GENERAL BIDDING GUIDELINES:

If bid specification is met than place a check in the column marked “YES”. If it is necessary to bid alternate equipment or to take exceptions to the specifications as set forth, this must be checked as “NO”.

The Basis of Award shall be dependent on the most responsible bid submitted. Consideration will be given to cash flow, purchase price, delivery dates, equipment service guarantees, parts and service availability, parts and service location, analyses and comparison of equipment specification details, and any other items of concern to the City of Laurel.

The purchaser reserves the right to reject any or all bids, to waive any informality in bids, or to accept in whole or part such a bid as may be in the best interest of the City of Laurel.

The purchaser also reserves the right to reject the vehicle at the time of final inspection if the vehicle does not meet any and/or all requirements of the final contract according to the personnel acting on behalf of the department at the time of final inspection. These requirements include, but are not limited to: performance, workmanship, service, quality and operation of the vehicle.

Please state the estimated delivery time after receipt of order in days: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**CHASSIS SPECIFICATION** MARK YES OR NO IF

 COMPLIANT OR NOT

 **ITEM DESCRIPTION** YES NO

SINGLE RIGHT HAND DRIVE STEEL CAB \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_

CUMMINS 350HP ISX12 1450 FT-LB TORQUE \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_

2 POSITION C BRAKE BY JACOBS \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_

AUDIBLE & VISUAL ALARM/LOP, HT, LWL \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_

RACOR 412R10 FILTER W/H2O PROBE & 12V ELEC HEAT \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_

PHILLIPS 120V 1500W BLOCK HEATER \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_

HEATER RECEPTACLE LOCATED IN RH CAB STEPS \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_

1300 SQ. IN. SOLID ALUMINUM RADIATOR (NO PLASTIC TANK ENDS) \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_

2-SPEED ENGINE FAN \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_

EXTENDED LIFT COOLANT \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_

STEEL COOLANT SUGE TANK W/SIGHT GLASS \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_

16” TWO STAGE AIR CLEANER \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_

BLACK, HOOD TYPE ENGINE AIR INTAKE \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_

HORZ DPF W/LH VERTICLE SCR \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_

PF & SCR SHIELDS \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_

VERTICLE SINGLE EXHAUST DIFFUSER STAINLESS STEEL \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_

OVER-FENDER MTD., RH SIDE, 10-GAL CAPACITY UREA TANK \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_

ALUM TURBO/EXHAUST PIPE DEBRIS SHIELD \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_

CUMMINS WABCO 18.7 CFM AIR COMPRESSOR \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_

DELCO REMY 12V 39MT STARTER MOTOR W/OCP \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_

DELCO REMY 180 AMP, 28SI PAD MTD. ALTERNATOR \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_

10 MINUTE ENGINE IDLE SHUTDOWN ENABLED \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_

CRUISE CONTROL ENABLED \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_

PTO REGEN INHIBIT THRESHOLD = 0 MPH \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_

 1200 RPM MAX IN PTO \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_

PTO SET SWITCH = 1200 RPM \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_

PTO RESUME SWITCH = 1000 RPM \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_

PTO RAMP RATE INCREMENT = 500 RPM \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_

ALLISON 4500 SERIES, 6-SPEED TRANSMISSION \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_

ALLISON PUSHBUTTON CONTROLS \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_

OIL TO WATER TYPE \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_

TRANSMISSION OIL FILTER TUBE/DIPSTICK W/ LEVEL SENSOR \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_

TRANSYND SYNTHETIC AUTO TRANSMISSION FLUID \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_

SPICER 1810HD HALD ROUND DRIVESHAFT \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_

PREP FOR CHELSEA 890/897 PTO CLEARENCE \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_

MERITOR MFS-16 STEER AXLE, 16000# RATING \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_

7500LB FLATLEAF 16,500 ROUND CAPACITY FRONT SUSPENSION \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_

DOUBLE ACTING SINGLE – HEAVY DUTY FRONT SHOCK ABSORBERS \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_

SCOTSEAL PLUS XL FRONT WHEEL SEALS \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_

CR ZYTEL FRONT HUBCAPS \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_

SYNTHETIC FRONT AXLE LUBRICANT \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_

MERITOR 16.5 X 6 FRONT BRAKES \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_

MERITOR AUTOMATIC FRONTAXLE SLACK ADJUSTERS \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_

DUST SHIELD – FRONT BRAKES \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_

INTEGRAL POWER STEERING W/ LEFT HAND RAM \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_

