

CPA – Statewide Procurement

Revised March 2022

SWEEPER, STREET, REGENERATIVE AIR, TWO ENGINE, TRUCK MOUNTED

PART I

GENERAL INFORMATION, REQUIREMENTS, AND CONDITIONS

1. The equipment furnished under this specification shall be the latest improved model in current production, as offered to commercial trade, and shall be of quality workmanship and material. The Contractor represents that all equipment offered under this specification shall be new. USED, SHOPWORN, DEMONSTRATOR, PROTOTYPE, REMANUFACTURED, RECONDITIONED, OR DISCONTINUED MODELS ARE NOT ACCEPTABLE.
2. All parts not specifically mentioned which are necessary for the unit to be complete and ready for operation or which are normally furnished as standard equipment shall be furnished by the Contractor. All parts shall conform in strength, quality and workmanship to the accepted standards of the industry.
3. The unit provided shall meet or exceed all Federal and state of Texas safety, health, lighting and noise regulations and standards in effect and applicable to equipment furnished at the time of manufacture.
4. It is the intent of CPA to purchase goods, equipment and services having the least adverse environmental impact, within the constraints of statutory purchasing requirements, agency need, availability, and sound economic considerations. Suggested changes and environmental enhancements for possible inclusion in future revisions of this specification are encouraged.
5. Any example shown is listed to show type and class of equipment desired. Contractor is cautioned to read the specification carefully, as there may be special requirements not commonly offered by the equipment manufacturer. DO NOT ASSUME STANDARD EQUIPMENT MEETS ALL OF THE DETAILED SPECIFICATION REQUIREMENTS MERELY BECAUSE IT IS LISTED AS AN EXAMPLE. Contractors are cautioned that any unit that does not meet specifications in every aspect will not be accepted.

PART II

SPECIFICATIONS

1. SCOPE: This specification describes a truck mounted, two-engine, regenerative air street sweeper with a self-contained hopper and hopper dump system. At time of delivery the unit shall be rated at the latest Tier rating required by the federal government. The unit shall clean a minimum width of 142 inches wide using the gutter brooms furnished. The unit shall provide sweeping speeds from four mph to six mph. The unit shall be capable of traveling at highway speeds up to 65 mph with a fully loaded hopper without experiencing failure or permanent deformity in the truck frame or any component of the unit. The gross vehicle weight rating (GVWR) of the unit shall not be exceeded when the unit has fuel and water tanks half full, a 200-pound operator, and hopper filled to the operating load capacity. A unit furnished to this specification shall meet or exceed all requirements.

EXAMPLES: Tymco 600
 Elgin Crosswind J Plus
 Schwarze A7
 or CPA approved equal.

NOTE: A unit furnished to this specification shall meet the current Environmental Protection Agency (EPA) emissions off-road standards for diesel engines as defined by 40 CFR Part 89. Engines certified under the Family Emission Limit (FEL) are not acceptable. A copy of the EPA compliance certificate for each model shall be provided to Customer upon request.

2. LIQUID-COOLED DIESEL ENGINE AND ACCESSORIES: Unit shall be equipped with:

- 2.1. Minimum 200 net HP at governed RPM. _____ hp
- 2.2. Maximum torque of 520-foot pound at governed RPM. _____ ft-lb
- 2.3. Minimum six cylinders.
- 2.4. A 12V electrical system consisting of a starter and heavy-duty alternator which shall be highest rated available from the manufacture. The alternator shall be capable of fully powering all electrical components simultaneously, including accessories, while they operate under maximum load.
- 2.5. Battery: Sealed, spill-proof (no free electrolyte) maintenance-free type battery with spiral wound cells and a sufficient cold cranking amperes (CCA) total battery rating to reliably start the unit in zero-degree Fahrenheit weather. Shall be covered by minimum 12-month full replacement warranty and minimum 36 month prorated warranty. Replacement battery shall be furnished by vendor during 12-month initial warranty period at no cost (including shipping or environmental fees) to Customer.

EXAMPLE: Optima YellowTop
 or approved equal

- 2.6. Ignition switch keyed type, or a password protected push button ignition system with safety device to prevent engine starting when transmission is in gear.
- 2.7. Manufacturer's standard two-stage fuel filtration system. Filter stages may consist of a primary and a secondary filter, or a two-stage filter in a common housing.
- 2.8. Minimum of one drain provided in the system to prevent water damage to the

fuel injection system. All items shall be factory approved and factory installed.

- 2.9. Full-flow oil filtration system with replaceable filter and provision for bypassing oil to the engine as the filter becomes clogged
- 2.10. Dry type air cleaner system, including a primary element, a safetyelement, and a restriction (service) indicator. Indicator shall be inside cab and easily visible from the operator's station.

EXAMPLES: Donaldson "S" Series
 Donaldson The Informer type service indicator
 or CPA approved equal.

NOTE: The Informer type service indicator depicts the percentage of airflow restriction.

