the vendor will be advised and be required to take action to repair the body in question so that it will meet the minimum compaction requirements. Once the repair is accomplished to the satisfaction of the City, the warranty on the body will then be extended for a 12-month period from the date of re-acceptance by the City. The contractor will have the right to inspect compaction units during normal City working hours to assure that proper factory recommended service and maintenance is being performed. Abuse and damage not attributable to faulty design, materials or workmanship will exempt warranty expectations and must be documented by the vendor. A damage statement will be provided to the service center superintendent within 48 hours of inspection.

**BODY CONSTRUCTION:** No hydraulic cylinders, valves, or other hydraulic components will come in contact with refuse packed into the body. All body hinges, cylinder rod ends, cylinder base trunnions, and high cycle pivot points must be equipped with accessible grease fittings. Fittings not easily accessible must have a remote lubrication device installed. Street Side lube manifold for packer cylinders inside body, to be accessible from ground-level body side door without entry to refuse body. An in-cab mounted light and audible alarm to be provided to indicate that the tailgate is not fully closed and locked.

**LIFTING MECHANISM INTERLOCK:** Interlock shall be in-place to eliminate the grabbers from opening when in the dump position. The lifting mechanism must be capable of lifting containers ranging from 30-110 gallons at level, or 16-inch below and above level container placement, and to be capable of extending, grabbing, raising, dumping and returning a container from any position without the need to

retract the lift arm and perform the following lift cycle functions in a maximum 12 seconds at engine idle as follows:

- A. Reach to container
- B. Grab the container
- C. Lift the container to the full dump position
- D. Lower the container to the full down position
- E. Release the grabbers from the container
- F. Retract to body

**HYDRAULICS:** The lifting capacity to be a minimum of 550 lbs.

**HYDRAULIC PUMP:** The hydraulic pump to be a conventional "on-command" using tandem piston pumps; variable displacement. The lift hydraulics must operate at a working pressure of minimum 2,300-PSI. The body hydraulics to operate at a working pressure of minimum 2,500-PSI. All hydraulic tubes will be securely clamped to prevent vibration, abrasion, and excessive noise. All hydraulic hoses must conform to SAE standards for designed pressure. Bending radius not to exceed one half that of the S.A.E. standards. This requirement will prevent fiat spots in the hoses. The hydraulic oil reservoir to have a minimum 50-gallon gross capacity and a net capacity of 45-gallons minimum. The tank must be complete with a screened fill pipe and cap, filter breather, clean out cover, oil level sight and temperature gauge. The hydraulic system contains a 12V electric fan cooled hydraulic cooler mounted on the front of the body above the cylinder mounting area. The hydraulic system must be protected with a, minimum 6-micron in-tank return line filter along with a minimum 100-mesh (140-micron) reusable oil strainer in the suction line. A magnet to be used to eliminate contamination and will be accessible for cleaning. One quarter turn ball valves must be installed on suction and outlet lines and to isolate the reservoir and filter assembly for service and maintenance. The return line filter to also include an in cab filter by-pass monitor, which will alert the operator or service personnel when the filter is in need of replacement. A hydraulic pump shut down system must also be installed which will prohibit prolonged operation of the hydraulics when the filter is in the by-pass mode. Quick disconnect fittings to be installed so that a pressure gauge can be easily connected without the use of tools or the need to remove hydraulic fittings.

**LUBRICATION:** All lubrication to be performed from a ground level position without the use of ladder or platform. All lube points to be accessible without movement of arm, body or tailgate for position. Bodies requiring technicians to go inside or under body for lubrication are unacceptable. NO EXCEPTIONS.

**CONTROLS:** Electric over hydraulic CAN based joystick. Lift controls to be located in the cab and convenient to the operator; Joystick shall operate the lift arm functions in a controlled "smooth shift" fashion without use of hydraulic cushioned cylinders. All hydraulic valves shall be solenoid controlled electronic over hydraulic valves. Pneumatically controlled valves are not acceptable. The body controls shall be electronic over hydraulic and located in the cab convenient to the operator. All valve components are to be easily serviceable without changing entire valve body. Valves are to be of the sectional design rather than monoblock for serviceability. The joystick must be properly labeled and indicate the direction of travel as follows: Reach (extend-retract) (in-out), Grab (grip release), Lift arm (up-down) (lift-lower). The

lift controls must be self-centering type, returning to the neutral position when released. The follower panel design to allow dumping trash continuously regardless of packer position. The packer push button controls to be electrical over hydraulic and located in the cab convenient to the operator. Separate push buttons must be provided for "Pack" and "Retract" to provide complete packer panel movement control in either direction. Pushing the "Pack" button must automatically extend and retract the packer panel for a complete cycle. Tailgate raise and tailgate lock controls to be electric over hydraulic. Toggle switches to be used to control each function individually. The dumping system provided shall be full eject. The load shall be dumped via cab mounted, electrical controls which raise the tailgate and packer body. The tailgate shall be unlatched and opened/closed hydraulically. The controls shall be located in the cab to allow the operator to remain in the cab and seated during the unloading procedure. Tailgate lock and lifting controls shall be isolated from all other controls and shall be designed to eliminate the possibility of accidental operation. Manually operated latching or restraining devices are not acceptable. Remote switch for arm activation will be installed inside of cab on near the right side door. A mobile controller with control center and display shall be provided in the cab to monitor system functions and operation of the truck. This controller 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 with no mechanical relays or switches inside the controller. This controllers shall use IEC 61131-3 software and will have SAE J1939 built into the controller for communication to the vehicle powertrain. The mobile controller shall be installed inside the truck cab and shall display self-diagnosing error codes in readable text format which identify the potential trouble source. Both audio and text alerts must be made available to aid in locating trouble source. A non-resetting counting device will be furnished to track grabber arm cycling. Counter will be securely mounted in cab and advance one number each time the arm is lowered and grabber is opened.