STEEL FOUR QUART POWER STEERING RESERVOIR \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_

MERITOR RT46-160 46,000LB REAR AXLE ASSEMBLY \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_

5.63 REAR AXLE RATION \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_

FFOUR WHEEL REAR AXEL LOCK \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_

HENDRICKSON HMX-460 REAR SUSPENSION \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_

4 SHOCK ABSORBERS ON REAR SUSPENSION \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_

SCOTSEAL PLUS XL REAR AXLE SEALS \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_

SYNTHETIC REAR AXLE LUBRICANT \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_

MERITOR 16.5 X 7 Q PLUS REAR AXLE BRAKES \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_

MERITOR AUTOMATIC REAR AXLE SLACK ADJUSTERS \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_

DUST SHILD – REAR BRAKES \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

HENDRICKSON COMPOSILITE STEERABLE TAG, 13,500 LBS CAPACITY \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

SCOTSEAL PLUS XL TAGE AXLE SEALS \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

HENDRICKSON INTEGRAL TAG AXLE BRAKES \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

MERITOR AUTOMATIC TAG AXLE SLACK ADJUSTERS \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

BENDIXABS 4S/4M \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

SINGLE 3/8” VARIABLE STEEL FRAME RAIL \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

3,529,000 FRAME RBM RATING ON MAIN FRANE SECTION \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

7-PIECE STEEL W/ALUM BOC X-MEMBER \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

CHASIS WIRING TO BE SUPPORTED ON WIRING STUDS W/ STEEL P-CLAMPS \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

HUCKSPIN RR SUSP & CROSSMEMBER \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

STEEL PAINTED FRONT BUMPER \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

TWO REMOVABLE TOW PINS IN FRONT BUMPER \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

RO 170 COMPLAINT BODY INTERFACE WIRING \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

75 GAL 26” DIA UNPAINTED ALUMINUM LH MOUNTED FUEL TANK \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

FUEL TANK BRACKET TO EXTEND UNDER FUEL TANK WITH 3” WIDE STRAPS \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

STEEL BATTERY BOX AND LID \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

3 GROUP 31 ECL 12V 2250CCA BATTERIES \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

BATTERY SHUTOFF SWITCH W/LOCKOUT \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

BENDIX DV-2 AUTOMATIC WET TANK DRAIN WITH HEATER \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

CENTRAL MANIFOLD W/PERCOCKS \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

BENDIX ADIP AIR DRYER W/HEAT \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

SINGLE SELF-CLEANING CAB ENTRANCE STEP \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

STEEL CAB WITH REAR CORNER CURVED WINDOWS FOR VISIBILITY \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

RUGGED STEEL CAB DOORS \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

LH & RH DOOR CHECK STRAPS FOR WIND \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

DUAL INTERNAL REGUALTOR POWER WINDOWS \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

SINGLE PANE REMOTE CONTROL MIRRORS W/HEAT \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

RETRACTABLE MIRROR ARMS \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

SINGLE DOWN VIEW MIRROR, LH SIDE \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

BRUSHED SS EXTERIOR GRAB HANDLE \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

TWIN AIR HORNS MOUNTED UNDER CAB \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

SINGLE ELECTRONIC HORN \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

HYDRAULIC TILT CAB WITH AIR ASSIST \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

BUG SCREEN MOUNTED BEHIND GRILLE \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

IMPACT RESISTANT FRONT POLYFENDERS \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

16” DIA. STEERING WHEEL, 2 SPOKE \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

TILT AND TELESCOPIC STEERING COLUMN \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

SEARS C2 AIR RIDE DRIVERS SEAT \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

SEARS C2 FIXED PASSENGER SEAT \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

MODURA SEAT COVERS, ASHPALT IN COLOR \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

ALUMINUM DIAMOND PLATE FLOOR ON DRIVERS SIDE \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

ASHTRAY MTD IN CONSOLE W/12V CIGAR LIGHTER \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

INTEGRAL HVAC WITH ROOF MOUNTED A/C CONDENSER \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

VOLTAGE & OIL PRESSURE INCLUDED IN VEHCILE DISPLAY \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

ELECTRONIC TACHOMETER \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

HOUR METER INCLUDED IN ON BOARD DISPLAY \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

GRAUDUATED, AIR CLEANER MOUNTED AIR INTAKE RESTRICTION

INDICATOR \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

OEM MOUNTED ELECTRONIC PTO CONTROL SWITCH \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

ELECTRONIC FUEL LEVEL \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

LED HEAD LAMPS \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

LED FRONT TURN SIGNALS \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

SELF-CANCELING TURN SIGNALS \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

