

1 AGREEMENT

2 **30411**

3 THIS AGREEMENT is made and entered, in duplicate, as of December 4,
4 2007 for reference purposes only, pursuant to Resolution No. RES-07-0156 adopted by
5 the City Council of the City of Long Beach at its meeting on November 13, 2007, by and
6 between RAY GASKIN SERVICE, a California corporation ("Contractor"), located at
7 14312 Arrow Hwy, Baldwin Park, California 91706, and the CITY OF LONG BEACH
8 ("City"), a municipal corporation.

9 WHEREAS, Section 1802 of the Long Beach City Charter permits the City
10 to make purchases under the purchasing contracts of other governmental agencies when
11 authorized to do so by a resolution; and

12 WHEREAS, the City desires to purchase three (3) Wayne Curbtender
13 automated refuse trucks; and

14 WHEREAS, the County of Sacramento has a purchase order for the
15 purchase of these refuse trucks from Ray Gaskin Service, Purchase Order Number
16 PA80680329 ("County Purchase Order"); and

17 WHEREAS, Resolution No. RES-07-0156 authorizes the City Purchasing
18 Agent to purchase this equipment from Contractor by virtue of the County Purchase
19 Order;

20 NOW, THEREFORE, in consideration of the terms and conditions
21 contained in this Agreement, the parties agree as follows:

22 1. The County Purchase Order with Contractor is incorporated by this
23 reference as if fully set forth, and the same terms and conditions contained in the County
24 Purchase Order shall be applicable here except as follows:

25 A. Wherever the County of Sacramento Purchase Order refers to
26 the County of Sacramento, it shall be deemed to refer to the City of Long Beach;

27 B. Contractor shall sell, furnish and deliver to the City equipment
28 of substantially the same type and kind purchased by the County of Sacramento

OFFICE OF THE CITY ATTORNEY
ROBERT E. SHANNON, City Attorney
333 West Ocean Boulevard, 11th Floor
Long Beach, CA 90802-4664

1 and on the same terms and conditions offered to the County of Sacramento,
2 except as modified by Exhibit "A" attached to and incorporated in this Agreement,
3 for an amount not to exceed \$772,570.50 including tax, with a 10% contingency
4 for additional equipment, for a period extending until the warranty on the refuse
5 trucks expires. To the extent that the County Purchase Order and this Agreement
6 are inconsistent, the following priority shall govern: (1) this Agreement and (2) the
7 County Purchase Order.

8 C. Payment for the equipment purchased from Contractor by the
9 City shall be made by the City on delivery to and acceptance of the equipment by
10 the City and submittal of an invoice to the City. Payment is due thirty (30) days
11 after the date of the invoice.

12 D. All warranties shall accrue to the City of Long Beach.

13 E. The parties may, by mutual agreement, amend this
14 Agreement with the approval of the City's City Council.

15 2. Neither this Agreement nor any money that becomes due to
16 Contractor under this Agreement may be assigned by Contractor without the prior written
17 consent of the City Manager or his designee.

18 3. Any notice given under this Agreement shall be in writing and
19 personally delivered or deposited in the U.S. Postal Service, return receipt, and shall be
20 delivered or mailed to Contractor at the relevant address first stated above, and to the
21 City at 333 West Ocean Boulevard, Long Beach, California 90802 Attn: City Manager.
22 Notice shall be deemed given three days after deposit in the mail.

23 4. The terms appearing on the County Purchase Order are
24 incorporated in this Agreement.

25 5. Contractor shall cooperate with the City in all matters relating to self-
26 accrual of use tax. Contractor shall contact the City Treasurer for additional information
27 regarding self-accrual.

28 6. This Agreement and all documents which are incorporated by

OFFICE OF THE CITY ATTORNEY
ROBERT E. SHANNON, City Attorney
333 West Ocean Boulevard, 11th Floor
Long Beach, CA 90802-4664

1 reference in this Agreement constitute the entire understanding between the parties and
2 supersede all other agreements, oral or written, with respect to the subject matter of this
3 Agreement. If there is any legal proceeding between the parties to enforce or interpret
4 this Agreement, or to protect or establish any rights or remedies, the prevailing party shall
5 be entitled to its costs and expenses, including reasonable attorney's fees.

6 IN WITNESS WHEREOF, the parties have caused this document to be duly
7 executed with all formalities required by law as of the date first stated above.

RAY GASKIN SERVICE, a California corporation

8
9
10 _____, 20_____ By [Signature] Pres.

William McIntosh
(Type or Print Name)

11
12 _____, 20_____ By [Signature]

Lori McIntosh
(Type or Print Name)
Secretary

"Contractor"

CITY OF LONG BEACH, a municipal corporation

17 December 26, 2007
18 _____, 20_____ By [Signature]

ASSISTANT

[Signature] City Manager
"City" TO SECTION 301 OF THE CITY CHARTER.

20 This Agreement is approved as to form on _____ 12/19 ,
21 2007.

ROBERT E. SHANNON, City Attorney

24 By [Signature]
25 Deputy

EXHIBIT "A"

RGS

RAY GASKIN SERVICE
14312 Arrow Hwy
Baldwin Park, Ca 91706
Phone 626-960-2889 fax 626-814-1349
August 2, 2007

City of Long Beach
2600 Temple Ave
Long Beach, Ca 90806

Attention: Mr. John Seevers

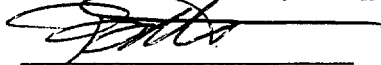
Mr. Seevers, following is information in regards to piggy back per County of Sacramento with changes required to satisfy City of Long Beach needs:

Sacramento PO	\$233,475.00
Delete tag axle/tires	- 5,800.00
Delete fender extension	- 350.00
Delete body sign brackets	- 400.00
Delete recycle oil bin	- 280.00
Delete extra hi pressure filter	- 389.00
Hopper cover air in lieu of manual	+400.00
Front pump in lieu of PTO	N/C
Tip to dump in lieu of full eject	N/C
Dual grippers	+1,950.00
Dual pressure grip system 90/300	+ 800.00
Dual camera system	N/C
Vulcan scale system	+3,734.00
Next gen L.N.G. tanks	N/C
In cab leak detector	N/C
T handle shifter	N/C
L.E.D. lights	N/C
Freight to So. Calif in lieu of Sacramento	N/C
Body blue/cab white	N/C
Lap top & programs	1,370.00
Tailgate caution decal	187.00
Inspection trip (4) people	<u>3,200.00</u>
TOTAL	\$237,897.00

Plus any applicable tax and license fees

Note: Fuel nozzle per Long Beach spec., no auto lube system

Add in-cab battery shutoff if possible



Bill McIntosh

From:

12/07/2006 11:48 #087 P.002



County of Sacramento
Purchase order

Contract and Purchasing
Services Division
10545 Armstrong Avenue
Suite 202R
Mather, CA 95655
(916) 876-6360

RECEIVED
JUN 22 2006

Your Vendor number with us
619340

SACRAMENTO TRUCK CENTER
100 OPPORTUNITY ST
SACRAMENTO CA 95838-5004

Vendors Contact Person: Daan Needham
Vendors Phone Number: 916-286-2013

<p>Purchase order PA80680329 06/21/2006</p> <p>This number must appear on all packing slips, packages, correspondence, and invoices.</p> <p>PO number/date PA80680329 / 06/21/2006</p> <p>Issuing Buyer/Telephone Crain, Carl/916 876-6375</p> <p>Signature: <i>Carl Crain</i></p> <p>I hereby authorize the order of the below articles or services and I certify that they are necessary for use in this department.</p>
--

Delivery date: Day 05/25/2007

F.O.B. Dest., Freight Prepaid
Payment Terms: Payable Within 30 Days

Seller shall deliver new Refuse Collection Truck in accordance with all the requirements, specifications, and terms and conditions of this purchase order and Request For Bid No. 6780.