- 2.11. Cooling system with extended life antifreeze protection to -30° F or lower.
- 2.12. Automatic or viscous fan clutch.
- 2.13. Glow plugs, preheater, block heater, or equivalent starting aid, excluding ether.
- 2.14. Manufacturer's standard fuel tank, minimum 50-gallon draw capacity.

3. TRUCK CAB AND CHASSIS: The truck shall be a latest model cab and chassis meeting or exceeding the following minimum requirements and be equipped as follows.

- 3.1. Gross Vehicle Weight Rating: Minimum 31,000 pounds.

NOTE: Gross axle and vehicle weight ratings shall be as recommended by the sweeper manufacturer; however, the minimum weight ratings specified above shall be met.

- 3.2. Non-skid access steps and grab handles. Cable steps are not acceptable. Grab handles and steps shall be positioned so the operator, when exiting and entering, always maintains three-points of contact with the unit.
- 3.3. Left and right operator seats, cushioned, adjustable type, air suspension or equal, with high back and integral headrest, lumbar support, cloth inserts, and seat belt meeting the current SAE J386 standard.
- 3.4. All sweeper controls mounted in the cab and located to be operated from either the right or left operator station. If one location cannot satisfy this requirement, dual sweeper controls shall be provided.
- 3.5. Doors with power windows and power locks.
- 3.6. All glass shall be shatterproof, tinted, automotive type.
- 3.7. Windshield washers and two-speed or variable-speed electric windshield wipers in front of each operator station.
- 3.8. Sun visors at each operator station.

- 3.9. Heated left and right, minimum 8 inch, outside rear-view mirrors to be electrically remote controlled from the operator station. The lower portion of the exterior mirrors shall have the convex split focus feature. Separate convex (parabolic) mirrors shall be fender or mirror mounted to allow the operator to see the gutter brooms.

EXAMPLES: Lang Mekra
 Left – 594000525
 Right – 594000526
 or CPA approved equal

- 3.10. Integral fresh-air heater and defroster.
- 3.11. Instrument panel and interior cab lighting.
- 3.12. Electric horn.
- 3.13. Front bumper.
- 3.14. Wheelbase and cab-to-axle dimensions as recommended by sweeper manufacturer for optimum weight distribution and maneuverability of unit.
- 3.15. Factory-installed air conditioning (dealer-installed system is not acceptable) with a minimum BTU rating of 18,400 and providing a minimum 250 CFM air flow. System shall include all necessary components and controls for the system to be complete and ready for operation. System shall use R134A Freon or latest technology only. System shall comply with the performance requirements and design guidelines of the current SAE J169 and SAE J1503 standards.
- 3.15.1. The components positioned in such a manner as to not hamper the operator when entering or leaving the enclosure, or while operating the equipment. Air intake location shall insure exhaust gas will not be drawn into the operator enclosure.
- 3.15.2. The thermostat controls located on the control console within easy reach of the operator.
- 3.16. Camera System - Aftermarket camera system including a minimum 7" inch color monitor mounted in the cab with a minimum 3 cameras. One camera with infrared capability shall be located at rear of hopper and automatically activated when chassis is put in reverse gear, one camera on pickup head, right side view, and one camera on the right gutter broom.

EXAMPLES: Zone Defense Model ZD.323.1.CH
 or CPA approved equal.

4. INSTRUMENTATION: The unit shall be equipped with, but not limited to, the following gauges, indicators and alarms. Wherever gauges are specified, indicator lights are not acceptable. If an electronic monitoring system is furnished which monitors the following minimum conditions, it is acceptable. All instrumentation shall be located inside cab and be easily visible to the operator and labeled in English or show a universally recognized symbol for each specific gauge, indicator, or alarm function. Units equipped with instrumentation gauges shall have non-glare illumination for nighttime visibility.
- 4.1. Speedometer.
- 4.2. Odometer.
- 4.3. Engine coolant temperature gauge.
- 4.4. Engine oil pressure gauge.

