

## INVITATION FOR BID

Bid # 2013-RD102

### Tandem Axle Dump Truck

#### TECHNICAL SPECIFICATIONS

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### Tandem Axle Dump Truck

List Model Bid: \_\_\_\_\_

#### MINIMUM SPECIFICATIONS

#### EXCEPTIONS

##### 1. TYPE

- a. Tandem Axle Truck-Current Model Year.
- b. CA=120 inches. To accommodate specified dump body.
- c. GVWR-56,000 lbs. minimum.
- d. Wheel Base-144 inches minimum.
- e. Set back front axle model.

##### 2. AXLES

- a. Front-20,000 lb. minimum rating multi leaf springs with front shocks.
- b. Rear 38,000 lb. minimum rating through hubs. Locking Rear Axel

##### 3. BRAKES

- a. Full Air Brakes-S-Cam Type.
- b. FRONT-S-Cam 16 1/2" x 6".
- c. REAR-S-Cam 16 1/2" x 7".
- d. Rear Chambers-30-30 type - HIGH MOUNTED.
- e. Low pressure warning system.
- f. ABS Brake System.
- g. Meritor automatic type slack adjusters.
- h. Air Dryer (AD-IP) Spin-On.
- i. Manual drain valves and auto blow down drain.
- j. Air Compressor-13 CFM minimum.
- k. Parking Brake-On rear axle, spring set with dash mounted control, on both rear axles.

##### 4. CAB EQUIPMENT

- a. Shall be custom interior to include but not limited to:  
Full trim panels on doors, back of cab insulation, headliner insulation and cloth seats.
- b. Tilting fiberglass hood with butterfly inspection hatches.
- c. Driver's seat will be cloth and an air suspension, and passenger seat will be a fixed base to match driver seat. Arm rests both right and left seats.
- d. Retractable seat belts on both driver and passenger seats.
- e. There shall be assist handles on the outside of cab, right and left, stainless steel or equal. Assist handles will also be installed on the inside of the right and left door, stainless steel or equal.
- f. Four-way flashers.

- g. Gauges to include:
  - (i) Air pressure gauge with buzzer.
  - (ii) Voltmeter gauge.
  - (iii) Engine coolant temp gauge with light and buzzer.
  - (iv) Engine oil pressure gauge with light and buzzer.
  - (v) Fuel level gauge.
  - (vi) Electronic speedometer.
  - (vii) Electronic tachometer with hour meter.
  - (viii) Transmission oil temperature gauge.
- h. Rubber floor mats.
- i. Heater and defroster with side tube defrosters.
- j. Dual air horns with single base and a single electric horn.
- k. Tinted windshield.
- l. Rear cab window.
- m. Padded sun visors-right and left.
- n. West Coast Mirrors, RH & LH with stainless arms and brackets.
- o. Convex Mirrors-8" mounted on lower arm of West Coast Mirrors – RH & LH.
- p. Clearance lights-standard configuration.
- q. Air Conditioned Cab.
- r. Electric windshield washer and electric 2speed intermittent wipers.
- s. Steering Wheel-approximately 20".
- t. Radio-Factory installed AM/FM.
- u. Turn signals-Signal stat, self canceling.
- v. Standard factory installed head lights, high and low beam.
- w. Color: White
- x. 2-Way Radio wiring accommodation package Wiring must be at least 12ga to accommodate 40W radio.

## 5. ELECTRICAL SYSTEM

- a. 12-Volt System.
- b. Batteries-two (2), 12 volt, 1900 CCA at zero degrees.
- c. Battery Box – Steel w/Molded Plastic Cover.
- d. Alternator-Delcotron, 135 AMP 34SI, brushless.
- e. Complete LED, ICC lighting system w/ 2 halogen bulb headlights w/ daytime running lights.
- f. Shall have circuit breakers in lieu of fuses.
- g. Shall have auxiliary harness for front headlights and turn signals for front plow lights.

## 6. ENGINE

- a. Diesel-350 HP minimum @ 2100RPM.
- b. Tier 3 Engine required – limited electronics
- c. Specify make, model, CID, and HP @ rated RPM.
- d. Displacement-11 Liter minimum.
- e. [Torque-1150ft. lb.](#) @ 1100RPM.
- f. Air intake-inside/outside with in cab control.
- g. Air to air after cooling.
- h. Engine hoses and tubing-Silicone.
- i. Air operated on/off fan clutch.