AMBER LED ROOF MARKERS \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

DAYTIME RUNNING LAMPS \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

AM/FM RADIO MOUNTED IN OVERHEAD COMPARTMENT \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

ANTENNA – ROOF MOUNTED \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

2 DUAL CONE SPEAKERS \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

RADIO SHUT-OFF IN REVERSE \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

DRY TYPE ABC 5LB CAP MTD. IN CAB UNDER SEAT \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

22.5 X 9” STEEL HP, 5.25” INSET, 5HH FRONT WHEELS \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

MICHELIN 315/80R22 XZY – 3 FRONT TIRES \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

22.5 X 8.25” STEEL HP, 5HH REAR WHEELS \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

MICHELIN 11R22.5H X DE M/S REAR TIRES \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

22.5 X 8.25” STEEL, HP, 6.18” INSET, 5HH TAG AXLE WHEELS \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

MICHELIN 11R22.5H XZY-3 TAG AXLE TIRES \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

STANDARD WHITE DPSS-N0007EX CAB PAINT \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

1 YEAR CHASSIS WARRANTY \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

5 YEAR EXTENDED ALLISON TRANSMISSION WARRANTY \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

5YRS/300K MILE EXTENDED CUMMINS WARRANTY PP2 \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

5YR/300K MILE EXTENDED CUMMINS AFTERTREATMENT WARRANTY \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

DATALINK ADAPTOR TO HOOK TO CHASIS \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

CUMMINS SOFTWARE FOR READING CODES \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

BEMDIX SOFTWARE FOR READING CODES \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

OEM TECHNICAL CALL CENTER FOR CUNTOMER AVAILABLE 24/7 \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

MADE IN THE USA \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

**Automated Side Loader Refuse Compactor**

**INTENT:**

These specifications describe a refuse collection body equipment with a mechanical device designed to handle a variety of plastic refuse containers (or specify sizes and types of containers to be handled). The body shall be capable of compacting and transporting refuse to a landfill or transfer station and unloading the load by means of hydraulically raising the tailgate and then ejecting the refuse without raising the body.

**GENERAL TERMS:**

All equipment furnished under this contact shall be new, unused and the same as the manufacture’s current production model. Accessories not specifically mentioned herein, but necessary to furnish a 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 and component parts shall be standard and interchangeable throughout the entire quantity of the units as specified in this invitation to bid. The equipment furnished shall conform to current ANSI Safety Standard Z 245.1.

The bidder shall complete every space in the Bidders Proposal column with checjk mark to indicate if the item being bid is exactly as specified. If any check marks are placed in the “NO” column, a detailed and complete description of the deviation from specification must be supplied on a separate sheet labeled “Deviations from Specification”.

**A. BODY CAPACITY AND DIMENSIONS:** **Exactly as Specified**

 **YES NO Offered**

1. The body shall be brake-formed radiused “Chiseled” rounded

to permit maximum capacity. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_\_\_\_

1. The maximum capacity of the body including tailgate shall

be, excluding hopper area: [**Specify: 20, 24, 27, or 31 cu.yd)**  \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_\_\_

1. The hopper shall be 4 cu yd. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_\_\_
2. The inside hopper width at front shall be 70”. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_\_\_
3. The inside body width rear shall be 90”. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_\_\_
4. The outside body width shall be 96” (across rear post). \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_\_\_
5. The outside body width shall be 98” (fenders) \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_\_\_
6. The outside body width shall be 101” (hose guards). \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_\_\_
7. The outside body height above chassis frame shall be 98”. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_\_\_
8. The inside body height shall be 89.81”. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_\_\_
9. The overall body length including hopper shall be:

20 cu yd Capacity Body – 210” \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_\_\_

24 cu yd Capacity Body – 234” \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_\_\_

27 cu yd Capacity Body – 258” \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_\_\_

31 cu yd Capacity Body – 282” \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_\_\_

1. The overall body length including hopper and lift arm shall be:

20 cu yd Capacity Body – 230” \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_\_

24 cu yd Capacity Body – 254” \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_\_

27 cu yd Capacity Body – 278” \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_\_

31 cu yd Capacity Body – 302” \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_\_

**B. BODY CONSTRUCTION:**

1. The body shall have a brake-formed radius design. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_\_
2. The body floor shall be flat. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_\_