- 4.5. Transmission oil temperature gauge.
- 4.6. Air pressure gauge.
- 4.7. Ammeter or voltmeter.
- 4.8. Hourmeter, either of the following types are acceptable
 - 4.8.1. OEM, integrated into an electronic instrument display system.
 - 4.8.2. Aftermarket, electric quartz, shock proof, totally sealed case, with readout up to 9,999.9 hours. Three screw or flush mount to accommodate equipment system voltage range between 10-80V.
EXAMPLES: Hobbs Model 85001-02
or CPA approved equal
- 4.9. Equipped with audible alarm(s) and warning lights for:
 - 4.9.1. High engine coolant temperature.
 - 4.9.2. Low engine oil pressure conditions.
 - 4.9.3. Low engine coolant level.
- 5. STEERING: Unit shall be equipped with:
 - 5.1. Full hydraulic power steering.
 - 5.2. Dual steering controls which allow steering from either side of cab.
 - 5.3. Outside turning radius, maximum 25 feet.
- 6. DRIVE TRAIN: Unit shall be equipped with:
 - 6.1. An automatic transmission providing a minimum of five forward speeds and one reverse. Travel speeds shall be a minimum of 65 mph and sweeping speed shall be from 4 mph to 6 mph.
EXAMPLES: Allison 2500RDS series
or CPA approved equal
 - 6.2. Transmission cooling system shall provide a minimum 70 percent cooling efficiency in sweeper applications. Vendor shall provide documentation of cooling efficiency upon request. If required cooling is not provided in vehicle configuration, a frame mounted, oil-to-coolant (shell and tube) type transmission oil cooler shall be installed. Cooler lines and fittings shall be the part number specified by, and installed as recommended by, the transmission manufacturer. All cooler fittings and line diameters shall be not less than the transmission fitting diameters.
 - 6.3. Magnetic drain plugs or insert in transmission and rear axle housing.
- 7. WHEELS, TIRES AND SPRINGS: Unit shall be equipped as follows:
 - 7.1. With tubeless steel-belted radial tires as recommended by the manufacturer to transport the sweeper when fully loaded.
 - 7.2. Tires mounted on demountable-type steel disc wheels running on anti-friction bearings.
 - 7.3. The total combined load rating of the tires and wheels shall exceed the GVWR of the unit. Load ratings shall be determined by reference to the current yearbook of the Tire and Rim Association, Inc., or the tire manufacturer's published load rating. Tire ratings shall be calculated at 70 mph.

- 7.4. Tires and springs of sufficient size and strength to prevent unit from leaning to the side under any load condition (empty or fully loaded) as viewed from the rear of the sweeper.
8. BRAKES: Unit shall be equipped with straight air brakes with:
- 8.1. Minimum 13.2 CFM air compressor.
 - 8.2. Standard reservoir.
 - 8.3. Warning indicator in cab to indicate low air pressure below 60 psi.
 - 8.4. Spring set type parking brake.
 - 8.5. Air brake system with air dryer and/or moisture evaporator and automatic moisture ejector.
 - 8.6. Automatic braking in the event of loss of air pressure, to meet Federal Motor Vehicle Safety Standard FMVSS-121.
 - 8.7. Automatic slack adjusters.
 - 8.8. Front brake dust shields.
9. HYDRAULIC SYSTEM: The hydraulic systems shall be of size, type and capacity to perform all required operations and be sealed against contaminants and any necessary air vents shall be filtered. System and controls shall have the following as a minimum:
- 9.1. A means to maintain hydraulic oil at satisfactory operating temperatures up to at least 110° F ambient temperature during continuous heavy operations.
 - 9.1.1. Hydraulic reservoir sight level gauge.
 - 9.1.2. Hydraulic reservoir oil temperature gauge.
 - 9.2. Overload bypass valve(s).
 - 9.3. Hydraulic oil filter(s), replaceable type, minimum 10-micron or finer rated filter.
 - 9.4. All hydraulic lines and hoses that are routed adjacent to the exhaust system (including auxiliary engine) shall be properly protected and shielded to prevent a fire hazard due to possible line or hose rupture.
10. AUXILIARY ENGINE: The sweeper shall be equipped with a liquid- cooled diesel, auxiliary engine having four or more cylinders, a governed RPM with a minimum of 99 HP, shared source is acceptable in achieving this rating, meeting the current SAE J1349 standard. The unit shall meet or exceed Tier 4 Final EPA emission standards and shall supply power to drive the blower assembly and other related sweeper accessories.
- 10.1. The noise level in the truck cab, with the windows up, may not exceed 80 decibels under normal operating conditions. Testing shall be performed in accordance with the current SAE J88 and SAE J919.
 - 10.2. A 12V electrical system consisting of a starter and heavy-duty alternator. The alternator shall be capable of fully powering all electrical components simultaneously, including accessories, while they operate under maximum load.
 - 10.3. Battery: Shall meet the standards of Para. 2.5.
 - 10.4. Full-flow type oil filtration system with replaceable filter and provisions for bypassing oil to the engine as the filter becomes clogged.
 - 10.5. Dry type air cleaner system, including a primary element, a safety element, and a restriction (service) indicator. Indicator shall be easily visible from the

operator's station.

EXAMPLES: Donaldson "S" Series
Donaldson Powercore Air Cleaner

Donaldson The Informer type service indicator
or CPA approved equal.

NOTE: The Informer type service indicator depicts the percentage of airflow restriction.

10.6. All auxiliary engine controls and instruments shall be installed in the cab and convenient to each operator station to include but not limited to gauges for oil pressure, fuel quantity and engine coolant temperature.

10.7. Hourmeter, either of the following types are acceptable.

10.7.1. OEM, integrated into an electronic instrument display system.

10.7.2. Aftermarket, electric quartz, shock proof, totally sealed case, with readout up to 9,999.9 hours. Three screw or flush mount to accommodate equipment system voltage range between 10-80V.

EXAMPLES: Hobbs Model 85001-02
or CPA approved equal

10.8. A minimum 3-point safety shut-down system provided to automatically shut down the engine in the event of high engine coolant temperature, low engine oil pressure, or low coolant level.