- i. Fuel/Water separator.
- j. All daily under-hood checks on drivers side of engine.
- k. Oil filter is engine mounted-disposable.
- l. Coolant protection to minus 40F degrees.
- m. Exhaust: Single horizontal muffler. Vertical exhaust, with perforated stainless metal guard. Exhaust pipes must be insulated and routed from cab to reduce in cab heat transfer (Not to reduce cab to axle dimensions and not to force distance between cab and box in excess of 5 inches).
- n. 5yr., 100,000-mile warranty.
- o. Radiator/Grille guard screen 1/4" mesh-stationary type.
- p. Engine to be supplied with a fuel primer pump.

#### 7. CHASSIS

- a. Frame-Single channel 120,000KSI steel.7/16"x3 3/4"x 11 1/8" steel frame (11.11 mm x 95.25mm x 333.38mm).
- b. Side rail section modules 29.1 cu. in. (per rail)
- c. List RBM 2,500,000 lbf-in (per rail) minimum.
- d. Yield strength 120,000 psi. minimum.
- e. Front frame extension must be part of parent rail continuous of main frame (integral).
- f. 20" integral front frame extension or adequate for plow mount installation. Not less than 14 inches from grill.
- g. 14" extension beyond rear of rear tires to accommodate a 14'6" length box.
- h. Two (2) body safety stops.
- i. 2 Tow hooks, front
- j. Fuel Tank-Aluminum Left hand 75 gallon step tank with non-skid tread.
- k. Electronic backup alarm 112db.

#### 8. DIFFERENTIAL

- a. Meritor Differential.
- b. Differential to be geared for 60 mph with specified tires.
- c. No spin rear axle.
- d. Inter-axle differential and lock out with dash-mounted control.
- e. Synthetic gear oil.

#### 9. TRANSMISSION

- a. **Manual Transmission. Revision 2**
- b. Synthetic Transmission Oil "TranSynd TES-295".
- c. On dash Push Button Shifting.
- d. PTO Provision Chelsea 67 series constant mesh.
- e. Transmission Cooler.
- f. Close ratio six (6) speed.
- g. Full 2 year warranty.

10. SUSPENSION/SPRINGS/TIRES & RIMS

a. FRONT

- Ø Springs Multileaf Shackle Type-Front 20,000 lb. min. capacity.
- (ii) Front fender flares or extensions.
- (iii) Front Tires – (2) 425/65 R22.5 L rating.
- (iv) Front Rims: Two (2) 12.25 x 22.5 ISO steel disc wheels painted white.

b. REAR SUSPENSION

- (i) Single Reduction 40,000-lb with 200 wheel ends
- (ii) Locking Rear Axel
- (iii) Leaf Springs & Pivot P7
- (iv) Rear Chambers-30-30 type- HIGH MOUNTED.
- (v) Meritor automatic type slack adjusters.
- (vi) (8) Rear Tires- 11R 22.5 H rating 14 ply
- (vii) Rear mud flaps mounted on rear with removable hooks.
- (viii) Fenders over rear tires (installed by body builder).
- (ix) Rear Rims: Eight (8) 8.25 x 22.5 ISO steel disc wheels painted white.
- (x)

11. PAINT

- a. Cab – White.
- b. Frame – Gloss Black.

12. MISCELLANEOUS

Vendors shall provide:

- a. One (1) each of the following written manuals:
  - (i) Parts Manual.
  - (ii) Body Builder Manual.
  - (iii) Shop Service Manual.
  - (iv) Shop Overhaul Manual.
  - (v) Electrical Service Manual with Schematics.
  - (vi) Emission Service Manual.
  - (vii) Service Bulletin with Updates.
  - (viii) Operators Manual.
- b. A complete set of service filters and belts for truck.
- c. On site instruction for two (2) people for servicing of major components such as engine, emissions etc.

HYDRAULICS FOR TANDEM AXLE TRUCK  
“HYDRAULICS SHALL BE FORCE AMERICA WITH EXCEPTIONS”