 **Exactly as Specified**

 **YES NO Offered**

1. The body floor thickness shall be 3/16” Hardox 450. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_\_

1. The body long sills shall be 6” @ 10.5 lb/ft structural channel. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_\_\_
2. The body floor reinforcements shall be ¼” ASTM A-715 GR 50

formed steel members. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_\_\_

1. The body sides and roof shall have a brake-formed radius design

providing superior structural strength to weight ratio. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_\_\_

1. The body sides shall be formed from a one-piece panel with no

vertical weld seams. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_\_\_

1. The body sides and roof steel grade shall be 10ga ASTM A1011

grade 80. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_\_\_

1. Front perimeter of the body will incorporate a external angle

4 7/8” x 3-7/8” x 10ga ASTM A-715 GR 50 internal bolster. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_\_

1. Rear perimeter of the body will incorporate an external 4” x

3 ½” 7ga ASTM A715 GR 50 formed bolster. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_\_

1. A 10ga ASTM A715 GR 50 6” x 2-7/8” external crown rail shall

form the transition from the single piece side sheet to the roof

of the body. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_\_

1. Roof reinforcement shall incorporate a full length 4” x 2” x ¼”

ASTM A500 GR b rectangle tube. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_\_

1. The body fenders shall be light weight material to reduce overall

weight. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_\_

1. Steel inner fender rub rail thickness shall be 3/16” Hardox 450. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_\_
2. The body shall include a bolt-on rear under ride guard as standard

equipment to meet Federal Motor Carrier Safety Regulation

(49CFR393.86) Safety Reg., 49CFR393.86, TTMA RP No 41-02,

and SAE J682, Oct84. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_\_

**C. HOPPER CONSTRUCTION:**

1. The hopper shall have a minimum static capacity of 4 cu yd. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_\_

 **Exactly as Specified**

 **YES NO Offered**

1. The hopper shall have a minimum dynamic capacity (displacement

rate) of 10.5 cu yd per minute. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_\_

1. The hopper floor must include a 1/8” Hardox 450 liner that

Extends into the body an additional 38”. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_\_

1. The hopper floor steel grade shall be: AR450 Hardox, and be \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_\_

3/16” thick.

1. The hopper sides walls steel grade shall be AR450 Hardox and be

3/16” thick. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_\_

1. A hopper access door shall be provided above the packing panel on

the street side of the body to permit access into the hopper area. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_\_

1. The hopper access door shall be equipped with a safety interlock

switch to disable all functions if the access door is opened. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_\_

1. The hopper access door dimensions shall be: 28” x 32”, thickness

shall be 11ga ASTM A715 GR 50. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_\_

1. A hopper ladder with grab handles shall be located on the

street side of the hopper. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_\_

1. The hopper ladder shall be bolted on to the hopper. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_
2. The ladder must have and OSHA Standard 7” toe spacing

between the ladder rung and the side of the hopper. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. A transverse sump shall extend the full width of the front hopper. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_
2. Two (2) 14” x 20” sealed sump access doors equipped with handles

and quick acting over center toggle latches shall facilitate clean

out of the sump. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. A clean out tool option shall be provided to facilitate easy removal

of any accumulated debris from the hopper sump area. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. A holder shall be provided on the body side to secure the clean out

tool in a stored position. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

 **Exactly as Specified**

 **YES NO Offered**

1. The hopper shall have optional plastic gull wing hopper covers

to enclose the hopper during transport. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. The hopper cover shall be opened/closed by a single manual

control lever located on the right-hand side of the hopper wall.

an optional in cab controlled, air operated version is also available. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_

1. The hopper cover must have an interlock eliminating the ability to

dump a container if the hopper cover is closed. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. Interior hopper side sheet shall extend into the body with no

welds at the hopper to body transition. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

D. PACKING MECHANISM:

1. Must have a manual super pack operation that allows the panel

to extend into the body to clear debris from the hopper area. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. Packer hydraulic control must utilize a regeneration circuit

and include manual overrides for maintenance and repair functions. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. The packing panel shall be 33” high x wide. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_
2. A single, centrally mounted, pack cylinder shall generate 83,000 lbs.

of packing force. Two cylinder and/or continuous packing

mechanisms are not acceptable. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. The packer shall be a platen type design, integral with body. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_
2. The packing panel shall compete an auto pack cycle in a maximum

of 13 seconds @ 800RPM. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. Packing panel top thickness shall be ¼” ASTM A715 GR 50. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. Packing panel face plate shall be 3/8” ASTM A715 GR 50 \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_
2. Packing panel shall be reinforced with a combination of structural

members for maximum rigidity. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. The packing panel shall be guided by a single self-cleaning “T”

rail located in the center of the body. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. “T” rail and thickness shall be: ½”, AR450 Hardox ultra high-strength,

high abrasion resistant steel plate. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