10.9. Diesel fuel tank capacity sufficient for a minimum of eight hours continuous operation.

10.10. Vertical or horizontal muffler and exhaust pipe of sufficient length provided to discharge fumes away from the operator. Vertical exhaust pipe shall be 90 degree angled at the top or have a heavy drain cap to prevent rain from directly entering the exhaust system.

10.11. Glow plugs, preheater, engine block heater, or equivalent starting aid, excluding ether.

11. PROTECTION PACKAGE: Sweeper constructed of aluminum and standard steel materials shall be equipped with the manufacturer's Abrasion Protection Package. Sweeper constructed of abrasion-resistant steel are acceptable in meeting this requirement if manufacturer certifies through a mill test report (MTR) from the steel supplier that the unit is made of abrasion resistant steel.

12. BLOWER: An aluminum or steel turbine-type blower shall be used to create air pressure and suction. Turbine to be coated with a rubber, polyurethane, neoprene wear-resistant coating, or be manufactured from abrasion-resistant steel.

12.1. Blower shall have a minimum capacity of 10,000 CFM.

12.2. Blower shall be mounted on anti-friction, sealed bearings, or furnished with auto lube grease fittings.

12.3. Blower housing shall be lined with replaceable rubber, a replaceable polyurethane wear-resistant liner, or be manufactured from abrasion-resistant steel.

13. PICKUP HEAD: A spring-balanced pickup head providing a minimum 87-inch-wide sweeping width shall be provided. Pickup head shall be:

13.1. Provided with flexible air inlet and outlet tubes, minimum 12.5 inches in

diameter to connect pickup head to hopper and blower.

- 13.2. Provided with integral side-mounted alloy steel and carbide runners with carbide inserts and have multiple belting type curtains in front and rear.
- 13.3. Raised and lowered hydraulically with in-cab controls.
- 14. REFUSE SEPARATOR: Separation of dirt and refuse from the air stream shall be accomplished within the hopper by a centrifugal or S-type dust separator.
 - 14.1. Separator designed to prevent it from becoming clogged with normally encountered dirt and trash.
 - 14.2. Separator lined with a replaceable liner or manufactured from abrasion-resistant steel.
 - 14.3. Clean-out door provided to allow inspection of the interior of the dust separator.
- 15. HOPPER: Refuse storage hopper shall have volumetric capacity of a minimum 7.3 cubic yards. Hopper shall:
 - 15.1. Be all steel welded construction, minimum 10-gauge steel.
 - 15.2. Be fillable to the operating load capacity without exceeding GVWR of sweeper.
 - 15.3. Dump by means of a hydraulically actuated dump gate and raker bar or elevating type dump system. Dump control shall be in cab and on either the side or rear of sweeper.
 - 15.4. Be furnished with mechanical locks to maintain hopper in raised position for servicing.
 - 15.5. Be furnished with a means, mechanical or hydraulic, to hold hopper door tightly closed during sweeping and transport operations.
 - 15.6. Include inspection doors on side or rear of the hopper.
- 16. GUTTER BROOMS: The unit shall be provided with a gutter broom on each side, and overall sweeping width shall be a minimum of 142 inches. Gutter brooms shall:
 - 16.1. Be vertical digger type, a minimum of 42 inches in diameter, and adjustable for pressure, wear, and gutter angle.
 - 16.2. Be hydraulically operated.
 - 16.3. Be raised and lowered hydraulically.
 - 16.4. Provide down pressure which is automatically regulated by an adjustable torque-sensing sequence valve, or springs or pneumatics.
 - 16.5. Have controls located in the vehicle cab.
 - 16.6. Operate at a minimum of 95 RPM.
 - 16.7. Be made of aluminum or plastic with bristles made of tempered steel wire. Wooden segments are not acceptable.
 - 16.8. Be equipped with a standard Par 36 utility type or LED equivalent, swivel mounted, tractor floodlight that has a shock absorbing weather-proof body made of rubber, trapezoid beam pattern, minimum 4-inch lens, 35 watt, 12V, 2.7-amp light.
- 17. DUST CONTROL SYSTEM: Unit shall be equipped with a pressure- controlled water spray system. System shall be equipped with:
 - 17.1. A minimum 220-gallon water reservoir whose interior is made of anodized or rust resistant material.