1. HYDRAULIC PUMP AND PTO: (CONSTANT MESH)

- a. The hydraulic pump shall be an axial piston pressure and flow compensated load-sensing type. The pump shall have a displacement of 5.61 cubic inches per revolution at maximum stroke which will deliver 23.7 gpm @ 1000 engine rpm. The pump shall have a minimum 2” inch suction line and 1/2” control drain line plumbed directly back to the reservoir. The pumps compensator shall have rear facing adjustments. The pump shall be rated for 5800 PSI maximum and 4800 PSI continuous. The pump shall have a Din type-mounting flange and a Din 5462 8-tooth shaft. The pump shall be Force America TXV92 or prior approved equal. An OMF8 series constant mesh PTO that is mounted to the transmission shall drive the pump.
- b. The pump shall be capable of properly operating specified dump cylinder and equipment specified.
- c. Pressure line to have a gauge port easily accessible for pressure test.
- d. There shall be a high-pressure filter plumbed between the hydraulic pump and the control valve assembly. The hydraulic filter shall be a 25-micron absolute and rated for 6000 psi. The filter shall be model HP17125VG30EPUG5S2AE7050P and be equipped with visual and electrical bypass indicators. The electrical indicator shall be wired to a warning light in the heads up display.
- e. HP17125VG30EPUG5S2AE7050P and be equipped with visual and electrical bypass indicators. The electrical indicator shall be wired to a warning light in the heads up display.
- f. A single normally open, two-position-two way poppet style solenoid valve capable of stopping oil flow to the hydraulic system when actuated. The valve shall be mounted directly to the hydraulic pump discharge port. The valve assembly must also incorporate a high-pressure relief valve to protect the system from over pressurizing during system shut down. This system shall be designed so that when the float contacts close, the solenoid valve stop pump flow and an enunciator in the cab that is on a control panel alerts the driver. The control panel will also incorporate an override switch wired to the Command All control center to de-energize the shut down system to facilitate diagnostics and equipment storage.

2. SHUT DOWN SYSTEM:

A single normally open, two position, two way, poppet style solenoid valve capable of stopping oil flow to the hydraulic system when actuated. The valve shall be mounted directly to the hydraulic pump discharge port. The valve assembly must also incorporate a high-pressure relief valve to protect the system from over pressurizing during system shut down. This solenoid valve shall be wired to a float type level indicator that is mounted from the top of the reservoir. The system shall be designed so that when the float contacts close, the solenoid valve stops pump flow and an enunciator in the cab that is on a control panel alerts the driver. The control panel will also incorporate an override switch wired to de-energize the shut down system to facilitate diagnostics and equipment storage. (If high pressure-ball valve is used delete shut down system from spec)

### 3. HYDRAULIC RESERVOIR

- a. The hydraulic reservoir will be of 35 gallons nominal capacity.
- b. The hydraulic reservoir will be constructed of 10-gauge steel and be internally baffled.
- c. Mounting bracket is to be designed and supplied by the reservoir supplier.
- d. Mounting system should allow for a 1” frame clearance for frame obstructions.
- e. Shall be mounted in manner as to not transmit any truck torsion loads thru the tank.
- e. The enclosure will use a gasket-less passive technology. (No rubber seals, gaskets, or weather stripping)
- f. The enclosure lid will be removable within seconds by one person without the use of tools.
- g. All valve fittings, hose ends, filter, filler breather, sending units and any electrical connections are to be protected by enclosure cover.
- h. The tank shall come equipped with an electrical temp/level-sending unit.
- i. The reservoir supplier will provide all valve fittings (JIC connections) and plumb the return line from the valve to the filter.
- j. The cover will protect from both road and pressure washer spray.
- k. The use of bulkhead fittings is not permitted.
- l. The directional control valve must be easily accessible from all (6) sides without the use of tools.
- m. Hose exit and entrance must allow for components to be mounted adjacent to the enclosure.
- n. A two inch (2”) full flow brass ball valve shall be plumbed at the suction port of the tank.
- o. Hydraulic oil filter shall be mounted in the reservoir.
- p. Hydraulic filter shall be a 16-micron absolute and rated for no less than 60 GPM.
- q. Filter shall be model TEF31016VG16SP-UG60E115 and include visual and electrical bypass indicators.
- r. A warning light and buzzer shall be mounted in the cab and wired to the electrical indicator.
- s. The valve/tank assembly shall be a Force America model “VT35 Valve/Tank Assembly”.
- t. Have a basket type breather cap with pad lock feature.
- u. Magnetic drain plug.
- v. Two inch (2”) NPT suction with 100-mesh screen type filter.
- w. Separate return port for control drain line.
- x. Electric level sending unit.
- y. Internal baffling.
- aa. Sight-temperature gauge externally mounted.
- bb. Hydraulic reservoir shall be Force America VT35 valve/tank assembly.

### 4. VALVE CONTROLS

- a. Proportional dump body with center safety lock.
- b. The valve controls must be tested before delivery.
- a.

### 5. HIGH PRESSURE HOSE/TUBING

- a. Minimum one (1) inch ID.
- b. Minimum working pressure of 3000 lbs. and test pressure of 10,000 lbs.
- c. Synthetic rubber or neoprene lining and cover.
- d. Minimum of two-ply elastic rubber reinforced with 3-ply high-tensile steel wire.
- e. Stainless steel tubing to be run from front to rear of truck. All tubing to metal bracketed and separated (not wire-tied).
- f. All hydraulic quick couplers shall be mounted to the right side of the dump box. Contact Gordon County for exact locations.

