STATE OF LOUISIANA
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT
TECHNICAL SPECIFICATIONS FOR

STREET SWEEPER TRUCK, VACUUM, 35,000# GVWR

SERIES NO. 256-850 **REV. 5/15/2023**
EQUIPMENT SPECIFICATION 256-850D

GENERAL

This specification sets forth the minimum requirements for a 35,000# GVWR cab & chassis truck with a vacuum sweeper attachment.

Equipment shall be new, a production model of current manufacture, and must meet all state and Federal safety and emission standards in effect at time of order.

REPRESENTATIVE SPECIFICATIONS

A Freightliner M2-106 cab & chassis and a Bucher VS80h vacuum sweeper unit, with appropriate options and standard features, was used to develop these specifications and establish equivalency evaluation criteria.

Equipment of similar style, type, character, quality, features, and purpose conforming to the following detailed requirements/specifications will be considered. For evaluation purposes, bidders proposing an exception/equivalent option/feature to those specified herein, may be required to provide manufacturer/product information (catalogue sheets, detailed specifications, pictures, etc.). This information will be evaluated against the minimum requirements of this specification. Proposed submittals that are determined not to be equivalent to the established criteria will be rejected.

LOUISIANA AUTHORIZED DEALER(S)

Proposed item(s) must be from a manufacturer who has at least one (1) authorized dealer **within the State of Louisiana** where parts and service can be obtained. Authorized dealer(s) must have properly trained technicians plus all other resources necessary to perform warranty and repair services in complete accordance with the manufacturer's requirements. A letter certifying the ability to meet this requirement, inclusive of the company name(s) and address(es) of the Louisiana authorized dealer(s), should be supplied with the bid submittal and may be required prior to award.

DELIVERY & ACCEPTANCE

Vendor shall perform a test run of each unit to verify that all features and capabilities are operating properly at time of delivery. Documentation of testing may be required prior to acceptance by the Department.

Unit(s) must be delivered completely assembled (including all components, accessories, etc.) and ready for operation without any additional preparation including, but not limited to, ensuring all fluid levels are at their full mark, fuel tank(s) is full, all necessary lubrication has been performed, etc. A Louisiana safety inspection shall be performed on each vehicle prior to delivery and a Louisiana safety inspection sticker properly affixed.

Any unit delivered under this specification is subject to rejection if there is evidence of poor workmanship, by either the vendor or the original manufacturer. Noted defects and/or nonconformance findings may be corrected by the vendor. Corrections must be completed and approved by the Equipment Engineer or his representative prior to final acceptance.

Unit(s) shall be delivered "**on the ground**;" DOTD will not unload nor provide any unloading equipment to the vendor/delivery driver in order to offload the unit(s).

NOTE: The Department will have space available for equipment to be unloaded.

EACH UNIT MUST BE SUPPLIED WITH THE FOLLOWING DOCUMENTATION AT TIME OF DELIVERY:

1. Notarized Bill of Sale
2. Original Certificate of Origin (MSO), (no photocopy)
3. Dealer's Service Policy
4. Owner's/Operator's Manual(s)
    a. One (1) Hardcopy
    b. One (1) Digital Copy
        i. Acceptable Formats: PDF delivered via USB "Flash Drive", or E-mail
5. Service Manual(s)
    a. One (1) Hardcopy
    b. One (1) Digital Copy
        i. Acceptable Formats: PDF delivered via USB "Flash Drive", or E-mail
6. Build Sheet(s) – as applicable
    a. One (1) Hardcopy
    b. Build sheets should be writing in plain language (not company specific codes) and include, at a minimum, all standard & optional features of the delivered unit.

NOTE: Invoices will not be processed for payment until the unit(s) have been inspected by the Equipment Engineer or their representative and deemed in compliance with the specifications.

BID SUBMITTALS

Any additions, deletions, or variations from the specifications should be noted in the "Bidder's Exceptions" page of this specification. Exceptions that are noted to be less than a minimum requirement will not be accepted.

Any additions, deletions or variations from the manufacturer's standard published specifications should be noted on the "Bidder's Exceptions" page of this specification. Unless otherwise noted, any items appearing in the manufacturer's standard published specifications furnished by the Bidder are assumed to be included in the Bidder's submittal.