 **Exactly as Specified**

 **YES NO Offered**

1. Packing panel wear shoes thickness shall be ¼” AR450 Hardox. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_
2. The packing mechanism shall use a single, double-acting telescopic

cylinder will be supported by self-aligning bearings on each end.

these will be 3-stage for 16-, 20-, 24- and 27-yard units. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_

1. Cylinder shall be centrally mounted above the hopper box. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_
2. Cylinder bore diameter shall be 6 ½”. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_
3. The main cylinder sleeve shall be induction hardness and chrome

plated. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. All stages of the sleeves must have metallic scrapers to protect

from internal contamination and damage. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. The first stage of the cylinder shall be a 64” stroke. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_
2. The cylinder full eject stroke shall be:

20 cu yd Capacity Body – 3 stage with a stroke of 133.5” \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

24 cu yd Capacity Body – 3 stage with a stroke of 157.5” \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

27 cu yd Capacity Body – 3 stage with a stroke of 181.5” \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

31 cu yd Capacity Body – 3 stage with a strike of 205.5” \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. Maximum operation pressure shall be 3000 psi. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_
2. Inside width of packing panel shall be 70”. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_
3. Inside height of packing panel shall be 33”. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_
4. The automatic packing cycle stroke shall be 52”. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_
5. Packing panel swept volume shall be 4 cu yd. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

**E. FULL EJECT – PUSH OUT:**

1. The pack/eject panel shall be capable of a complete extend/

retract cycle in less than 30 seconds. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. All eject controls shall be operated from inside the cab. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

 **Exactly as Specified**

 **YES NO Offered**

1. The pack/eject shall not be capable of extending into the body

during an auto pack cycle with the tailgate closed. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. A lockout system shall be supplied to allow the ejector panel to

the ejection mode only with the tailgate is in the open position. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. A lockout system shall be supplied to require the ejector panel

is in the home position before the tailgate can be lowered. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

**F. TAILGATE:**

1. The tailgate shall be hydraulically operated, top hinge bustle type. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_
2. The tailgate shall automatically lock and unlock without the use

of additional locking cylinders, cables or manual turnbuckles. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. The tailgate must use the operating system to remain closed and

pressurized in the locked position without the use of any external

control blocks or devices. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. The tailgate locking mechanism shall utilize a progressive

inverter cam roller design. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. Tailgate thickness shall be 10ga ASTM A715 GR 50. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_
2. The tailgate latch roller shall be fully supported by a horizontal

bolster around the lower perimeter of the tailgate. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. The tailgate shall be operated by 2 cylinders. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_
2. Tailgate cylinders shall be chrome plated rod with 1 ½” diameter

and 3” bore diameter. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. Tailgate cylinder stroke shall be 36 ½”. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_
2. Tailgate cylinder time at idle shall be 30 seconds. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_
3. The tailgate side sheets will have an integral rolled flange that

overlaps the perimeter of the rear tailgate sheet. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. A rubber seal shall be installed on the tailgate and extend across

the entire bottom and vertically up each side a minimum of 60”. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

 **Exactly as Specified**

 **YES NO Offered**

1. A cab mounted light and audible alarm shall be provided to indicate

that the tailgate is unlocked. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. The tailgate noise control shall include a delayed action to guard

against accidental activation. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. Self-contained horizontal tailgate maintenance safety props shall be

provided. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. The tailgate shall have a wire harness with Deutsch IP 69K connections

between the body and the tailgate to isolate the tailgate wiring

from the body. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

**G. AUTOMATED LIFTING MECHANISM:**

1. The lifting arm mechanism shall be capable of operating

simultaneously during any phase of packing operations with

full force and flow. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. Lift arm shall be mounted directly to the chassis frame rail. Tip

to Dump units with the lift arm mounted to the body are not

acceptable. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. The lift arm lower base weldment shall straddle both chassis

frame rails and be secured to its mounting brackets with four 1”

grade eight bolts. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. The lowest base weld mount shall be fully constructed of ¼” ASTM

A715 GR50 steel. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. Arm must utilize hardened spherical self-aligning bushings at dump

pivot, tapered roller bearings at gripper pivots. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. Arm must have an automatic container shake feature that allows the

inner boom to short stroke to be effective and easy on the arm

assembly. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. The Lifting Arm mechanism must have a lifting capacity of 1,750 lbs.