### EXCEPTIONS

### 6. PIPE AND FITTINGS

- a. Pipe and fittings shall be kept to a minimum. No street ells are

Revision 2 – 09/05/2012

to be used. Only hydraulic fittings may be used. Black pipe and Galvanized pipe will not be accepted.

7. MANUALS PER UNIT

- a. One (1) as-built drawing of hydraulic system.
- b. One (1) parts manual for each accessory.

## DUMP BODY FOR TANDEM AXLE TRUCK

Dump Body shall be a Hi-Way XT3 Type 3 Stainless Steel multi-purpose or Equal.

These specifications shall describe a multi-purpose dump body and material spreader. A telescopic hoist mounted at the front of the body provides dumping as per conventional dump body and, as a material spreader, a centered main conveyor in conjunction with a chute carries the material to a spinner assembly located at the rear of the body. The unit, as bid, shall be a current design and production unit and conform to all Federal and State regulations. Bidders shall submit current literature for the make and model of unit being bid.

### EXCEPTIONS

#### 1. GENERAL DIMENSIONS

- a. Minimum truck capacity of the unit being bid shall be 13 cubic yards without sideboards or 18 cubic yards with sideboards.
- b. Body inside length shall be 14' and the inside body width shall be 95.5" to maximize capacity and provide a lower center of gravity of the unit.
- c. Overall length of the unit shall not exceed 170" from front of cradle to rear of hinge.
- d. Side height above the sills shall be 36".
- e. Tailgate height above the sills shall be 48".
- f. Head sheet height above the sills shall be 60".
- g. Body shall be equipped with 4" wide sideboard pockets that taper in height from 18" at the front, to 12" at the rear of the body.
- h. Insulated Dump Body for hauling asphalt. Revision 2**

#### 2. TAILGATE

- a. Tailgate shall be constructed from 7-gauge 304-2B stainless steel, 85,000 PSI tensile strength steel with yield strength of 35,000 PSI.
- b. There shall be full perimeter boxing with all horizontal bracing to be sloped outward to shed material. In addition there shall also be two 10-gauge 304 stainless steel horizontal braces with a sloped top surface.
- c. Hinge plates shall be 1" flame-cut heavy-duty offset type.
- d. Tailgate pivots shall be flush mount 1/2" flame cut material.
- e. Latch hooks will be 3/4" steel with the latch plates to be 3/8" carbon steel.
- f. Upper pins are to be 1-1/4" diameter stainless.
- g. Lower latch pins are to be 1-1/4" diameter CR1018 material.
- h. Tailgate latch mechanism shall be an air operated dual brake chamber (one at each latch position) type. The latching design shall be such that air pressure is used to open the tailgate latches and an over-center toggle combined with spring pressure is used to keep the latching mechanism closed.
- i. Vertical rear feedgate panel shall be 7-gauge 304 stainless steel and lever operated with 1" increments of adjustment. Adjustment is fixed through a positive locking mechanism.

### 3. SIDES AND HEADSHEET

- a. Design of the side sheet/floor shall be such that the vertical surface (side wall) transforms into a horizontal surface (floor) through a large self cleaning radius.

#### MINIMUM REQUIREMENTS

#### EXCEPTIONS

- b. All body seams shall be fully welded both inside and out.
- c. Head sheet and side sheets are to be 7-gauge 304-2B, 85,000 PSI tensile strength, with 35,000 PSI yield strength and be constructed from one-piece material. Seams from splicing material will not be allowed.
- d. Boxed top rail, sloped inward shall be constructed from 7-gauge 304-2B steel. The construction shall be such that the top formed lip of the side shall overlap the channel formed rail to provide for double material thickness.
- e. Rear corner posts are full depth from top of the tailgate to the bottom of the longitudinal sills and are constructed from 7-gauge 304-2B steel. Longitudinal sills, corner posts, and rear apron are all tied together with a 7-gauge stainless steel plate to provide further reinforcement to this area.
- f. Head sheet shall be straight and manufactured with a doghouse properly sized to accommodate a trunnion mounted telescopic hoist.
- g. Electrically operated Flip Tarp for asphalt installed.
- h. Front step plates inside and out.
- i. A welded steep located on driver's side to access box.
- j. Left and right dump grab handles.
- k. Two (2) body props
- l. Body-raised indicator light with weatherproof switch.