Bidder should note on their submittal any installation(s) to the equipment that will be performed by the vendor instead of the manufacturer.

Failure to note any specification exceptions, manufacturer specification alterations, and/or vendor installations prior to award may result in rejection of the equipment at the time of delivery.

THE NUMBER OF DELIVERY DAYS AFTER RECEIPT OF ORDER (ARO) MAY BE USED AS A FACTOR IN THE AWARD.

EQUIPMENT SPECIFICATIONS

NOTICE TO BIDDERS

Bidder should review the detailed "Equipment Specification" completely and respond to the compliance question at the end of each section by marking "X", in the space provided, for "Yes" or "No". Mark "Yes" to indicate that the equipment bid meets the section exactly as specified. Mark "No" if there are exceptions to any part of that section. Exceptions/deviations to any part of the specification are to be detailed on the "Bidder's Exceptions" page of this specification.

IN ORDER TO BE CONSIDERED FOR AWARD, BIDDER SHOULD RETURN THIS SPECIFICATION, COMPLETED IN FULL, WITH THEIR BID SUBMITTAL.

Note: All values listed below are minimums unless noted otherwise.

1. Cab & Chassis

1.1. GVWR: 35,000 lbs.

Comply: ____Yes ____No

1.2. Frame: 1,810,000 RBM (Resisting Bending Moment) - Bidder should list section modulus and yield strength below

Section Modulus: _____ Yield Strength: _____

Comply: ____Yes ____No

1.3. Cab & Axle Positions

1.3.1. Front axle: For the purposes of this solicitation, set-forward-axle (SFA) is considered equal to set-back-axle (SBA); however, SBA is the preferred option

1.3.2. Cab to Axle (CA): 113"clear*

1.3.3. Center of rear axle to end of frame (AF): 36"*

*Values given here are minimums. The space between cab and sweeper/vacuum unit shall not exceed 10 inches. Truck vendor and sweeper/vacuum manufacturer and/or upfitter shall coordinate in selecting a cab to axle dimension that is compatible with the required body length and ensures proper load distribution to the front and rear axles in accordance with manufacturer specifications and industry practice. The required AF must be achieved with factory frame rails. Frame extensions to meet the required AF are not allowed. The AF must be sufficient to allow support of the full length of the body.

Comply: ____Yes ____No

1.4. Front Bumper

1.4.1. Full width all-steel front bumper

1.4.2. Two (2) frame mounted tow hooks, one on each frame rail

Comply: ____Yes ____No

EQUIPMENT SPECIFICATIONS

1.5. Cab
- **1.5.1.** Conventional day cab
- **1.5.2.** Tinted safety glass
- **1.5.3.** Full width exterior cab mounted sun shade with integral clearance lights
- **1.5.4.** Cab entry handles, driver & passenger side
- **1.5.5.** Outside mirrors, driver & passenger side
  - **1.5.5.1.** Power adjustable
  - **1.5.5.2.** 90 sq. in. minimum
  - **1.5.5.3.** Heated
  - **1.5.5.4.** Two (2) adjustable spot mirrors, one (1) per outside mirror
- **1.5.6.** Two (2) roof mounted air horns & one (1) standard electric horn
- **1.5.7.** Air ride driver and passenger seat
- **1.5.8.** Cab suspension
- **1.5.9.** Manufacturer's highest level sound insulation package
- **1.5.10.** Gauge package including the following gauges:
  - **1.5.10.1.** Air cleaner restriction
  - **1.5.10.2.** Coolant temperature
  - **1.5.10.3.** DEF
  - **1.5.10.4.** Fuel
  - **1.5.10.5.** Oil pressure
  - **1.5.10.6.** Primary and secondary air pressure
  - **1.5.10.7.** Speedometer
  - **1.5.10.8.** Tachometer
  - **1.5.10.9.** Voltmeter
  - **1.5.10.10.** Gear indicator
  - **1.5.10.11.** Odometer
  - **1.5.10.12.** Total engine hours
  - **1.5.10.13.** Trip hours
  - **1.5.10.14.** Trip odometer
  - **1.5.10.15.** Auto transmission oil temperature
  - **1.5.10.16.** Engine oil temperature
- **1.5.11.** Dual sun visors
- **1.5.12.** Two (2) cup holders, integral to dash
- **1.5.13.** 3-point seat belt for each seat. All seat belt webbing must be manufacturer's high visibility color (Orange, Red, Green, or Yellow).
- **1.5.14.** Climate control, including air conditioning, heater, & defroster
- **1.5.15.** Power windows & power door locks
- **1.5.16.** Tilting and telescoping steering wheel