- 17.2. A high-pressure pump with a minimum of 25 psi sufficient for effective dust control and a minimum of one washable filter located between the water reservoir and pump.
- 17.3. A flexible minimum 15-foot water fill hose with a 2-1/2-inch coupling for filling water reservoir from a fire hydrant to include a storage rack for hose.
- 17.4. Pump protection device with a low water warning light.
- 17.5. Water system circuit control which is located in the vehicle cab.
- 18. LIGHTING AND SAFETY: The sweeper shall be equipped with, but not limited to, the following items meeting USDOT standards:
 - 18.1. Two white halogen, high-low, sealed-beam headlights.
 - 18.2. The rear of the sweeper shall be equipped with a red tail lamp, a red stop lamp, a turn indicator and a red reflector on each side. The lamps or reflectors may be incorporated and shall be as widely spaced laterally as practicable. The lamps shall be located at a height of not less than 15 inches or more than 72 inches above the ground. If separate reflectors are provided in lieu of an incorporated unit, they shall be housed type with screw or bolt type mounting. The stick-on type is not acceptable.
 - 18.3. Amber turn signal lamps shall be provided at the front of the sweeper.
 - 18.4. The turn signal controls shall be the 4-way flasher type for off, flash left, flash right, and flash both lights.
 - 18.5. Amber side marker lamps located on the front side of each cab body.
 - 18.6. Red side marker lamps located at approximately the rear vertical line of the sweeper and at the same level as the amber front side marker lamps.
 - 18.7. Reflectors shall be mounted at a height of not less than 24 inches or more than 60 inches above the ground.
 - 18.8. Clearance and side marker lamps shall be flush grommet mounted or equal.
 - 18.9. All reflectors shall be housed type with screw or bolt type mounting. The stick-on type is not acceptable.
 - 18.10. All electrical wiring shall be insulated and enclosed in a fibrous loom, plastic loom, or flexible conduit for protection from external damage and short circuits. Wiring shall be securely fastened at sufficient intervals to prevent sagging and ensure clearance of mechanical parts. Routing of wiring through the sub-frame shall be in such a manner so as not to interfere with the normal operation and use or present a safety hazard. A sealed splice-free modular wiring harness is acceptable. Rubber grommets shall be used wherever wires or harness pass through metal.
 - 18.11. A horn and a backup alarm system distinguishable from the surrounding noise level shall be provided. Backup alarm shall meet current SAE J994 standard.
 - 18.12. License plate holder located at center or left side of both the front and rear of the sweeper with illuminating light on rear holder.
 - 18.13. The rear passenger top of the sweeper shall be equipped with a yellow-amber LED strobe warning light. The rear driver top of the sweeper shall be equipped with a blue LED strobe warning light. Each strobe shall be on a separate control switch. The strobe lights shall be protected by a metal branch guard assembly that shall not deter full visibility. The LED strobe warning lights shall:

- 18.13.1. Be a "Class I" 360-degree optical warning device and meet or exceed requirements identified in the current SAE J845 and be identified in accordance with the current SAE J759.
- 18.13.2. Meet the photometric requirements outlined in Table 1 of the current SAE J845 on high intensity mode at the H-V point when measured through the amber Fresnel lens.
- 18.13.3. Have a high intensity mode for daytime and a low intensity mode for nighttime operation.
- 18.13.4. Operate on both 12V and 24V D.C., automotive type electrical systems without re-wiring or re-setting a switch.
- 18.13.5. Provide a minimum of 70 quad flashes (4 light pulses per flash) per minute. The LED warning beacon shall be pre-set for this pattern.
- 18.13.6. Have a minimum useful life rating for LEDs of 50,000 hours.

EXAMPLES: Star 255HTL
 Whelen L10HAP
 or CPA approved equal

- 18.14. Fire extinguisher, minimum 5 pounds, UL rating 2A:10B:C. The fire extinguisher shall be installed in a suitable and readily accessible location within the cab.

- 19. RADIO FREQUENCY (RF) INTERFERENCE SUPPRESSION: The vehicle and all equipment and components mounted to the chassis shall incorporate RF interference suppression to provide RF interference immunity to and from land mobile radio transceivers operating in the following bands: High Frequency (2 to 30 MHz), Low band (30 to 50 MHz), high band (140 to 174 MHz), UHF band (440 to 512 MHz) and the 700/800/900 MHz band (700 to 975 MHz) and comply with the following requirements:

- 19.1. Typical land mobile radio transceivers will utilize a 3dB gain antenna with up to a 125-watt RF power output. Antennas will be mounted on the roof, front fender, and/or rear fender of the unit.
- 19.2. VEHICLE COMPONENT RF SUPPRESSION: All equipment electronic circuits shall be designed to suppress, bypass or otherwise prevent interference from affecting the radio transceiver. The RF immunity requirement shall apply to all vendor supplied equipment and components thereof including, but not limited to, ignition, AM/FM radio receivers, computers, emission controls, fuel pumps, wiper motors, alternative fuel electronic components, air bag systems, and ABS controllers, etc.
- 19.3. VEHICLE COMPONENT RF IMMUNITY: The vehicle electronic equipment including, but not limited to, ignition, AM/FM radio receivers, computers, emission controls, fuel pumps, wiper motors, alternative fuel electronic components, air bag systems, and ABS controller, shall not be adversely affected in operation, safety, or control by radio frequency (RF) energy generated and radiated by the transmitter portion of installed transceivers (up to 125-watt output).
- 19.4. Vendor will be assessed all charges associated with the testing and remediation of vehicles which fail to meet Radio Frequency Immunity requirements at any time during the warranty period.