NOTE: LIQUIDATED DAMAGES APPLY IF DELIVERY TO THE COUNTY IS LATER THAN THE PURCHASE ORDER DELIVERY DATE. Delivery shall be coordinated with Michael Kalas, 916-875-5117. Invoice must be sent to the Deliver To address, attention: Linda Metasavage. Do not send invoices to the Purchasing Department.

From:

12/07/2006 11:49 #087 P.003

Item	Order qty.	Unit	Price	Unit of	Extended
Mat Num		Description	/ Unit	Measure	Value

Please deliver to:

MSA
 Waste Management & Recycling Div
 9850 Goethe Road
 Sacramento CA 95827
 Attn: TONI875-6825

00010 1 Each
 6-140G/MECHANICAL COLL VEHICLE/FY 05/06

New 2007 American LaFrance Condor with Wayne Curbtender Body in accordance with RFB6780 (including Seller's exceptions as noted in RFB response) and Specification No. 704LEV, attached hereto and incorporated herein.

Gross Price	233,475.00	/1 EA	233,475.00
Tax			18,094.32
Net incl. tax	251,569.32	/1 EA	251,569.32

Total item value excluding tax	233,475.00
Total item value including tax and discounts	251,569.32

Prepared for:
 Carl Crain
 County Of Sacramento
 10545 Armstrong Avenue
 Wether, CA 95655
 Phone: 916-876-6375

Serial #
 Y61853

Prepared by:
 Dean Needham
 SACRAMENTO TRUCK CENTER
 100 OPPORTUNITY STREET
 SACRAMENTO, CA 95838

Delivery Quote	No
Dealer Code	HKGD
PO Number	
TBO Number	0035dn
TBO Create Date	June 23, 2006
Replacement Serial Number From	
Replacement Serial Number To	
Model	ALF Condor Low Cab Forward Chassis
Quantity	1
Pilot Model Required	No
Spec Review	No
Concession Number	004489

Quantity	Requested Delivery Date	Shipping Method	Special Shipping Instructions	Final Destination Address
1	September 01, 2008	Tow Only		weyne engineering 701 performance drive corral valley, ca usa

Description



Prepared for:
 Carl Crain
 County Of Sacramento
 10545 Armstrong Avenue
 Mather, Ca 95666
 Phone: 916-878-6375

Date Code	Description	Weight Front	Weight Rear	Retail Price
PRL-42E	CONDOR PRL-42E (EFF:01/10/06)			STD
ORL-001	SPECPRO21 DATA RELEASE VER 001			N/C
001-552	CONDOR LOW CAB FORWARD CHASSIS	9,350	6,870	
004-207	2007 MODEL YEAR SPECIFIED			
002-004	SET BACK AXLE - TRUCK			
019-002	STRAIGHT TRUCK PROVISION			
003-002	RH PRIMARY STEERING LOCATION	15		
AA1-002	TRUCK CONFIGURATION			
AA6-001	DOMICILED, USA 50 STATES (WITH CALIFORNIA)			
A88-001	REFUSE SERVICE			
A84-19A	SANITATION BUSINESS SEGMENT			
AA4-011	FIXED LOAD COMMODITY			
AA5-002	TERRAIN/DUTY: 100% (ALL) OF THE TIME, IN TRANSIT, IS SPENT ON PAVED ROADS			
AB1-008	MAXIMUM 8% EXPECTED GRADE			
AB3-001	SMOOTH CONCRETE OR ASPHALT PAVEMENT - MOST SEVERE IN-TRANSIT (BETWEEN SITES) ROAD SURFACE			
BB5-088	CATEGORY III ON/OFF-HIGHWAY WARRANTY			
A66-99D	EXPECTED FRONT AXLE(S) LOAD : 18000.0 lbs			
A88-99D	EXPECTED REAR DRIVE AXLE(S) LOAD : 34000.0 lbs			
A67-99D	EXPECTED PUSHER AXLE(S) LOAD : 0.0 lbs			
A89-99D	EXPECTED TAG AXLE(S) LOAD : 12000.0 lbs			
A83-99D	EXPECTED GROSS VEHICLE WGT CAPACITY : 64000.0 lbs			
AA3-082	REFUSE, SIDE LOAD OR REAR PACKER BODY - DOES NOT UNLOAD IN A LANDFILL			N/C
AA2-096	NO TRAILER SPECIFIED			STD
101-2FJ	CUM L-GAS+ 320 HP @ 2300 RPM. ELEC N-GAS, 1000 LB/FT @ 1400 RPM	700		

Application Version 5.3.310
 Data Version PRL-42E.001
 city of sacro 4 axle ISL gen 6780



06/29/2006 11:43 AM

Page 3 of 14

From:

Prepared for:
 Carl Crain
 County Of Sacramento
 10545 Armstrong Avenue
 Mather, CA 95665
 Phone: 916-876-8376

Data Code	Description	Weight Front	Weight Rear	Retail Price
* 89C-007	2004 EPA/CARB EMISSION CERTIFICATION			
105-001	ENGINE MOUNTED OIL CHECK AND FILL			
* 133-004	ONE PIECE VALVE COVER			
014-10A	VERTICAL SNORKEL AND DONALDSON HIGH CAPACITY AIR CLEANER MOUNTED HORIZONTALLY BACK OF CAB			
185-033	STATIONARY VERTICAL AIR INTAKE SNORKEL, LOCATED RH SIDE OUTBOARD			
100-008	DONALDSON ONE-STAGE HIGH CAPACITY AIR CLEANER			
185-001	AIR INTAKE PIPING - CLEANER TO ENGINE			
189-001	PLAIN BONNET AIR INTAKE HOOD/CAP			
* 124-1CG	LN 12V 200 AMP 4883 ALTERNATOR WITH AC TAPS			
282-071	(3) ALLIANCE 1231 GROUP 31 12V MF 3300 CCA THREADED STUD BATTERIES	50	30	
* 280-898	280-004 TEMP BATTERY BOX MTD ON PALLET ADD 10 FT OF BATTERY CABLE FOR BODY CO INSTALLED BATT BOX			
281-003	FRAME GROUND RETURN FOR BATTERY CABLES; GROUND CABLE FROM LH AND RH FRAME TO ENGINE			
* 288-899	288-898 NO BATTERY BOX COVER			
* 283-049	FLAMING RIVER BATT SHUTOFF SW W/LOCK PROV MTD AFT SIDE OF BOX (INBD OF FRAME) ADD 10 FT OF BATTERY CABLE FOR BODY CO INSTALLED BATTERY BOX			
123-006	POLY-V BELTS WITH AUTOMATIC TENSIONER FOR FAN DRIVE			
* 150-030	CUMMINS ENCORE ENGINE ELECTRONICS			
180-898	NO CLUTCH			
181-898	NO CLUTCH RELEASE BEARING LUBE			
* 107-032	CUMMINS 18.7 CFM COMPRESSOR WITH INTERNAL SAFETY VALVE			
108-002	STANDARD AIR COMPRESSOR GOVERNOR			
131-002	TEFLON COMPRESSOR DISCHARGE LINE			
182-041	ELECTRONIC ENGINE INTEGRAL SHUTDOWN PROTECTION SYSTEM			
016-1AB	SINGLE VERTICAL EXHAUST WITH PAINTED STACK LEFT SIDE	10		
236-002	FLEXIBLE STAINLESS STEEL EXHAUST PIPING			
239-001	STANDARD EXHAUST SYSTEM LENGTH			
234-007	SINGLE STAINLESS STEEL VERTICAL MUFFLER			
235-002	SINGLE STATIONARY OUTBOARD OF RAIL MOUNTED MUFFLER			
233-001	CHROME UPPER STACK(S)			