at full extension and 2,000 lbs. retracted. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. The Lifting Arm mechanism must have no more than a 15” kick out

through the entire arc of the container lift. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

 **Exactly as Specified**

 **YES NO Offered**

1. The Lifting Arm mechanism must be within the 96” road limit in the

travel position with the grippers in the full lowered position and

opened/home position. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. No portion of the lift mechanism shall have less than 13” of ground

clearance in the stowed position. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. Lift Arm extension from the side of the body must be horizontal in a

linear fashion. No swinging or arching of the lift arm is permitted. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. Lift Arm mechanism shall have a reach of 84” from the side of the

body to the centerline of a 90-gallon container. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. Lift Arm mechanism shall be capable of grasping a container located

 6” from the side of the body. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. Vertical dump height shall not exceed 120” above the truck frame

while dumping a 90-gallon container. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. Container dump angle shall be a minimum of 45 degrees to insure

complete dumping of container contents. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. Lifting mechanism shall be capable of a complete cycle, which

includes Grip-Lift-Dump-Un-Dump-Lower and Un-grip in a maximum

of 8 seconds including proportional cushioning. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. The Lifting Arm must be constructed utilizing an Inner and Outer

Arm assembly. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. The inner Arm must be 8” x 6” x 3/16” fabricated rectangular box

constructed of ASTM A500 Grade B. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_

1. The outer Arm assembly shall be 10” x 8” x 3/8” fabricated

rectangular box constructed of ASTM A500 grade B. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. The inner arm assembly shall include upper and lower 3/8” AR450

Hardox roller bearing tracks. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. The inner arm assembly shall glide in and out on six (6) 4” roller

bearings and four (4) plastic slide blocks to guide inner arm. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. Roller bearings shall rotate on a eccentric pin roller adjustment to

allow compensation for wear and maintain the grippers parallel with

the ground. The trunnion will allow the rollers to have full contact

with the inner arm tracks. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

 **Exactly as Specified**

 **YES NO Offered**

1. Inner and Outer Arm pivot pins shall be 2” C1045 turn ground,

heat-treated and polished pins held with 2” self-aligning spherical

bearings. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. Lift Arm must have a safety interlock to restrict dumping unless the

container is positioned over the hopper opening. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. Lift Arm hydraulics shall be controlled by a 4-spool sectional valve

equipped with hydraulic pilot actuators for proportional spool

positioning. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. Standard joystick lift function controls shall be proportional electric

over pilot operated hydraulic spools. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. Solid state linear prox bar for boom angle and ultrasonic sensor for

boom in/out. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. Dump and grip cylinders shall include internal linear position sensors

to provide position feedback to the control system. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. Use of standard proximity switches for arm sensing shall not be

acceptable. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. Arm must be equipped with an air actuated boom safety latch that

keeps the inner boom locked in the home position when not in use. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. No air operation or controls may be used in the operation of the

arm except for arm safety latch operation. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. Joystick shall be conveniently located to the left of the operator. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_
2. Joystick must be can-bus multi-functional operation for all

standard arm functions; including auto-grip-un-grip, packer function,

 work lights, container shake feature. Selectable dead man function. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. An ergonomically designed padded armrest shall be provided to

support the operator’s arm during joystick operation. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. Two (2) additional control options shall be provided for the

operator; additional controls shall consist of a three (3) rocker

switch console located on the right hand window sill to allow

activation by the operator and a three (3) rocker switch console

with dead-man control located at the side of the operator’s seat

to be activated if the operator is standing outside of the cab. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

 **Exactly as Specified**

 **YES NO Offered**

1. An Automated Dump Cycle “Coordinator” option shall be provided. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_
2. “Coordinator” shall allow the operator to manually reach and grip

a container, continued contact on arm lift switch shall cause the

 container to be raised, dumped and lowered to the side of the

 vehicle, un-gripped and the arm returns to the stowed/home

position. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. The Lifting Arm must utilize for (4) hydraulic cylinders. Cylinders shall

include:

 Reach (In-Out) 1 ¾” bore x 66” stroke \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

 Lift ( Arm Up-Down) 2 ¼” bore x 26” stroke \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

 Dump (Cart Dump/Un-Dump) 2 ½” bore x 10” stroke \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

 Grab (Grip/Release) 2 ½” bore x 8 ½” stroke \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