### 4. HOIST

- a. Hoist design shall be a trunnion mount, telescopic, non-inverted. Cylinder shall be a three (3) stage with a 140" stroke, and a 6" diameter first stage.
- b. All connecting pivots shall have grease-able fittings.
- c. Cylinder tubes shall be nitrited and the cylinder shall be warranted for a period of two (2) years.
- d. Cylinder base cradle shall be a frame mounted and fully welded modular assembly fabricated from 4" x 6" x 1/2" structural steel angle.

### 5. MAIN CONVEYOR

- a. 28" wide main conveyor shall be recessed within the 7-gauge 304 stainless steel formed inner and outer longitudinals and feed material to a feed gate located in the tailgate.
- b. Main conveyor floor shall be constructed from 3/16" AR400 plate and fully welded to the longitudinal sills.
- c. 7-gauge 304 stainless steel formed chain shields shall be fully welded and of a design that protects the pintle side links.
- d. Conveyor chain construction shall consist of two (2) strands of 29,700 PSI tensile strength pintle chain with 1/2"x1-1/2" cross bars welded to every link.
- e. Drive and idler shafts shall be 2" CR1045 round with two (2) eight (8) tooth drop forged steel sprockets keyed to each shaft.

MINIMUM REQUIREMENTS

EXCEPTIONS

- f. Conveyor gear case shall be 25:1 reduction; rear mounted planetary drive.
- g. Drive motor shall be a high torque hydraulic type with a minimum of 4.9 cubic inch displacement. Motor will drive the gear case through a SAE 6B splined shaft. Keyed couplings are not acceptable.
- h. Removable underbody pans constructed from 10-gauge 304-2B stainless steel to prevent material from dropping on driveline components of the chassis.
- i. Conveyor Cover – 7-gauge grade 50. Panel designed to protect conveyor cross bars and chain shields during periods of “non-conveyor use”. Panel must be designed for ease in installation as well as ease in securing to the body.
- j. Conveyor chain oiling system with valve on driver’s side.

6. SPINNER CHUTE ASSEMBLY

- a. 304 stainless steel 10 gauge material chute mounted underside of apron, to direct material flow to spinner.
- b. Arm for assembly to be a frame rail mount.
- c. Support arm shall be adjustable both vertically and horizontally to control spread pattern.
- d. Assembly shall be able to swing under truck when not in use.
- e. Spinner shall be 20” in diameter and constructed of polyurethane.

7. DUMP BODY LIGHTS

- a. Tail lights recessed in dump body posts.
- b. Lights must not weaken rear posts.
- c. All lights must conform to all State and Federal Standards.
- d. All lights shall be LED.
- a. .

11. ELECTRICAL SYSTEM

- a. All wiring is to be double jacketed with ethylene-propylene rubber to keep out moisture and protect from damage.
- b. All electrical connections are to be protected from moisture.
- c. All junction boxes are to be waterproof.
- d. Any wires that are subject to abrasion are to be covered with vinyl tubing for additional protection.
- e. All lights are to be grounded through wiring system not to mounting bolts.

## BID FORM (1)

### TANDEM AXLE DUMP TRUCK Bid # 2012-RD102

TRUCK VENDOR:

PRICE - One (1) New Current Model Year Tandem Axle Dump

TRUCK													
	Body Equipment Vendor:												
TRUCK BODY EQUIPMENT VENDORS(S):													
	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%;">Make/Model</th> <th style="width: 50%;">Price</th> </tr> </thead> <tbody> <tr> <td>TRUCK CHASSIS</td> <td style="text-align: center;">\$</td> </tr> <tr> <td>DUMP BOX and HYDRAULICS</td> <td style="text-align: center;">\$</td> </tr> <tr> <td>TOTAL COST Single Truck</td> <td style="text-align: center;">\$</td> </tr> <tr> <td>Manufacturer Discount - Deduct</td> <td style="text-align: center;">\$</td> </tr> <tr> <td style="text-align: right;">**NET PRICE**</td> <td style="text-align: center;">\$</td> </tr> </tbody> </table>	Make/Model	Price	TRUCK CHASSIS	\$	DUMP BOX and HYDRAULICS	\$	TOTAL COST Single Truck	\$	Manufacturer Discount - Deduct	\$	**NET PRICE**	\$
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**DELIVERY TIME\*\*\***

Truck Vendor delivery time from date of order including truck set-up by truck body equipment Vendors: \_\_\_\_\_ (Approx. # of Days).

\*\*\*This will be an important factor in bid analysis.

**Revision1. Warranties: Please attach a warranty page to your bid specifying various warranties on chassis, engine, transmission, hydraulics, hoist, dump body and all other components.**