Application Version 5.5.310
 Data Version PRL-42E.001
 only of sects 4 and 18L per 8780



From:

Prepared for:
 Carl Crain
 County Of Sacramento
 10545 Armstrong Avenue
 Mather, CA 95655
 Phone: 916-876-8375

Data Code	Description	Weight Front	Weight Rear	Retail Price
237-054	VERTICAL TAILPIPE, LH			
242-001	STAINLESS STEEL AFTERTREATMENT DEVICE/MUFFLER/TAILOPIPE SHIELD			
273-018	HORTON DRIVE/MASTER ON/OFF FAN DRIVE			
278-001	AUTOMATIC FAN CONTROL WITHOUT DASH SWITCH			
110-017	CUMMINS SUPPLIED FLEETGUARD COALESCING FILTER (LOW PRESSURE) CNG			
118-008	COMBINATION FULL FLOW/BYPASS OIL FILTER			
120-012	FLEETGUARD COOLANT FILTER - RAIL MOUNTED			
266-070	1184 SQUARE INCH COPPER/BRASS RADIATOR			
287-001	REMOTE MOUNTED SURGE TANK			
103-036	ANTIFREEZE TO -34F, ETHYLENE GLYCOL PRE-CHARGED SCA HEAVY DUTY COOLANT			
171-007	GATES BLUE STRIPE COOLANT HOSES			
172-001	CONSTANT TENSION HOSE CLAMPS FOR COOLANT HOSES			
260-001	HEAVY DUTY CHARGE AIR COOLER			
266-002	HEAVY-DUTY RADIATOR MOUNTING			
270-010	RADIATOR DRAINCOCK			
360-011	1350 ADAPTER FLANGE FOR FRONT PTO PROVISION, SAE B 2-BOLT, 4" PLOT HOLE, VERTICALLY ALIGNED			
134-001	ALUMINUM FLYWHEEL HOUSING			
132-906	NO AIR INTAKE WARMER			
155-008	DELCO 12V 42MT/DCP 450 SERIES STARTER WITH THERMAL PROTECTION			
108-002	FLYWHEEL HOUSING REAR ENGINE SUPPORT			
342-662	ALLISON 3000 RDS AUTOMATIC TRANSMISSION WITH PTO PROVISION			
343-087	WTEC CALIBRATION - 6 SPEED RDS WITH AUTO NEUTRAL (PACKAGE 168)			
263-001	TRANSMISSION VEHICLE INTERFACE CONNECTOR WIRED TO TRANSMISSION ECU			
341-018	MAGNETIC PLUGS, ENGINE DRAIN, TRANSMISSION DRAIN, AXLE(S) FILL AND DRAIN			
345-027	PUSH BUTTON, ELECTRONIC SHIFT CONTROL, ENGINE TUNNEL MOUNTED			
370-006	WATER TO OIL TRANSMISSION COOLER			
344-001	TRANSMISSION REAR SUPPORT LEAF SPRING			
346-003	TRANSMISSION OIL CHECK AND FILL, WITH ELECTRONIC OIL LEVEL CHECK			

Application Version 5.3.310
 Data Version PRL-42E.001
 city of sacra 4 axle ISL gas 6780



Page 5 of 14

From:

Prepared for:
 Can Grain
 County Of Sacramento
 10545 Armstrong Avenue
 Yuba, CA 95615
 Phone: 916-875-6376

Data Code	Description	Weight Front	Weight Rear	Retail Price
400-1A0	MFS-20-133A FL1 20,000# SINGLE FRONT AXLE			
402-030	MERITOR 16.5X6 Q+ CAST SPIDER CAM FRONT BRAKES, DOUBLE ANCHOR, FABRICATED SHOES			
403-012	REFUSE SEVERE SERVICE, NON-ASBESTOS FRONT LINING			
410-021	QUINITE CAST IRON FRONT BRAKE DRUMS			
409-002	CHICAGO RAWHIDE SCOTSEAL FRONT OIL SEALS			
408-001	VENTED FRONT HUB CAPS - OIL			
416-022	STANDARD SPINDLE NUTS FOR ALL AXLES			
404-074	HALDEX LONG STROKE FRONT BRAKE CHAMBERS			
406-008	HALDEX AUTOMATIC FRONT SLACK ADJUSTERS			
408-001	STANDARD KING PIN BUSHINGS			
538-028	TRW TAS-85 POWER STEERING WITH RCS85 AUXILIARY GEAR			
539-006	VICKERS V20 POWER STEERING PUMP			
534-009	4 QUART POWER STEERING RESERVOIR			
620-006	20,000# FLAT LEAF FRONT SUSPENSION			
610-004	GRAPHITE BRONZE BUSHINGS WITH SEALS - FRONT SUSPENSION			
410-001	FRONT SHOCK ABSORBERS			
420-101	RT-40-145 R-SERIES TANDEM REAR AXLE @ 40,000#			
421-014	6.14 REAR AXLE RATIO			
424-003	IRON REAR AXLE CARRIER WITH OPTIONAL HEAVY DUTY AXLE HOUSING			
386-025	17N MERITOR MAIN DRIVELINE WITH FULL ROUND YOKES			
388-008	17N MERITOR INTERAXLE DRIVELINE WITH FULL ROUND YOKES			
878-001	INTERAXLE AND/OR DIFFERENTIAL LOCKOUT WITH INDICATOR LIGHT			
505-046	CASTROL TRANSYND SYNTHETIC AUTOMATIC TRANSMISSION OIL			
423-020	MERITOR 16.5X7 Q+ CAST SPIDER CAM REAR BRAKES, DOUBLE ANCHOR, FABRICATED SHOES			
433-035	REFUSE SEVERE SERVICE, NON-ASBESTOS REAR LINING			
434-008	STANDARD BRAKE CHAMBER LOCATION			
451-021	QUINITE CAST IRON REAR BRAKE DRUMS			
440-001	CHICAGO RAWHIDE SCOTSEAL REAR OIL SEALS			
426-075	HALDEX LONG STROKE 2-DRIVE AXLES SPRING PARKING			

Application Version 5.3.310
 Data Version PRL-42E.001
 city of sacramento 4 axle ISL gas 6780



From:

03/14/07 06:13 AM

Prepared for:
 Carl Crain
 County Of Sacramento
 10845 Armstrong Avenue
 Mather, CA 95655
 Phone: 916-878-6375