20. INSTRUCTION ON SAFETY, OPERATION AND PREVENTIVE MAINTENANCE:
The vendor shall provide the services of a competent factory trained technician thoroughly trained in the use and operation of the unit to Customer a minimum sixteen hours instruction on safety, operation and preventive maintenance of the unit. The service shall be provided after the unit has been delivered and is ready for operation but prior to payment.
21. SAFETY PLAQUES OR DECALS
- 21.1. Product safety plaques or decals shall be furnished and affixed at the operator's station and at any hazardous area. The safety plaques or decals shall describe the nature of the hazard, level of hazard seriousness, how to avoid the hazard, and the consequence of human interaction with the hazard. Permanent plaques are preferred to decals. Type, size and location of product safety plaques or decals shall be in accordance with current ANSI Z535.4 standard.
- 21.2. A permanent lubrication plaque shall be furnished and visible from the outside of the unit. The plaque shall note recommended fluids, all lubrication points and recommended periodic oil changes and lubrication intervals.
- 21.3. Unit shall be equipped with a triangular slow-moving emblem mounted on the rear of the sweeper with unobstructed view and shall not be mounted on or cover any portion of the rear radiator guard. Emblem shall be mounted with a removable or foldable bracket not less than 3 feet or more than 5 feet above the road surface that will allow the emblem to be removed from display during transport.
22. SAFETY INSPECTION: The unit shall be inspected in accordance with Federal Motor Vehicle Laws by a certified inspection station and shall have the inspection certificate with the unit at time of delivery. It is the vendor's responsibility to have this inspection made.
23. PAINTING: The unit shall be painted with a manufacturer's standard lead- free paint, except for glass, rubber and those accessories or fixtures constructed of rust-resistant or plated material not normally painted.
24. MANUALS: Original manuals in paper format shall be delivered with the unit. It is requested but not required that the manual be printed on recycled paper. Manuals shall include:
- 24.1. An illustrated parts list covering all components of the unit identifying parts by part number, description and component location.
- 24.2. Hydraulic schematics.
- 24.3. Electrical schematics.
- 24.4. All necessary operating instructions and maintenance procedures for the unit and engines.
- 24.5. The following additional information shall be provided by the vendor at time of delivery if not included in the manual required above.
- 24.5.1. Manufacturers recommended service and preventive maintenance intervals.
- 24.5.2. Recommended fluids, lubricants and their SAE/API equivalents.
- NOTE: OVERHAUL OR TECHNICAL MANUALS ARE NOT REQUIRED.
25. SERVICE POINT ACCESSIBILITY: All lubrication and frequent service items shall be readily and easily accessible to the operator or technician.

26. REPLACEMENT FILTERS AND BELTS: A complete replacement set of filters and belts shall be provided for each unit furnished to this specification. Each filter and belt shall be labeled with the equipment manufacturer's part number as shown in the manufacturer's parts book and shall be furnished at the time of delivery. ONLY OEM FILTERS AND BELTS ARE ACCEPTABLE. The part numbers provided on the form shall correspond with the part numbers found in the parts manual for the equipment.
- 26.1. The set of filters shall include, but not be limited to the air, fuel, oil, and hydraulic filters used on the equipment.
- 26.2. The set of belts shall include, but not be limited to the alternator, water pump, blower belt, and power steering belts used on the equipment.
27. MANUFACTURER'S STATEMENT OF ORIGIN (MSO): Vendor shall furnish MSO to the receiving district with each unit at time of delivery. CUSTOMER WILL NOT ACCEPT THE UNIT AND PROCESS PAYMENT WITHOUT THE MSO.
28. DATA SHEET: Data Sheet should be completed and submitted for informational purposes only.
29. TITLE APPLICATION FORM: Vendor shall furnish a completed State of Texas Form 130-U, Application for Texas Title and/or Registration, to the receiving district with each unit at time of delivery. The Form 130-U must be the most current version available. CUSTOMER WILL NOT ACCEPT THE UNIT AND PROCESS PAYMENT WITHOUT THE COMPLETED FORM 130-U.

PART III

DELIVERY AND ACCEPTANCE

1. **DELIVERY REQUIREMENTS:** Delivery of all equipment on this order shall be completed within the number of days specified on the purchase order. Any units not delivered within this time frame may be canceled from the purchase order or, at the Customer's option, an extension may be granted in writing, whichever is in the Customer's best interest.
 - 1.1. If any unit is canceled for non-delivery, the needed equipment may be purchased elsewhere, and the Contractor may be charged any additional increase in cost and handling.
 - 1.2. **LIQUIDATED DAMAGES:** Unless a delivery extension is granted for acceptable reasons due to circumstances beyond the Contractor's control, liquidated damages of \$160 per unit will be deducted from the invoice for every working day after the expiration of the number of days shown on the purchase order until the units are delivered. This provision is not intended as a penalty but for ease of administration and the avoidance of disputes. The parties agree that \$160 per day is the nearest practicable estimate of cost to rent replacement equipment.
2. **ACCEPTANCE INSPECTION:** All equipment ordered will be subject to acceptance inspection and performance testing upon receipt. Acceptance inspection and performance testing will not take more than five working days, weather permitting. The Contractor will be notified within this time frame of any units not delivered in full compliance with the purchase order specifications. If any units are canceled for non-acceptance, the needed equipment may be purchased elsewhere, and the Contractor may be charged any additional increase in cost and handling.
3. **WORKING DAY:** A working day is defined as a calendar day, not including Saturdays, Sundays, or regularly observed state and federal holidays.