**H. GRIPPERS:**

 **For Steel Grippers 30-110 Gallon Container**

1. Grip/Release shall be actuated by a single, double-acting 2 ½”

x 8 ½” stroke hydraulic cylinder with internal positioning sensor. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. Gripper pivots shall incorporate receiver pockets to allow gripper

assemblies to be easily interchangeable. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. Gripper pivot shafts shall be machined from SAE41L42 quenched

and tempered cold drawn steel shafting. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. gripper pivots shall pivot on tapered roller bearings. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_
2. Gripper gears shall be constructed from 1” thick AR500 material. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_
3. An infinitely adjustable pressure valve shall control the grip

pressure/radial force: Switch will be located on the control console. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. Gripper shall be capable of handling 30 – 110-gallon containers

designed for automated collections. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. Grippers shall have UHMW polyethylene rollers at the tip to protect

and assist in grasping the container. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

 **Exactly as Specified**

 **YES NO Offered**

**For Belt Grippers 30-110 Gallon Containers**

1. Gripper shall be capable of handling 30–110-gallon container

designed for automated collection. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. Gripper shall have a stationary inner arm and a pivoting outer arm. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_
2. The pivoting outer arm shall provide tension using tensional springs. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_
3. Gripper shall have a belt 4” wide and connected on each end with

three bolts. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. grippers shall pivot on adjustable tapered roller bearings. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_
2. Grippers shall have UHMW poly thylene roller bearings. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

**Universal Grippers**

1. The gripper shall be capable of grasping and dumping containers with

capacities from 40-450 gallons with out the need to change grippers. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. The grippers shall exert on appropriate radial force on each size

container to firmly grip the container without dropping, damaging, or

contorting. This force shall be controlled by a switch on the control

panel. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

**I. Electronic Proportional Control System (EPC):**

1. An electronic proportional control system shall be provided that

will give the operator the ability to “feather” the automated

lifting mechanism with gripping/un-gripping, extending/

retracting, raising/lowering, dumping/un-dumping the

containers. (No Exceptions) \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. The automated lifting mechanism shall be controlled by an electronic

operated hydraulic directional control valve. The valve shall

respond to proportional outputs (PWM signals) from the

controller. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. Positive linear sensors shall be incorporated into the system

to provide feedback of the position of the lift arm while raising,

dumping and gripping the containers. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

 **Exactly as Specified**

 **YES NO Offered**

1. The system shall consist of multiple electrical components

multiplexed together using SAE J1939 Canbus to provide a complete

and expandable system. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. Must have a separate Canbus to communicate with the engine

and transmission. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. Must have an engine monitoring system to protect from over

torquing or stalling the engine in high load operations. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. A controller designed for mobile equipment with multiple digital

and analog inputs and outputs shall be mounted near the main

automated lifting mechanism hydraulic control valve. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. Remote I/O shall communicate through the Canbus to provide

for the inputs and outputs not directly connected to the main

controller. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. A color display will be provided in the cab convenient to the

operator. The display will feature a function key driven

menu system to access system functions. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. The joystick will also include four momentary switches for

frequently used functions including pack start, container shake,

work lights and auto grip/un-grip. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. A multi-functional joystick shall be provided. It will include two

proportional “axis” for extending and retracting the lift mechanism,

raising and lowering the loft mechanism and a proportional

rocker for closing and releasing the grippers. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. The joystick will include a selectable hold-to-run switch to

prevent unintentional operation of the control. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. An optional bank of four rocker switches shall be available to allow

lift mechanism operation from the curbside. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. The menu system will include screens for the following:
* Factory setup (password protected) so the system can

be configured for the user’s needs. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

* User setup to allow the user to change how specific

features operate. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

* Input and output diagnostics for trouble shooting

the system. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

 **Exactly as Specified**

 **YES NO Offered**

* Lights, for turning on and off work and warning lights. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_
* Collection mode grouping the controls needed when

picking up containers. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

* Unloading mode grouping the controls needed when

unloading the unit. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

* Joystick operation showing the function of the joystick. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_
* Data collection showing counts of arm cycles, pack \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

cycles, eject cycles, pump run times and warnings. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

* System warning messages will display over the operation

system. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

**J. HYDRAULIC SYSTEM**

1. Hydraulic pump design must allow all hydraulic flow to be stopped

during emergency situations (ex: hose burst) using the E-Stop button.