Data Code	Description	Weight Front	Weight Rear	Retail Price
	CHAMBERS			
428-003	HALDEX AUTOMATIC REAR SLACK ADJUSTERS			
822-1A0	TUFTRAC 40,000# REAR SPRING SUSPENSION			
821-008	TUFTRAC HIGH RIDE HEIGHT			
431-003	AXLE CLAMPING GROUP			
824-009	64" AXLE SPACING			
823-008	FORE/AFT AND TRANSVERSE CONTROL RODS			
439-002	REAR SHOCK ABSORBERS - TWO AXLES (TANDEM)			
035-008	HENDRICKSON HLU8-2 ULTRA, 13,200# AIR LIFT STEER TAG SUSP W/LOCK STRAIGHT, FF1			
443-087	HENDRICKSON FF1 13,200# TAG AXLE INTEGRAL WITH HLU8/R-2, HLU8Z SUSPENSIONS			
456-017	MERITOR 1504 Q+ CAM PUSHER/TAG BRAKES, DOUBLE ANCHOR, FABRICATED SHOES			
457-035	REFUSE SEVERE SERVICE, NON-ASBESTOS PUSHER/TAG LINING			
448-021	GUNITE CAST IRON PUSHER/TAG BRAKE DRUMS			
442-001	CHICAGO RAWHIDE SCOTSEAL PUSHER/TAG OIL SEALS			
444-001	VENTED PUSHER/TAG HUB CAPS - OIL			
446-075	HALDEX LONG STROKE PUSHER/TAG AXLE SERVICE CHAMBERS			
458-003	HALDEX AUTOMATIC PUSHER/TAG SLACK ADJUSTERS			
826-008	HENDRICKSON (HLU8-2) ULTRA 13,200# AIR LIFT STEERABLE TAG SUSPENSION WITH LOCK-STRIGHT			
827-021	85" AXLE SPACING PUSHER/TAG			
480-100	WABCO 48/4M ABS WITHOUT TRACTION CONTROL ENHANCEMENT			
871-001	REINFORCED NYLON, FABRIC BRAID AND WIRE BRAID CHASSIS AIR LINES			
901-001	FIBER BRAID HOSE FRONT SERVICE BRAKE			
902-001	FIBER BRAID HOSE REAR SERVICE BRAKE			
904-001	FIBER BRAID PARKING BRAKE HOSE			
412-001	STANDARD BRAKE SYSTEM VALVES			
413-002	STD U.S. FRONT BRAKE VALVE			
432-014	(2) RELAY VALVES; ONE 5-8 PSI FOR TANDEM AXLE AND ONE 3-4.5 PSI CRACK FOR PUSHER/TAG			
480-034	BW AD-4P BRAKE LINE AIR DRYER WITH HEATER	-5	-5	
460-008	STEEL AIR BRAKE RESERVOIRS MOUNTED INSIDE RAIL			

Application Version 6.3.310
 Data Version PRL-42E.001
 only of secto 4 side 15L gas 6720



From:

Prepared for:
 Carl Crain
 County Of Sacramento
 10546 Armstrong Avenue
 Mather, CA 95655
 Phone: 916-876-8375

Data Code	Description	Weight Front	Weight Rear	Retail Price
48A-006	(1) 700 CU. IN. AUXILIARY AIR TANK, INLET CHECK VALVE, PRESSURE PROTECTED SUPPLY			
477-004	PULL CABLES ON ALL AIR RESERVOIR(S)			
919-032	PLUMBING FOR AUXILIARY AIR TANK WITH PROTECTED SUPPLY			
310-007	OMISSION OF STANDARD CABLE			
845-002	5025MM (199") WHEELBASE			
549-030	11/32" X 3-1/2" X 10-15/16" STEEL FRAME (8.73MM X 277.8/344" X 10.94") 110KSI	20	50	
547-001	1/4" (6MM) C-CHANNEL INNER FRAME REINFORCEMENT	240	350	
582-072	2826MM (111") REAR FRAME OVERHANG			
55W-011	FRAME OVERHANG RANGE: 111" TO 120"	-160	580	
549-019	1" BOLT-ON FRONT FRAME SPACER			
600-001	UNDERSLUNG CROSSMEMBER			
583-001	SQUARE END OF FRAME			
580-002	HEAVY DUTY FRONT CLOSING CROSSMEMBER			
581-001	STANDARD CROSSMEMBER BACK OF TRANSMISSION			
582-001	STANDARD MIDSHIP #1 CROSSMEMBER(S)			
572-001	STANDARD REARMOST CROSSMEMBER			
585-002	HEAVY DUTY SUSPENSION CROSSMEMBER			
588-001	STANDARD WEIGHT REAR SUSPENSION CROSSMEMBER			
674-006	NO LH OR RH BACK OF CAB ACCESS			
558-062	8" PAINTED STEEL BUMPER - HD 1/4"			
558-001	FRONT TOW HOOKS - FRAME MOUNTED			
574-001	BUMPER MOUNTING FOR SINGLE LICENSE PLATE			
585-006	NO MUDFLAP BRACKETS			
580-006	NO REAR MUDFLAP			
586-005	FRONT ANTI-SPRAY FENDER MOUNTED MUDFLAPS	16		
607-006	CUSTOM CHASSIS CONFIGURATION REQUIREMENT LAYOUT PER WAYNE CURBTENDER DRAWING			
551-002	11/16" SPIN ROUND COLLAR CHASSIS FASTENERS			
605-003	LEVEL FRAME RAILS (+/- 1%) WHEN CHASSIS IS LOADED TO FRONT AND REAR SUSPENSION RATINGS			
208-008	NO RH FUEL TANK			

Application Version 5.3.310
 Data Version PRL-42E.001
 city of sacra 4 axle 18L gas 6760



From:

Prepared for:
 Carl Drain
 County Of Sacramento
 10545 Armstrong Avenue
 Mathar, CA 95655
 Phone: 916-876-8375

Data Code	Description	Weight Front	Weight Rear	Retail Price
* 204-061	119 GALLON / 400 LITER CHART LNG FUEL TANK WITH VALVES - LH STAINLESS STEEL			
* 218-008	28" DIAMETER FUEL TANK(S) PLEASE PROVIDE MACROTECH VALVE DC 218-068 FOR FUEL SYSTEM AND MOUNT FUEL TANKS AS HIGH AS POSSIBLE			
* 218-005	PLAIN ALUMINUM/PAINTED STEEL FUEL/HYDRAULIC TANK(S) WITH PAINTED BANDS			
212-007	FUEL TANK(S) FORWARD			
684-001	PLAIN STEP FINISH			
* 206-080	CNG/LNG JC CARTER TYPE LEFT HAND FILLER RECEPTACLE AND DUST CAP			
* 210-008	NO FUEL TANK DRAIN VALVES			
* 220-022	MVE LNG FUEL HEATER			
* 216-080	FUEL LINES WITH NATURAL GAS CHECK VALVE, REGULATOR AND SHUTOFF SOLENOID WITH MACROTECH VENT FILL PIPE CON. ROUTED TO UPRIGHT			
* 202-013	STAINLESS STEEL HIGH PRESSURE TUBING WITH FLEXIBLE STEEL WIRE REINFORCED NYLON LOW PRESSURE NATURAL GAS FUEL HOSE			
* 221-000	NO FUEL COOLER			
* 232-000	NO ADDITIONAL FUEL PROVIDED			
<hr/>				
514-064	315/80R22.5 20 PLY RADIAL FRONT TIRES			
068-0VD	GOODYEAR G287 HSS 315/80R22.5 20 PLY RADIAL FRONT TIRES	78		
518-021	11R22.5 14 PLY RADIAL REAR TIRES			
064-0H4	GOODYEAR G149 RSA 11R22.5 14 PLY RADIAL REAR TIRES		80	
519-048	255/70R22.5 16 PLY RADIAL PSHR/TAG TIRES			
095-0FY	GOODYEAR G169 RSA 255/70R22.5 16 PLY RADIAL PUSHER/TAG TIRES			-46
<hr/>				
418-001	GUNITE IRON FRONT HUBS			
460-001	CONMET ALUMINUM REAR HUBS			
448-001	CONMET ALUMINUM PUSHER/TAG HUBS			
<hr/>				
502-272	ALCOA 802630 22.5X8.00 10-HUB PILOT 3.12 INSET 10-MAND ALUMINUM DISC FRONT WHEELS	-58		
505-506	ACCURIDE 29644A 22.5X8.25 10-HUB PILOT ALUMINUM REAR WHEELS		-260	
509-506	ACCURIDE 29644A 22.5X8.25 10-HUB PILOT ALUMINUM PUSHER/TAG WHEELS		-70	
486-011	FRONT WHEEL MOUNTING NUTS			

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Application Version 8.3.310
 Data Version PRL-12E.001
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Cab & Chassis

SCOPE: These specifications cover a four-axle (one steer, two drivers and one air operated tag), right hand drive only, cab & chassis ready for installation of a refuse collection packer body, with a Low Emission Engine (LNG).