PART IV

WARRANTY

1. WARRANTY: The unit shall be warranted against all defects in material and workmanship for a period of not less than 12 months or 1,200 hours of use, whichever comes first, and shall cover 100% parts and labor for the unit. If the manufacturer's standard warranty period exceeds 12 months or 1,200 hours, then the standard warranty period shall be in effect. The warranty begins on the date the unit is determined to meet specifications and accepted into the Customer's fleet.

Warranty
____ Months
____ Hours
whichever
comes first

NOTE: A delayed warranty in service start date may be requested.

2. INTENT: During the warranty period the Contractor shall be responsible for labor, materials, and other costs as outlined below associated with required warranty repair. It is the intent of this warranty that the Contractor performs warranty repair work. At the Customer's option, the Customer may perform minor warranty repairs to the unit at the Contractor's expense.
 - 2.1. EXCLUSIONS: The Customer will assume the expense for replacement tires and tubes, tire repairs, lubricating oils, hydraulic fluids, greases, filters, fuel, antifreeze, batteries, lights, hoses, belts, cleaning, painting and other minor items normally consumed in day-to-day operations. The Customer will assume responsibility for cost of repairs resulting from collision, theft, vandalism, operator negligence or acts of God.
 - 2.2. EQUIPMENT MAINTENANCE: It is the Customer's practice to maintain the equipment in accordance with the manufacturer's published recommendations.
 - 2.3. MINOR WARRANTY REPAIRS: It is the intent of this warranty that the Contractor performs minor warranty repairs; however, at Customer's option, warranty repairs deemed by the Customer to be minor in nature may be performed by the Customer at the Contractor's expense. Parts required for repairs made by the Customer will be OEM parts and obtained from the Contractor or any commercial source, at no cost to the Customer. Only the actual time required for repairs shall be reimbursed. The Customer will not request reimbursement for additional time incurred such as mechanic's travel time or diagnostic time. Reimbursement by the Contractor to the Customer for the cost of warranty repairs shall be computed as follows:
 - 2.3.1. Labor: Labor for warranty repairs will be calculated at the composite rate for the mechanic in effect at the time of the warranty repairs. Labor rate will not exceed \$40 per hour. The time allowed for each repair will be determined by the manufacturer's standard time schedule. Manufacturer's time schedule shall be furnished to the receiving district with the unit at the time of delivery (if available). If a manufacturer's time schedule is not available, the actual time for repairs, as noted above, will be used.
 - 2.3.2. Warranty Repair Claims: The Customer may track and bill warranty repairs through the Customer's fleet management software or on the Contractor's standard forms.
 - 2.3.3. Parts: Replaced parts will be held 30 calendar days and will be available for inspection by the Contractor or authorized representative. Copies of invoices for all parts will be provided to the Contractor. The cost of parts other than those furnished to the Customer at no cost by the Contractor will be billed at actual cost.

- 2.4. **MAJOR WARRANTY REPAIRS:** When major warranty repairs are required, the Customer will notify a representative of the Contractor's Texas dealer by telephone at the location and the telephone number designated by the Contractor on the attached Data Sheet as the point of contact. Major warranty repair work for the purpose of this specification means major repairs to the engine and major repairs to any other components of the unit. Diagnosis of the actual repairs required shall be the responsibility of the Contractor. The unit will be made available at a Customer's facility within a 100-mile radius of the FOB point shown on the purchase order. The repair work may be performed by the Contractor or Contractor's authorized representative.
- 2.4.1. At the Contractor's option, the unit may be taken by the Contractor to a commercial repair facility. The Contractor shall be responsible for the cost of the round-trip transportation of the unit to and from that location.
- 2.4.2. If mutually agreed upon between the Contractor and the Customer, the Customer may transport the unit to the Contractor's location or authorized repair facility, within the boundaries of the state of Texas. The cost of equipment and manpower necessary to haul the unit for the round trip will be billed back to the Contractor at the rental rate of the equipment and composite hourly rate for the driver in effect at the time for the equipment required. The composite hourly rate for the driver will not exceed \$30 per hour. Rental rate for the truck and trailer will not exceed \$0.80 per mile for the truck and \$8 per hour for the trailer.
3. **RESPONSE TIME:** Warranty repair action shall begin within two working days after notification is made to the Contractor for need of warranty repairs. A representative of the Contractor's Texas dealer will be notified by telephone at the location and telephone number designated by the Contractor on the attached Data Sheet as the point of contact. The Contractor shall notify the Customer immediately of any changes in this location and telephone number. The warranty repairs should be completed, and the unit returned to the Customer (or picked up by the Customer at the Contractor's expense as outlined above) within a reasonable period of time. For the purpose of the specification eight working days is defined as a reasonable period of time. Excessive delays incurred for the performance of warranty repairs by the Contractor may adversely affect the Contractor's status as a qualified Contractor.
4. **BILLING AND PAYMENT FOR WARRANTY REPAIR EXPENSES:** Cost will be accumulated for transportation of the unit by the Customer to the Contractor's location or authorized repair facility. Payment for transportation costs as provided for in this section shall be made within 30 calendar days of the billing date.
5. **PARTS AND SERVICE:** The manufacturer of the equipment furnished shall have an authorized dealer within the state of Texas. The authorized dealer shall have factory-trained personnel available for warranty repairs and the performance of service. The dealer shall also maintain an inventory of high-usage parts and a quick source for low-usage parts.