Comply: ____Yes ____No

EQUIPMENT SPECIFICATIONS

1.6. Engine
- **1.6.1.** 7.7 L, electronic diesel, turbocharged, liquid cooled, 6-cylinder inline configuration
- **1.6.2.** 300 HP, 860 FT-LBS
- **1.6.3.** Engine must include turbo exhaust brake
- **1.6.4.** Emission system must include DEF
  - **1.6.4.1.** DEF tank to be located on driver's side next to fuel tank
  - **1.6.4.2.** DEF tank must have a minimum capacity of 6 gallons
- **1.6.5.** Engine must be biodiesel compatible
- **1.6.6.** Horizontal exhaust after-treatment (DPF) with vertical tail pipe

Comply: ____Yes ____No

1.7. Fuel System
- **1.7.1.** Fuel tank shall be metal with drain and a 50-gallon minimum capacity; tank should be located on driver's side
- **1.7.2.** Davco fuel processor or equal - mounted to outside of frame
- **1.7.3.** Visual element change indication that is integral to and non-removable from unit (to be located on driver's side near fuel tank)
- **1.7.4.** Water-in-fuel sensor with indicator in cab
- **1.7.5.** Entire fuel system must be biodiesel compatible

Comply: ____Yes ____No

1.8. Transmission & Speed Governing
- **1.8.1.** Automatic, Allison 3500 RDS or equal
- **1.8.2.** Must include PTO aperture
- **1.8.3.** Auxiliary transfer case with hydrostatic drive for speed control in sweep mode.
- **1.8.4.** To be filled with manufacturer approved synthetic lubricants
- **1.8.5.** Top gear road speed shall be electronically governed at 75 mph maximum
- **1.8.6.** Cruise control speed shall be governed at 72 mph maximum

Comply: ____Yes ____No

1.9. Front Axle
- **1.9.1.** 12,000 lbs. GAWR @ ground capacity (6,000 lbs. capacity per spring @ ground)
- **1.9.2.** Shock absorbers
- **1.9.3.** Integral power steering; left hand steer only
- **1.9.4.** Wet-type, visible cap axle seals, Stemco or equal
- **1.9.5.** Axle should be filled with manufacturer approved synthetic lubricants

Comply: ____Yes ____No

1.10. Rear Axle
- **1.10.1.** Single speed, 23,000 lbs. GAWR @ ground capacity
- **1.10.2.** 6.14:1 ratio

EQUIPMENT SPECIFICATIONS

1.10.3. Multi-leaf spring suspension
1.10.4. Shock absorbers
1.10.5. Axle should be filled with manufacturer approved synthetic lubricants

1.11. Brakes
1.11.1. Full air brakes, ABS brake system with traction control
1.11.2. Automatic slack adjusters & moisture ejectors
1.11.3. 18 CFM air compressor
1.11.4. Bendix AD-9 air dryer or equal

Comply: ____Yes ____No

1.12. Wheels & Tires
1.12.1. Hub piloted steel disc, size - 8.25 X 22.5
1.12.2. First line, first quality tires, size – 11R22.5
1.12.3. Front tires - single highway tread
1.12.4. Rear tires - dual on/off road tread
1.12.5. Load ratings to be compatible with GVWR
1.12.6. Spare tire, jack, & lug wrench are NOT required

Comply: ____Yes ____No

1.13. Electrical System & Lights
1.13.1. 12-volt system
1.13.2. 180-amp brushless alternator
1.13.3. Batteries with 2200 CCA combined
1.13.4. Aluminum battery box
1.13.5. Remote jump start studs, with tethered protective caps, located outside of the battery box
1.13.6. Battery disconnect switch, located inside cab, near driver's seat, similar to the below picture.