NO EXCEPTIONS. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. Hydraulic pump design must allow truck to be able to drive back to

its home base without any harm to the pump and without

spilling any fluid after engaging e-stop with no further modifications

to the system, (ex: removing PTO shaft). NO EXCEPTIONS \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. An Eaton load sensing, power on demand (POD) hydraulic system

featuring a variable displacement tandem piston pump driven by a

long-life drive shaft must be used. NO EXCEPTIONS \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. The hydraulic pump shall be driven by chassis transmission PTO,

direct mounted off engine crankshaft or a combination of both

depending on the chassis limitations. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. Piston pump system must be expected to last the life of the body

(5-7 years) when properly maintained. NO EXCEPTION. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. For maximum efficiency, the tandem load sense pump shall provide

only the flow required for proper operation. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. No over-speed control shall be required. NO EXCEPTIONS. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_
2. The arm hydraulic control valve must be true pilot operated,

proportional post compensated style with manual over-rides for

each junction. NO EXCEEPTIONS. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

 **Exactly as Specified**

 **YES NO Offered**

1. Hydraulic reservoir shall be a maximum capacity of 40 gallons to

reduce overall weight. The reservoir shall include internal baffling

to direct the oil flow for maximum heat. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. A highly efficient light weight non-micro nucleation reservoir

must be used, specifically designed to incorporate a suction screen

without concerns of micro nucleation. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. Hydraulic reservoir shall be equipped with a fluid level sight

glass and an in cab low lever indicator. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. hydraulic reservoir shall be equipped with a temperature sender

so oil temperature can be monitored in the cab. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. Hydraulic reservoir shall be located on street side and frame

mounted. System must be plumbed and sized sufficiently to

the pump inlet to assure optimum inlet conditions without the

need for augmented tank pressurization. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. The hydraulic system shall incorporate a full flow 10-micron

absolute in-tank return line filter with replaceable element. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. The hydraulic system shall incorporate a fill flow 10-microm tank

breather with replaceable element. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. All hydraulic fittings shall be O-ring Face Seal (OFS) or O-ring

Boss (ORB). \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. All hydraulic components shall be adequately sized and resigned

to maintain appropriate hydraulic oil temperature. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. Maximum hydraulic system pressure for the lift arm and pack

circuits shall be 3000 psi. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. Hydraulic system must provide arm operational gear at engine

idle speed, RPM not to exceed 800. NO EXCEPTIONS. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. An optional self-contained forced air to oil cooler shall be

available to ensure hydraulic oil temperature is regulated in high

ambient temperature as needed for running in extreme

environments. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

 **Exactly as Specified**

 **YES NO Offered**

**K. LIGHTS:**

1. LED stop, tail, clearance and reverse lights shall be provided in

accordance with FMVSS#108. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. An upper bolt on light bar shall be provided. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_
2. Upper light bar shall contain two (2) if each 4” diameter stop/tail/

turn lights and 2” diameter clearance and side marker lights. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. Lower light bar shall contain two (2) of each 4” diameter stop/tail/

turn and reverse lights. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. All lights shall be sealed, Lexan covers and have flexible gasket

mounting. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. Mid-body turn signals shall be provided. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_
2. Two optional LED work lights shall be available, operated by a

single push button switches on the in-cab joystick, one (1) light shall

illuminate the hopper and one (1) shall illuminate the lift arm area. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

**L. ELECTRICAL:**

1. All electrical wiring shall be in protective looms. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_
2. All wiring harness shall be Deutsch automotive type connections

meeting IP67 specification connections. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. The electrical system shall not have junction boxes or terminations

that do not use th IP67 specification connections. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. All circuits shall be properly fused, and wiring shall be color coded

and numbered. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

**M. PAINTING:**

1. The entire unit shall be properly cleaned of all dirt, grease, and weld

slag prior to painting. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. The complete unit shall be painted with DuPont Imron Elite high

solids to a minimum of 3.5 mils. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

1. The body shall be painted on color **(specify)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**N. MANUALS:**

 One complete set of operators, parts and service manuals to be suppled

 for each refuse picker. \_\_\_\_\_ \_\_\_\_\_ \_\_\_\_\_

**O. WARRANTY:**

1. The bidder shall offer a one (1) year body warranty against defective

material or workmanship.

1. The bidder shall offer a two (2) year warranty on all hydraulic

cylinders against defective material or workmanship.

1. The bidder shall offer a three (3) year warranty on the following products

supplied by Eaton Corporation, tandem piston pump, hydraulic valves and

OFS fittings and hoses against defective material or workmanship.

1. The bidder shall offer a five (5) year structural warranty on the automatic

arm with no additional cost to the customer.