PART V

OPTIONAL EQUIPMENT

1. **OPTION NO. 1: HEAVY DUTY HAND SUCTION HOSE** – A heavy duty hose, minimum 8 inches in diameter, equipped with a nozzle to include a serrated ring shall be provided for use in areas inaccessible to normal sweeper operation. Hose and nozzle combined shall measure a minimum of 14 feet in length. Hand hose boom to be hydraulically raised, lowered and controlled by a handheld pendant.
2. **OPTION NO. 2: CENTER BROOM (BROOM ASSIST PICKUP HEAD)** – Pickup head shall be equipped with a fully-enclosed center broom assembly. Broom rotation and position shall be controlled by switch(s) located at the control panel in the cab. The control panel shall also be equipped with an indicator light to alert the driver when the pickup head is in a lowered position. Broom shall have a minimum diameter of 10 inches and length of 66 inches. Broom shall be powered by a separate hydraulic motor.
3. **OPTION NO. 3: GUTTER BROOMS REMOTE TILT ADJUSTORS** – Gutter broom shall be equipped with a hydraulic power tilt mechanism which allows the operator to adjust the tilt angle of both gutter brooms for varying curb conditions without leaving the cab.
4. **OPTION NO. 4: WASH-DOWN SYSTEM** – Unit shall be furnished with a self-contained high pressure wash-down system with pistol grip nozzle. System shall allow for the washing of the unit from external water sources but shall also connect to the water reservoir in the event the water reservoir is the only available water source. Pressure shall be a minimum of 2-1/2 gallons per minute at 1,000 psi. System shall be equipped with, but not limited to a minimum 20-foot hose and a minimum 24-inch wand.
5. **OPTION NO. 5: HOPPER DRAIN SYSTEM** – To allow drain off accumulations of water from the hopper, allowing sweeping operations to continue without stopping to dump water.
6. **OPTION NO. 6: LARGER CAPACITY WATER RESEVOIR** – Dust control system equipped with this option will raise minimum 220-gallon capacity reservoir to a minimum total of 330-gallon capacity reservoir.
7. **OPTION NO. 7: PICK-UP HEAD CURTAIN LIFTER** - To allow pick-up head curtain to be lifted while in operation.
8. **OPTION NO. 8: HOPPER DELUGE SYSTEM** – Hopper water deluge system includes four (4) different nozzles with different spray angles mounted on a tube manifold with fittings, couplers, deluge plug assembly with mud guard, seals, hardware for mounting, including quick disconnect fittings on nozzle and water filler hose.
9. **OPTION NO. 9: CNG POWERED CHASSIS AND AUXILIARY ENGINES** – The chassis and auxiliary engines shall be powered by CNG and plumbed from a shared or common fuel rail system. Chassis and auxiliary engines shall meet all the same power and protection requirements as its diesel-powered counterparts.
10. **OPTION NO. 10: EXTRA SET OF MANUALS** – In addition to the manuals required in Part II, Para. 24 one original extra set of operator's, service, and parts manuals shall be provided at time of delivery. In addition to the original manual, the vendor may provide an electronic media version of the current original manual.
11. **OPTION NO. 11: COMPLETE SET OF OVERHAUL MANUALS** - In addition to the manuals required in Part II, Para. 24., one complete original set of specialized major overhaul and technical manuals for the truck and auxiliary engines, transmission, hydraulic system, electrical system, etc., shall be provided at time of delivery. In addition to the original manual, the vendor may provide an electronic media version of the current original manual.
12. **OPTION NO. 12: MAGNET ASSEMBLY**: - Magnet assembly shall be chassis mounted on front bumper with in-cab controls for raising and lowering the magnet to the paved surface. The magnet shall be self-cleaning and come in a heavy-duty gauss strength for removal of heavier ferrous metals.

Authorized Warranty Service Provider

Name and address of firm nearest the FOB point that will provide warranty service and repair parts. If there is more than one line item on the solicitation, respondent shall provide information on servicing dealer nearest each FOB point:

Firm Name		
Address		City, State, Zip
Individual Contact Name	Phone	Email Address
Fax Number		Website – URL
If servicing dealer furnishes parts for minor repairs by Customer personnel, will this affect the warranty? (Y/N)		
If answer is “yes” please attach explanation.		
Name of Firm Submitting Response		Individual Contact Name
Phone Number		Fax Number
Email Address		Website URL
Respondent’s Signature		
Print or Type Respondent’s Name		