1.13.7. Six (6) dash mounted, rocker-style, factory installed, body circuit switches (upfitter switches) for simple on/off functions for accessories (PTO, warning lights, etc.); one (1) assigned to operate the flashing beacon lights; one (1) assigned to operate the broom work lights; three (4) blank to be assigned for future functions by DOTD personnel.
1.13.8. All exterior lighting, should be LED
1.13.9. Headlights:
1.13.9.1. Automatic daytime running lights

EQUIPMENT SPECIFICATIONS

1.13.9.2. Automatic on if windshield wipers are turned on
1.13.9.3. Automatic on with low ambient light levels
1.13.9.4. Warning buzzer/alarm when headlight switch is on and ignition switch is in off position
1.13.10. Cruise control
1.13.11. Intermittent windshield wipers with washers
1.13.12. Self-cancelling directional signals
1.13.13. Backup alarm, 97 dba
1.13.14. AM/FM radio with auxiliary front input, Bluetooth/hands free function and steering wheel controls
1.13.15. Two (2) 12V accessory power outlets with covers, mounted in dash (for cell phone chargers, GPS devices, etc.)

Comply: ____Yes ____No

1.14. Paint
1.14.1. Cab: Manufacturer's standard, white
1.14.2. Chassis: Manufacturer's standard, black

Comply: ____Yes ____No

1.15. FMCSA/DOT Mandated Safety Items
1.15.1. One (1) UL listed, 5 B:C rated, or higher, fire extinguisher securely mounted in cab
1.15.2. One (1) set of three (3) bidirectional reflective triangles conforming to FMVSS No. 125
1.15.3. At least one (1) spare fuse for each type/size used in the truck

Comply: ____Yes ____No

Note: The truck vendor and attached equipment manufacturer/vendor must mutually resolve any unexpected truck/attached equipment component conflict with a sound and functional solution as a requirement of this specification.

2. Attached Equipment – Sweeper/Vacuum

2.1. General
2.1.1. Warranty
2.1.1.1. Debris hopper to have non-prorated lifetime warranty
2.1.1.2. Remaining sweeper equipment to have two-year warranty.
2.1.2. Training
2.1.2.1. Vendor must provide two days of training, both classroom and field combined, by factory-authorized instructor(s) in the operation and maintenance of the unit. Mutually agreeable location and schedule will be determined at a later date.

Comply: ____Yes ____No

2.2. Gutter Broom System
2.2.1. 28" diameter, one piece, steel tine construction

EQUIPMENT SPECIFICATIONS

2.2.2. Direct hydraulic drive, variable 0-140 rpm speed control
2.2.3. Capable of operating independently from all other sweeper functions
2.2.4. Variable Control
  2.2.4.1. Tilt: 0-18 degrees tilt
  2.2.4.2. Lateral position: 0”-12”
  2.2.4.3. Adjustable down pressure
2.2.5. Pneumatic raise/lower
2.2.6. Transport lock
2.2.7. Free-floating trailing arm configuration
2.2.8. Adjustable kick-back feature to avoid damage
2.2.9. Water jets
2.2.10. All gutter broom components must be unhanded
2.2.11. All control functions must be accessible from within truck cab

Comply: ____Yes ____No

2.3. Sweeper Broom
2.3.1. Polypropylene under body with hood
2.3.2. 16” diameter and 50” long
2.3.3. Towed rather than pushed
2.3.4. Hydraulically driven at a constant speed
2.3.5. Adjustable pressure and flotation system
2.3.6. Water jets
2.3.7. Easy-change design
2.3.8. Capable of operating independently from all other sweeper functions
2.3.9. Road crown compensation pivot with remote greasing feature
2.3.10. All control functions must be accessible from within truck cab

Comply: ____Yes ____No

2.4. Hopper
2.4.1. Capacity: 10 cu. yds.
2.4.2. Fabricated completely from high-chrome stainless steel
2.4.3. All seam welds shall be continuous
2.4.4. Non-prorated lifetime warranty (excluding inlet wear plates and exhaust screens)
2.4.5. Full-width rear door
  2.4.5.1. Hydraulically-operated
  2.4.5.2. Top-hinged
  2.4.5.3. Fully sealed
  2.4.5.4. Discharge chute and side splash guards
  2.4.5.5. Door opening angle: 125 degrees
  2.4.5.6. Drain ports in rear door
2.4.6. Adequate safety interlocks and warning lights
2.4.7. Hopper discharge angle: 55 degrees
  2.4.7.1. Actuated by a double-acting hydraulic cylinder with counterbalance valve