BIDDER'S PROPOSAL

REQUIREMENTS

PART I – CAB AND CHASSIS SPECIFICATIONS

<u>A</u>	<u>B</u>
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- A. The County will consider only those bidders who can demonstrate that a minimum of a 100 like units, both cab & chassis and body are in operation at the time of the bid. Bidder must furnish with bid, contact name, phone number and location of said units.
- B. Capacity
57,500 pound GVWR based on least rated components, allowing for a legal payload of 23,000 lbs minimum.
- C. C/A Dimension
Actual dimension to be specified by body manufacturer. Bidder is directed to complete a drawing with dimensions and submit with bid. The cab, chassis, and mechanical lift shall be compatible with make and size of body mounted to provide correct load distribution on each axle for maximum legal proper weight distribution, meeting the GVWR through the California Bridge Laws.
- D. Frame
 - 1. The frame shall be constructed of heat treated, alloy steel, yield strength of 110,000 lbs., with an RBM of approximately 2,000,000 in-lbs. And section modulus 18.00 in.³ per rail.
 - 2. The frame shall have sufficient number of crossmembers to provide tension rigidity, and to support the frame rails where fuel tanks, automated arm and rear suspension assemblies will be mounted. A crossmember shall be provided and installed at extreme rear end of frame.
 - 3. If heat-treated frame is provided, it shall not be heated or welded during the body or lift installation.
 - 4. Two (2) tow hooks, loops supported and braced into frame rails shall be provided and installed, one on each front frame horn. Hooks/loops shall be capable of towing fully loaded vehicles.
- E. Front Axle
 - 1. 20,000 lbs. minimum rated capacity Easton EFA20FA, or equal.
 - 2. 20,000 lb. capacity front springs, minimum.
 - 3. Shock absorbers.
 - 4. Aluminum hubs with oil bath front seals.
 - 5. Aluminum cross members.
 - 6. 48° wheel cut angle to obtain minimum turning radius with selected components. If unable to meet specification, list degree of cut, wheel to wheel Left _____ Right _____.
 - 7. Integral hydraulic power steering.

A B

F. Front Wheels and Tires

1. Wheels – Two (2) aluminum disc type – 22.5" X 9.0", 10 hole.
2. Tires – Two (2) tubeless type – 315/80/R22.5, Load Range (L), Highway Rib type, Goodyear G288 or equal.

G. Rear Axle

1. 40,000 lbs. Capacity, dual axle with interlock and interlock indicator light located in cab.
2. 40,000 lbs. capacity rear suspension, Volvo T Ride, Chalmers, or equal.
3. Outboard mounted aluminum hubs with oil bath seals.
4. Aluminum cross members.
5. Axle ratio for approximately 60-MPH maximum road speed.
6. Hub-o-meter, Engler.

H. Rear Wheels and Tires

1. Wheels – Eight (8) aluminum disc type – 22.5" X 8.25", 10 hole.
2. Tires – Eight (8) tubeless R22.5 – 14, Load Range (L), Goodyear G158 Highway Rib or equals.

I. Tag Axle

1. 12,000 lbs capacity air operated up and down, steerable tag axle. Also tag axle must work in conjunction with the transmission in reverse and the raising of the body. Tag axle must be rear mounted in a location to provide the best wheelbase for Bridge Law compliance, while also providing acceptable protection for landfill dumping operations

J. Tag Wheels and Tires

1. Wheels – Two (2) aluminum disc type – 22.5" X 8.25", 10 hole
2. Tires – Two (2) tubeless Goodyear 255/70R22.5 load range (H) or equal.

K. Brakes

1. Air-operated, S-cam actuated, model Eaton ES series or equal.
2. Automatic slack adjusters, Eaton or equal.
3. Air dryer, Bendix-Westinghouse model AD-IP with heater.
4. Air reservoir tanks to be mounted inside frame rails with cable activated drain valve on wet tank.
5. Park brake, location of control to be approved by County, must be reachable to the driver while seated behind the steering wheel.

L. Backup Alarms

1. Units shall be equipped with Echo backup alarm or equal to provide an audible alarm which sounds immediately on backward movement and which are capable of emitting sounds audible under normal conditions from a distance of not less than 200 feet. The backup alarms shall be capable of operating automatically any time the vehicle rolls backward.

A **B**

M. Electrical

1. 12-volt, 200 amp. Alternator, minimum.
2. Minimum of three (3) 12 volt, 900 cca rating each rating box located on right frame.
3. All wires, terminals or connectors exposed to dirt and moisture shall be adequately protected with watertight connections. Whenever possible, wires shall be grouped into harnesses and properly supported on rigid members to prevent abrasion and flexural failure.
4. Automatic resetting circuit breakers where ever possible.
5. Ignition and door locks of ALL trucks to be keyed alike.
6. Use of AScotch Locks is prohibited.
7. Trucks will be equipped with AFlaming river battery disconnect switch, part #FR1005. Switch shall be mounted within easy reach of the operator, on or near battery box, and positive cable connections shall be adequately insulated from accidental short circuits to ground.

N. Fuel Tank

1. **Dedicated LNG** tank, frame mounted round, 119-gallon capacity LNG. Tank must be equipped with a Carter receptacle. Tanks shall be mounted on left side of vehicle in such a manner as to provide a minimum of 13 inches of ground clearance. If unable to meet clearance, list your clearance in inches _____.

O. Cab Layout

Cab layout must meet County's ergonomic specifications as follows and shall be approved by the County. Must be designed to accommodate driver sizes from the 5th percentile female to the 95th percentile male, as determined by the 1988 Anthropometric Survey of the US Army Personnel database. Controls are to be placed in locations to permit those frequently used (joystick, shifter, air brake, etc.) to be operated in the driver's primary reach zone (no reach above shoulder height, maximum arm extension 135 degrees, and within 45 degrees to either side of the driver's medial plane). The driver's seat and the controls themselves must be adjustable to permit primary reach zone operation throughout the range of driver sizes indicated above. These design principles shall be included in the layout of the entire cab. All buttons, switches, joystick or any other input device that must be manipulated by the driver will be located generally on the left hand side, in front and within the reach zone described above; those devices less frequently used may require full arm extension by the driver.

County must approve location of fan, monitor, Speed-o-graph and controls, to insure best ergonomic layout in cab.

1. All warning lights, gauges and other information devices that must be observed by the driver will be located in front of the driver in a position that does not cause the driver to significantly look away from the front of the vehicle.