**ELECTRICAL:** The body functions in-cab control center shall be provided for system functions. Return line indicator in cab. All body controls shall be electronic and in easy reach of the operator. Large control box shall be free of obstructing driver view. For ease of service, the lift arm and body function electrical to be independent from all lighting electrical. Separate harnesses for both circuits required. Protected wiring on all applications. All electrical components including wiring shall be free of paint and overspray for ease of maintenance.

**LIGHTING:** All lighting to comply with Federal and local lighting requirements. All lighting to be in shock mounted rubber grommets. All lights to be LED including Strobe and Work lights. LED lighting at Hopper and at curbside. All lighting and reflectors must be provided in accordance with FMVSS #108 and ANSI 245.1-1999, plus mid body turn signals on each side of the body and a high center brake light on the rear. Included to be, four (4) each, minimum 4-inch diameter, minimum 10-diode, LED, combination tail/stop lamps to be installed. Two (2) on the left and right hand side of the upper portion of the tailgate and two (2) on the left side and on the right side below the tailgate. Turn signals will be separate 4-inch Red LED lamps and placed next to each stop/tail light. Each light must be protected by expanded metal shields that are easily removable to repair lights when necessary. A lighted license plate bracket to be installed centered left to right on the bottom third of the tailgate. A minimum of 2 (two), high output, white backup lights to be installed. Four (4) each, flush mounted amber strobe lights, with user selectable flash patterns to be wired to activate whenever battery disconnect switch is in the "on" position (WHELEN TIR-6, PIN 01-0663507A33B, SUPER-LED, 500 SERIES DIRECTIONAL WARNING LIGHT). Strobes will be set to "three flash, pause" pattern. There will be no switch inside the cab that will turn off strobe lights. Two (2) strobe lights to be located on the front grill and two (2) strobe lights to be located at the rear of the body, at approximately center of tailgate, separated by a minimum of 10 inches should be connected to the brake light system. Clearance, marker, stop, back up, and directional lights to be LED with Lexan lens, shock mounted in a protective housing, the entire unit to be replaceable pop out style. All lighting to be

wired to standard chassis controls for the type lighting being installed. Two (2) wide-angle halogen or LED work lights shall be attached to the body in such a manner to provide light at night during the container lift and dump cycle. Controls for spot lights to be mounted in the cab. Reflectors provided shall be rivet secured type; adhesive styles are unacceptable. Reflective conspicuity tape must be applied along both sides and across the back of each packer body.

**PAINTING:** A high luster finish coat must be applied using acrylic urethane, or proven equal. An ample amount to be applied to achieve a minimum dry thickness of two and one-half (2 1/2) mil and will result in a finish of 3) 1 mil minimum thickness and up to 4-mil maximum finish. Body and lifting mechanism to be painted DuPont color number G-8845-WM. Lifting mechanism is to be OEM Black.

**ACCESSORIES:**

- A lockable, water tight, toolbox, approx. 18" x 18" x 20" to be securely mounted to rear bumper of the refuse body. Placement to be approved prior to completion of first unit.
- A 20 lb. Fire extinguisher to be installed on body, curbside, front of body behind first bolster mounted horizontally.
- Fleetmind color video camera system, with automatic switcher to be installed to enable proper and safe operation of the truck. One (1) camera to be mounted high on the tailgate to assist in backing up, one (1) camera to be installed to providing a view of the hopper operation and two (2) cameras provided by chassis manufacture (one camera on each side of the cab chassis in rear view mirrors), one (1) forward facing camera and one (1) camera on right side of body viewing the collection arm.
- Cameras and connectors must be sealed and waterproof. Flat screen, minimum 7-inch monitor to have extended visor and swivel base and be reachable and viewable from either driver position. Automatic switcher with remote switch must be capable of switching between cameras based on operation controls, transmission setting, or operator's preference. Monitor to have split screen capabilities and provisions to add another camera without modification. Cameras to have built in infra red night vision, minimum 1300 field of view, and sun shade device.
- The rear view camera must be activated when the transmission is shifted to reverse, view from the rear camera to be on the monitor when the truck is in transit (i.e. the truck is in motion and the hydraulic system is not engaged). A back up detection system to be installed - Rear object detection system, beeps faster the closer you get to an object while reversing; it will be ties into the camera system specified.
- Preco hardwired auto-braking system to apply brakes automatically when backing vehicles is within a preset range.
- RFID reader and antennae installed on truck.