EQUIPMENT SPECIFICATIONS

2.4.8. Rotatable intake tubes made of abrasion-resistant construction with bolt in seals and rubberized coating
2.4.9. Access doors for easy inspection and maintenance
2.4.10. Full-width high-chrome stainless steel mesh filter screens with easy-remove-at-ground feature
2.4.11. Hopper vibrator to facilitate debris removal

Comply: ____Yes ____No

2.5. Suction Nozzles
2.5.1. Alloy construction and rubber lined for abrasion resistance
2.5.2. Internal water jets for dust suppression
2.5.3. Left and right nozzle components to be identical (unhanded)
2.5.4. Mounted to wheeled carriages
2.5.5. Capable of being operated separately or simultaneously as well as independently from other sweeping functions
2.5.6. All control functions must be accessible from within truck cab

Comply: ____Yes ____No

2.6. Vacuum Fan
2.6.1. Single stage centrifugal type
2.6.2. Direct drive
2.6.3. Dynamically balanced
2.6.4. Capable of producing 68” of negative water column at the suction nozzles
2.6.5. Hardened stainless steel vanes
2.6.6. Inspection port in housing
2.6.7. Driven by a hydraulic motor through a step-up gearbox and a fluid coupling.

Comply: ____Yes ____No

2.7. Intake System
2.7.1. 10” ID with straight intake tubes into the debris hopper
2.7.2. Operating at an air speed approaching 300 mph
2.7.3. Easily cleaned from ground level
2.7.4. Exhaust should be rearward over full width of sweeper body through a sound suppressed roof tunnel vent.

Comply: ____Yes ____No

2.8. Water System
2.8.1. Tank capacity: 530 gallons
2.8.1.1. Stainless steel construction and integral with debris hopper
2.8.1.2. Closeable interconnection port between water tank and debris hopper
2.8.1.2.1. Capable of functioning as a water tanker or flusher with 2,000 gallons of water capacity
2.8.2. Low pressure dust suppression section with all necessary components for proper operation
2.8.3. High pressure street-flusher section with all necessary components for proper operation

EQUIPMENT SPECIFICATIONS

2.8.4. Drain and flush ports for complete system freeze protection
2.8.5. 25’ hydrant hose and storage compartment complete with quick coupling and wrench.

Comply: ____Yes ____No

2.9. Hydraulic System
2.9.1. Single variable displacement piston-type pump with load sensing capability to power all sweeper hydraulic requirements
2.9.2. Adequate cooling capacity for the intended design and operational conditions
2.9.3. Reservoir capacity: 18 gallons (min.)
2.9.4. Filters
2.9.4.1. 40-micron breather filter
2.9.4.2. 125-micron suction filter
2.9.4.3. 25-micron return line filter with in-cab restriction indicator
2.9.5. All hydraulic valves fitted with LED indicator lights and manual overrides
2.9.6. All necessary components to perform every hydraulic function required by overall sweeper design.

Comply: ____Yes ____No

2.10. Pneumatic System
2.10.1. Air provided by truck chassis air system with isolation protection
2.10.2. Common repair parts for air cylinders
2.10.3. Color-coded lines with push-lock connections
2.10.4. Automatic air dryer
2.10.5. Cold-weather water purge system with control switch in truck cab.

Comply: ____Yes ____No

2.11. Electrical System
2.11.1. Sweeper electrical system shall be integral to chassis electrical system via builder plug
2.11.2. Color coded wiring harnesses
2.11.3. Must include breaker or fuse protection
2.11.4. LED work lights to illuminate gutter brooms while in operation
2.11.5. Rear clearance lights

Comply: ____Yes ____No

2.12. Additional Features & Accessories
2.12.1. All controlling elements for the sweeper’s systems shall be centrally housed in a single easily accessible locker that is sealed and weatherproof.
2.12.2. Rear-mounted arrowboard (must meet MUTCD type C requirements), 30” X 60”, Wanco Model WB or approved equal, with 25 PAR 36 LED lamps, in-cab controller.