A **B**

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2. The loader arm shall be located as far forward as is practicable, with the goal of permitting the driver to view the operation of the arm without twisting the head/neck/shoulders more than 90 degrees from the neutral forward-seated position. Ideally, the arm will be designed so operation can be viewed directly out the driver's door, with the refuse bin immediately adjacent to the driver. The driver's window shall be large enough for the driver to easily see the loader arm operation.

— —

3. The driver's chair must be sufficiently padded and supported for extended driving periods and have the following adjustable equipment:

- a. Lumbar support
- b. Seat pan depth
- c. Chair height
- d. Chair depth
- e. Padded armrests (armrest on the side of the loader control must be able to support loader control use).
- f. Chair tilt
- g. Backrest angle

— —

4. Cab over, tilt type (right hand drive only).

— —

5. Cab doors shall have electric roll-up type windows.

— —

6. Safety glazing materials to be furnished must meet federal safety standards.

— —

7. Dual padded sun visors.

— —

8. Windshield wipers shall be electrical with variable speed (*With delay*) control and park position.

— —

9. Electrically operated windshield washers installed.

— —

10. Dual stainless or chrome western type, four-way motorized, heated, electric adjustable rear view mirrors. Directional and heating controls shall be mounted inside cab within easy reach of driver.

— —

11. Fresh air heaters and defrosters with variable speed switch to be of a type and size recommended and installed by manufacturer of vehicle.

— —

12. Safety seat belts installed in cab, 3 point with height adjuster.

— —

13. Vehicle to be equipped with speedometer, oil pressure, coolant temperature, voltmeter, fuel level, air gauges as recessed instruments. Transmission oil temperature gauge. All instruments to be readable from right side of cab.

— —

14. Horns, single electric and single left cab mount air horn.

— —

15. Cab access handles, left and right side, inside and outside.

— —

16. GPS system – Time Management G4 Echo.

— —

17. Roof mount, Kysor or Red Dot air-conditioned cab, able to reduce temperature minimum 30° from outside ambient air temperature of 100 degrees F. Condenser and evaporator shall be roof mounted.

— —

18. Fan, multi-speed, adjustable, County to approve location.

A B

19. Fenders, cab mounted, to be full wrap around on front wheels to keep open right cab operators position and mirrors free of road debris and mud. Mud flaps to prevent front and rear tires from kicking up road dirt. Steel Mud flap in front of rear wheels.
20. Bumper, heavy-duty, with cutout and guard or forward location to provide for front PTO driven hydraulic pump.
21. AM/FM radio.
22. Tilt steering wheel.
23. Two-way camera with one lens mounted on the rear bubble and one lens mounted in the hopper area. Monitor to be mounted in cab, location to be approved by County. Monitor view to default to hopper lens. When transmission is placed in reverse rear lens must be activated. Intec CVM640LCD dual camera system with flat screen 6" black and white monitor or equal
24. Triangular road reflectors and first aid kit (North 10 Unit, # 01-15-60 or (equal) are to be mounted in cab on the left side.
25. Fire extinguisher, 10 pound, shall be mounted near the cab.
26. AB AD absorbent spill kit, 5 gallon, shall be mounted near the cab.

P. Paint

1. One coat (minimum) of primer compatible with final coating.
2. Finish coat to be acrylic urethane paint. In addition, there shall be a six- (6) inch horizontal stripe on cab with color same as packer body. Stripe location approved by County.
3. Trucks shall be painted as follows: Cab – Light green, Dupont Centari 5000 VO444; Body and Cab Stripe – Dark Green, Dupont Centari 5000 VO477 or equal.

Q. Warranty: Cab & Chassis

1. Cab chassis shall be guaranteed against defects in material and workmanship for a period of one (1) year or 12,000 miles, whichever occurs first from date of acceptance.
2. Engine shall be guaranteed against defects in material and workmanship for a minimum of two (2) years or 50,000 miles, whichever occurs first from date of acceptance. If factory warranty is for a greater time period and mileage then that warranty will be in effect.
3. Warranty to start upon acceptance of completed truck and packer body by the County.
4. Additional consideration may be given to bidder providing extended warranties.
5. Vendor to provide pick-up and delivery of all warranty vehicles from/to County Shop facility within 16 hours of notification by Count or completion of warranty repairs.
6. In the event that a vehicle should become disabled in an area covered by warranty and vendor does not effect repairs within a 72-hour period, not including weekends, the warranty period shall be extended equal to the time the vehicle is disabled.
7. Only new models in current production, which are catalogued by the manufacturer and for which printed literature and specifications are available will be acceptable.

Part II

Engine and Transmission Specifications

SCOPE: A Low Emission Vehicle engine and transmission: Engine bid is to be an LEV engine that produces 1.8g/bhp-hr of Nox or less. Engine bid is restricted to LNG with a particulate trap.

BIDDER'S PROPOSAL

REQUIREMENTS

A B

PART II – ENGINE AND TRANSMISSION SPECIFICATIONS

A. The County will consider only those bidders who can demonstrate that a minimum of a 100 like units are in operation at the time of the bid. Bidder must furnish with bid, contract name, phone number and location of said units.

B. Engine

1. A LEV engine developing a minimum of 280 horsepower at governed R.P.M. and minimum peak torque of 850 foot pounds. (Note: Horsepower & torque must meet packer body requirements).

2. LNG engines shall be equipped with an exhaust particulate filter that has been verified as meeting PM control level 3 (85% efficiency or less than 0.01 g/bhp/hr) by the California Air Resources Board, as provided in Sections 2700 to 2709, California Code of Regulations. A copy of the verification letter or executive order confirming the verification must be submitted with the bid.

3. Oil Filter-full-flow, spin-on type, Racor LFS with reusable wire drop-out cloth element.

4. Air Filter – single element, dry type with pop-up restriction indicator. Mounted on air cleaner.

5. Cooling system shall be capable of cooling a fully loaded vehicle operating in ambient air temperature of 115 degrees F with the additional heat load of a water to oil transmission oil cooler.

6. Radiator shall provide cut-out for engine driven front PTO or pump.

7. Coolant conditioner, spin-on type element, with shut-off valves on coolant lines.

8. Mechanical or electrical engine governor.

9. Exhaust system, single vertical muffler and pipe with stainless Muffler, shield and rain cap or side exit above 11 foot. Mounted on left side of frame.

10. Engine protection system to provide a warning light, audible alarm and engine shut-down in a progressive manner to protect engine from high coolant temperature or low oil pressure. System to provide a manual over-ride provision to allow vehicle to be moved or equivalent OEM system.

A **B**

C. Transmission

- | | | | |
|-------|-------|----|--|
| _____ | _____ | 1. | Automatic, Allison, 3500 RDS (<u>most current version</u>) with an electronically controlled, five – 5 <u>speed</u> , or compatible model to engine submitted in bid, with the closest ratios to the 3500 RDS. |
| _____ | _____ | 2. | External water-to-oil cooler. |
| _____ | _____ | 3. | Touch pad shift selector (Allison). |
| _____ | _____ | 4. | Allison oil level sensor system with readout in shift control. |
| _____ | _____ | 5. | The transmission application must be subject to approval of the County, the vehicle dealer manufacturer, and Allison transmission. The application must be reviewed by the use of the Allison SCAAN evaluation method. This must be accomplished prior to build. |

Part III

Body Specifications

SCOPE: The Part III specifications cover a side-loading, mechanical packing, refuse collection body constructed and installed on a four-axle truck chassis specified in Part I of these specifications. The packer body manufacturer shall furnish to the cab and chassis manufacturer the required wheel base and C/A dimensions for the packer body complying with these specifications. The packer body shall be compatible for use with the mechanical lift arm provided under Part IV of these specifications.