Comply: ____Yes ____No

EQUIPMENT SPECIFICATIONS

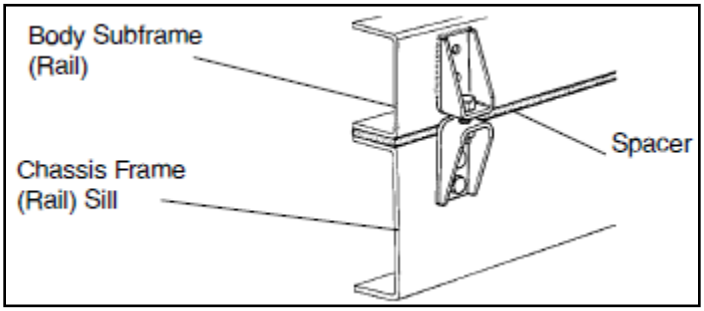
2.13. Body Installation

2.13.1. A rubber or plastic (nylon or Delrin) sill spacer shall be used between the frame & body sills; WOOD SPACERS ARE NOT ALLOWED

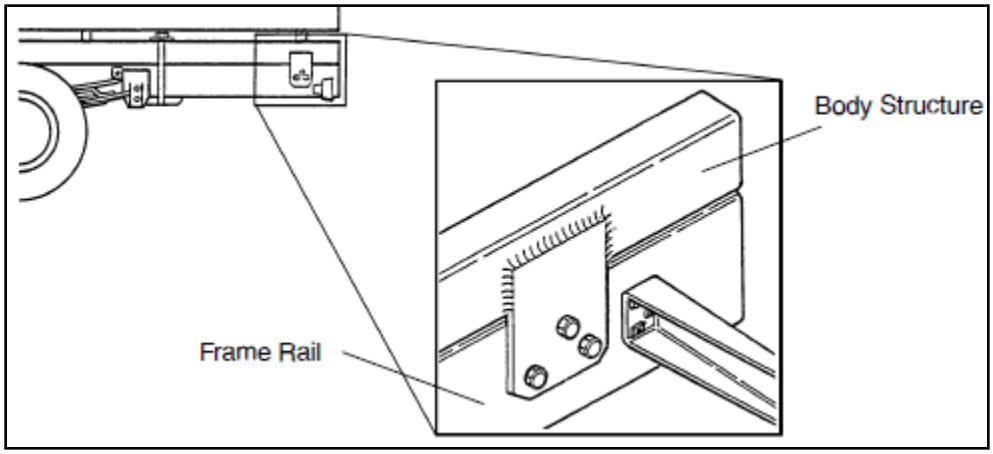
2.13.2. Body should be bolted to frame using brackets or fishplates. U-BOLTS ARE NOT ALLOWED

2.13.2.1. Upfitter should utilize chassis manufacturer's guidance for body mounting methods

2.13.3. Brackets



2.13.4. Fishplate - to be bolted to chassis frame, utilizing existing holes where possible, and bolted or welded to body sub-frame/sill.



Comply: ____Yes ____No

2.14. Paint

2.14.1. All visible exterior metallic surfaces should be aluminum oxide blasted prior to application of a corrosion resistant primer 2.5 mils DFT.

2.14.2. The topcoat should be gloss white two-part epoxy 2.5 mils DFT.

2.14.3. Primer and topcoat must be compatible.

2.14.4. All underslung sweep gear and bracketry are to be hot washed, zinc phosphate, and powder coated dark gray.

Comply: ____Yes ____No

BIDDER'S EXCEPTIONS

Instructions: Bidder should note all exceptions in space provided below. List the detail number from the aforementioned specification in the column to the left and the exception in the column to the right. Responses may be typed or hand-written. Handwritten responses must be legible. If additional space is needed, please print a duplicate copy of this sheet. "Bidder's Exceptions" page(s) should be returned with the bid submittal.

Examples:

1.6	Engine has 325 horsepower
1.18.3	Batteries have 2000 CCA combined.
2.2.8	Crossmembers are 4" channel on 12" centers.

Spec./Detail Reference	**Exception**