BIDDER'S PROPOSAL

REQUIREMENTS

PART III - BODY SPECIFICATIONS

- | <u>A</u> | <u>B</u> | | |
|-----------|----------|---|--|
| <u>OK</u> | ___ | A. The County will consider only those bidders who can demonstrate that a minimum of a 100 like units are in operation at the time of the bid. Bidder must furnish with bid, contract name, phone number and location of said units. | |
| <u>OK</u> | ___ | B. Capacity
The packer body shall have a capacity of not less than twenty-eight (28) cubic yards excluding the receiving hopper or compaction device. The hopper shall have a minimum capacity of three (3) cubic yards. The packer body/cab and chassis combination shall have a minimum payload capability of no less than 23,000 pounds. Bidders shall complete and submit with their bid a weight distribution diagram on which the <u>maximum legal payload</u> shall be calculated. | |
| <u>OK</u> | ___ | C. Frame Modifications
If frame modifications to the cab and chassis are required for packer body installation, the modified frame must meet the original frame specifications listed in Part I. | |
| <u>OK</u> | ___ | D. Ground Clearance | |
| <u>OK</u> | ___ | | 1. Completed vehicle shall maintain a minimum ground clearance of at least 13 inches, excluding front and rear axles. |
| <u>OK</u> | ___ | 2. All exposed air, hydraulic, electrical and cooling components with an 18-inch or less ground clearance dimension shall be adequately protected from damage associated with landfill operations. | |
| <u>OK</u> | ___ | E. Body | |
| <u>OK</u> | ___ | | 1. Shall be an all-welded construction of framed steel sections. Interior shall be smooth and free of all obstructions to allow easy flow of refuse material. |
| <u>OK</u> | ___ | | 2. Body sides, roof, floor and hopper floor shall be structurally reinforced so as to withstand continuous operation at maximum imposed loads without harmful deformation or excessive wear. |
| <u>OK</u> | ___ | | 3. Automatic tailgate locks subject to approval by the County. |
| <u>OK</u> | ___ | | 4. Total length of body, including loading area and packer must be submitted, list length in inches <u>30'</u> . |
| <u>OK</u> | ___ | | 5. Holes must not be placed in body that would allow spillage or loss of refuse while operating. |
| <u>OK</u> | ___ | 6. Clean-out tool shall have a holding bracket mounted on body and be provided. Clean-out door shall open upwards. | |

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<u>OK</u>	___
<u>OK</u>	___
<u>OK</u>	___
<u>OK</u>	___
<u>OK</u>	___
<u>OK</u>	___

7. Recycle oil bin, to be located on the body. Must have a capacity of 20 1-gallon milk jugs minimum, with easy placement and removal. Must have lid and drain valve. Provide County with a width and depth measurements working design for approval.
8. A shovel holding bracket shall be mounted on body in the vicinity of the loading arm with shovel.
9. Drip pan under rear tailgate seal.
10. Work lights - (1) in the hopper and (1) for the lift arm area.
11. Strobe light - (1) tailgate center mounted high.
12. Steel mud flaps mounted forward of rear tires.
13. Sign bracket on road side of body.

F. Construction

<u>OK</u>	___
<u>OK</u>	___
<u>OK</u>	___

1. Welding: Welding fillets shall have good penetration, good fusion, good appearance, and shall show no cracks or undercutting.
2. The surfaces of the roofs, sidewalls and rear doors shall have continuous welds unless otherwise approved by County. The body shall be completely watertight up to no less than eighteen (18) inches above the floor and shall be gasketed.
3. Workmanship: Unit(s) must conform to the best practice known to the body trade in design, quality of material and workmanship.

G. Material

The following material thickness shall be the minimum.

<u>OK</u>	<u>10ga</u>
<u>OK</u>	<u>14ga</u>
<u>OK</u>	<u>11ga - 177, = 3'</u>
<u>OK</u>	<u>7ga 80,000 PSI, = 4'</u>

1. 11-gauge HI-Ten steel or equal for side and top body construction.
2. 14-gauge HI-Ten or equal for roof.
3. 11-gauge HI-Ten steel or equal for floor of body.
4. 7-gauge 80,000 PSI steel or equal for hopper floor.

H. Compactor/Load Ejector

<u>OK</u>	___
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1. The compactor must either enable containers to be unloaded at any time without delay or spillage of waste, or must be coordinated to begin its cycle after containers are unloaded, and complete the cycle before a subsequent container is dumped in normal operation. Under either condition, the unit must be capable of receiving waste from a fully loaded 100-gallon container without spillage and without the operator having to wait until the packing mechanism has completed its cycle. This shall be accomplished by method a or b below.
 - a. Operating continuously without spillage while receiving waste from a 100-gallon container. The packing mechanism shall be capable of operating when the truck is at rest, or when moving, and shall displace waste at a rate of no less than three (3) cubic yards in 30 seconds.
 - b. Operating between stops and equipped with a packing mechanism that can displace waste at a rate of no less than three (3) cubic yards per packing cycle of not more than 12 seconds.
 - c. No other system shall cause the packing mechanism to stop during its cycle, other than normal controls or safety interlock.

A B

2. Hopper Access With Grab Handles: Provision shall be made to permit access to hopper area. Adequate steps and handhold are required and will be approved by County. The hopper shall be designed to receive 100-gallon containers without coming in contact with hopper lip.
3. Hopper Cover (Trash Screen) to cover hopper to prevent the blowing of material off route, will be power operated with interlock to prevent dumping of container on closed cover. Design to be approved by County.
4. Packing Mechanism: Shall be structurally reinforced so as to with stand maximum imposed loads without harmful deformation. If manufacturer elects to use guide rails and/or wear plate, all shall be replaceable.
5. If separate self-contained compactor is furnished, a polypropylene seal shall be installed between the body and the compactor to prevent leakage of fluids onto the ground up to 18".
6. Units equipped with a compaction and/or load ejector ram which protrudes to the rear of the load ejector plate, must be equipped with a limit switch which prevents the ram face or cylinder housing from coming into contact with the tail gate.
7. Refuse collection body must be designed and constructed so as to contain the packer cylinder in the event of a pin, pin boss, cylinder rod end, or any other related failure.

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I. Tag Axle

1. 12,000 lbs capacity air operated up and down, steerable tag axle. Tag axle is to be automatically lowered with the raising of the body for off-loading purposes.

J. Hydraulic System

1. The hydraulic system shall be a continuous operating low rpm (engine rpm @ 800 or lower) system designed to maintain oil temperature within acceptable operating range with ambient temperatures of 115°F. The use of auxiliary coolers shall be subject to approval by the County. The hydraulic system shall be capable of operating the compactor while vehicle transmission is in gear, forward or reverse and concurrently serve the mechanical lift device. Operation will be an idle system not exceeding the (safe) rpm of installed transmission.
2. Hydraulic Pump: The hydraulic pump shall be a double-lip vane pump, front mounted to the crankshaft and shall be designed to meet Sacramento County noise standards of 80 db(A) at 50 feet with system engaged.
3. Hydraulic Reservoir: System shall have a reservoir of adequate capacity and designed to prevent hydraulic oil from seeping and/or surging from the tank. It shall be equipped with a suction line shutoff valve, drain plug, baffles, low oil warning and shut down device and a visual oil level indicator visible from ground level. Vent mounted on top of tank shall be a spin on dry filter element. Location of oil reservoir to be approved by the County.

A B

4. Hydraulic components shall be protected from outside debris, rain, foreign matter, or refuse, by suitable enclosures or shielding, be readily accessible for repairs or replacement and routed to prevent abrasion or flexural failure. All hydraulic hose shall be SAE 100 R-2 Type A.T. Ground clearance shall conform to Part III, C.

5.

Hydraulic Pressure Filter: High-Pressure Parker or equal with mechanical restriction indicator. Hydraulic systems using two high-pressure circuits shall include two filters. The filter shall be located in an accessible, vertical and protected location to minimize fluid loss or spillage when replacing filter elements.

6. Return Filter Parker or equal. The filter shall be located in an accessible, vertical and protected location to minimize fluid loss or spillage when replacing filter elements.

7. Body Hoist shall be capable of lifting the packer body loaded to a maximum legal payload capacity, with truck on level ground. Hoist shall raise the body to an angle of not less than 45 degrees. Hoist cylinder shall be "cushioned cylinder" type and shall have flow control check valve to prevent sudden drop if pressure is lost. Ejector off-load type body shall provide a lift maintenance hoist to allow raising body for ease of vehicle repairs.

8. Tailgate Hoist: Units with elevating tailgates shall be designed to prevent a sudden drop of tailgate due to system malfunction. Lift cylinders shall be "cushioned" type.

9. Hydraulic valves controlling the packing mechanism, body lift and tailgate operation shall be positioned so as to be serviceable by a technician without raising the body or removing components other than guards or covers.

10. Ejector off-load body type.

K. Packer Controls

1. Packer controls shall be mounted in the cab within easy reach of the operator as specified by County ergonomic specifications in Part I, M, page 8 and shall have a start button and an emergency stop button. County shall approve the type and location.

2. The following hydraulic/electric lockouts shall be provided whenever their omission might result in damage to the equipment.

- a. To prevent body from being hoisted with body locks engaged.
- b. To prevent body from being hoisted with packing mechanism extended.
- c. To prevent packing mechanism from being extended if body locks are not engaged.
- d. To prevent body from being raised while lift arm is raised and grip is in the container dump position.

Part IV

Mechanical Loading Devices

SCOPE: These specifications pertain to mechanical side loading devices designed and equipped to grab, elevate and dump 38, 60 and 100 gallon refuse containers.

The lift arms shall be fully operational and installed on the equipment supplied per Parts I, II and III of these specifications. The successful bidder shall supply all the necessary hydraulic components, all flow control valves, flow divider valves, sequence valves, limiting devices, the source of hydraulic supply, and all of the plumbing necessary to make the device operable. All hydraulic components shall be of adequate size to minimize restrictions, which cause undue temperature, rise of the hydraulic oil and shall be designed to maintain oil temperature within acceptable operating ranges with ambient temperatures of 115° F. The use of auxiliary coolers is subject to approval by the County.

BIDDER'S PROPOSAL

REQUIREMENTS

PART IV - MECHANICAL LOADING DEVICES SPECIFICATIONS

A B

A. The County will consider only those bidders who can demonstrate that a minimum of a 100 like units are in operation at the time of the bid. Bidder must furnish with bid, contract name, phone number and location of said units.

B. Mechanical Loading Controls
Operation controls shall use a joystick, electric/hydraulic or air/hydraulic. Function pattern to be same as existing equipment in use by County. If pneumatic, air must be vented outside of cab. Controls are to be mounted on or with a six-way adjustable arm rest to insure best ergonomic arm position.

C. Mechanical Loading Device
1. The mechanical lifting device shall, in continuous operation, be capable of fully extending arm, grabbing, raising, dumping and returning container and retracting arms with an average cycle time of 10 seconds or less and using a 100-gallon container test weighed at 500 lbs.

13' 8"

a. Individual cycle times shall be measured with the truck in gear at idle and will begin when the arm/grabber starts moving and will end when the arm/grabber is in the stored position. These time measurements will include all activities necessary to service accounts. At least twenty (20) consecutive individual measurements will be taken to determine the average cycle time. The lifting mechanism shall be designed to dump containers without the container coming in contact with the edge or being dropped into the hopper.
2. Loading device shall be capable of continuous lift capacity of 500 lbs. The minimum reaching length for the arm to retrieve a can shall be eighty-four (84) inches from side of outside rear dual tire. Maximum height of 100-gallon container at highest point of dump cycle shall not exceed 13'-6".

- | A | B | |
|-------------------------------------|--------------------------|---|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | 3. The container grabbing arms, grabbing arm base and mounting plate will be furnished and installed by the vendor and it shall be compatible with the County's multi-diameter gripping surfaces on containers. |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | 4. Container grabbing clamps shall be designed to prevent damage to the containers. Grabbers will maintain a constant pressure during dumping as to not allow containers to slip and fall into the hopper. All design and print information shall be furnished with the bid. |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | 5. An automatic lube system will be required if lube schedule is more than once a week. |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | 6. Vendor shall guarantee availability of all parts for each lift unit assembled by the vendor, for the service life of each corresponding truck and delivery of any replacement part shall be within 48 hours of request. All parts shall be the same or equal to the original and shall not require any modifications to install such parts. |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | 7. All fixed portions of the loading mechanism shall have a minimum of thirteen (13) inches ground clearance, and shall not extend outside the eight (8) foot legal width and the thirteen (13) foot, six (6) inch legal height when stored for travel to the disposal site. If unable to meet specification, list height in inches for ground clearance, _____, and feet for height limit _____. |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | 8. The lifting device shall be primed and painted with a finish coat of acrylic urethane paint, same as the body -- Dark Green, Dupont Centari 5000 V0447 or equal. |

D. Warranty

- | | | |
|-------------------------------------|--------------------------|---|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | 1. The system shall carry an unconditional warranty on material and labor for not less than one (1) year. If, during the warranty period three (3) of the same failures occur on any of the loading devices, then on the third failure all the mechanical loading devices shall be corrected to the satisfaction of the County. All items repaired or corrected under warranty shall be guaranteed for not less than one (1) year from date of correction or repair. Replaced items shall carry same warranty as original, minimum. |
|-------------------------------------|--------------------------|---|

If production line changes are effected by the lift arm manufacturer during the County's warranty period, such modifications shall, at the County's option, be made to all units purchased under these specifications. Such modifications shall be made without additional charge to the County.

Part V

OPTIONAL BID ITEMS

BIDDER'S PROPOSAL

REQUIREMENTS

A B

 N/A

PART V - OPTIONAL BID SPECIFICATIONS

A. Low Emission Vehicle Engine (2007)

1. 0.2 g-bhp/hr NOX, 0.1 g-bhp/hr PM.
2. Low Sulfur Diesel engine shall be equipped with an exhaust particulate filter that has been verified as meeting PM control level 3 (85% efficiency or less than 0.01 g/bhp/hr) by the California Air Resources Board, as provided in Sections 2700 to 2709, California Code of Regulations. A copy of the verification letter or executive order confirming the verification must be submitted with the bid.

 N/A

B. Weight Saving options

1. List any weight saving options, list weight savings in lbs with cost.

NOTE:

1. Failure to complete the "Bidders Proposal" section and Exception Response Page may cause the rejection of your bid.
2. Other government agencies and/or districts may use the bids received from this specification.