STATE OF LOUISIANA
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT
TECHNICAL SPECIFICATIONS FOR

TRUCK, CAB & CHASSIS, 83,000 GVWR, TANDEM, TILT CAB WITH STRIPER, (TRUCK MOUNTED), SELF-CONTAINED, THERMOPLASTIC

SERIES NO. 255-000 **REV. 12/3/2024**
EQUIPMENT SPECIFICATION 255-000B

GENERAL

This specification sets forth the minimum requirements for a truck, cab & chassis, 83,000 GVWR, tandem, tilt cab with truck mounted, self-contained, Thermoplastic striping machine.

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 Peterbilt, Model 520 and Thermo Hog TH-16 Thermoplastic Striping 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

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: 83,000 lbs.

1.2.

NOTE: When fully laden with striping material, the chassis manufacturer's GVW rating shall not be exceeded or the unit may be rejected.

1.3. FRAME

1.4. 2,136,000 RBM (Resisting Bending Moment) – Bidder should list section modulus and yield strength below

1.5. Full Steel Inner Liner

Section Modulus: _____ Yield Strength: _____

Comply: ____Yes ____No

1.6. CAB & AXLE POSITIONS

1.7. Wheelbase to be selected by Thermoplastic bed up-fitter. Preferred wheel base is 236"

Comply: ____Yes ____No

1.8. CAB

- **1.8.1.** Tilt, cab over engine
- **1.8.2.** Tinted safety glass
- **1.8.3.** Full width exterior cab mounted sun shade with integral clearance lights
- **1.8.4.** Cab entry handles, driver & passenger side
- **1.8.5.** Outside mirrors, driver & passenger side
  - **1.8.5.1.** Power adjustable
  - **1.8.5.2.** 90 sq. in. minimum
  - **1.8.5.3.** Heated with integrated turn signals
  - **1.8.5.4.** Two (2) adjustable spot mirrors, one (1) per outside mirror
- **1.8.6.** Two (2) roof mounted air horns & one (1) standard electric horn
- **1.8.7.** Air ride: driver & passenger seat, cab suspension

EQUIPMENT SPECIFICATIONS

1.8.8. Manufacturer's highest level sound insulation package
1.8.9. Gauge package including the following gauges:
- **1.8.9.1.** Air cleaner restriction
- **1.8.9.2.** Coolant temperature
- **1.8.9.3.** DEF
- **1.8.9.4.** Fuel
- **1.8.9.5.** Oil pressure
- **1.8.9.6.** Primary and secondary air pressure
- **1.8.9.7.** Speedometer
- **1.8.9.8.** Tachometer
- **1.8.9.9.** Voltmeter
- **1.8.9.10.** Gear indicator
- **1.8.9.11.** Odometer
- **1.8.9.12.** Total engine hours
- **1.8.9.13.** Trip hours
- **1.8.9.14.** Trip odometer
- **1.8.9.15.** PTO hours
- **1.8.9.16.** Rear axle oil temperature
- **1.8.9.17.** Auto transmission oil temperature
- **1.8.9.18.** Engine oil temperature
- **1.8.9.19.** Dual sun visors
- **1.8.9.20.** Two (2) cup holders, integral to dash
- **1.8.9.21.** 3-point seat belt for each seat. If available, all seat belt webbing should be manufacturer's high visibility color (Orange, Red, Green, or Yellow)
- **1.8.9.22.** Climate control, including: air conditioning, heater, & defroster
- **1.8.9.23.** Power windows & power door locks
- **1.8.9.24.** Tilting and telescoping steering wheel

Comply: ____Yes ____No

EQUIPMENT SPECIFICATIONS

1.9. ENGINE
- **1.9.1.** 11.9L, electronic diesel, turbocharged, liquid cooled, 6-cylinder inline configuration
- **1.9.2.** 430 HP @1800RPM
- **1.9.3.** 1650 lbs.-ft. torque @1100 RPM
- **1.9.4.** Governed speed 2100 RPM
- **1.9.5.** Engine must include turbo/engine compression exhaust brake
- **1.9.6.** To include heavy duty air cleaner
- **1.9.7.** To include high efficiency cooling system
- **1.9.8.** To include on/off fan
- **1.9.9.** To include power down/shut down for high engine oil or coolant temperature
- **1.9.10.** Truck must meet emission standards in place at the time of production
- **1.9.11.** DEF tank is to be located on driver's side BOC
- **1.9.12.** DEF tank capacity: 7 gallon (minimum)
- **1.9.13.** Engine must be biodiesel compatible
  - **1.9.13.1.** Vertical exhaust with curved tip standpipe

Comply: ____Yes ____No

1.10. FUEL SYSTEM
- **1.10.1.** Chassis Tank: One (1) 100-gallon Aluminum fuel tank with drains
- **1.10.2.** System Tank: One (1) 60-gallon Aluminum fuel tank with drains
- **1.10.3.** Visual element change indication that is integral to and non-removable from unit
- **1.10.4.** Water-in-fuel sensor with indicator in cab
- **1.10.5.** Entire fuel system to be biodiesel compatible

Comply: ____Yes ____No

1.11. TRANSMISSION
- **1.11.1.** Allison 4500 RDS series 6th generation controls: wide ratio, 6-Speed
- **1.11.2.** Console mounted push button shifter
- **1.11.3.** Must include PTO aperture
- **1.11.4.** To be filled with manufacture approved synthetic lubricants

Comply: ____Yes ____No

1.12. CRUISE CONTROL
- **1.12.1.** Electronic Low and High-Speed control
  - **1.12.1.1.** Low speed cruise control
    - **1.12.1.1.1.** Chassis Low Speed controller shall be an interface of components and logic that controls the chassis
    - **1.12.1.1.2.** Control range of 2 MPH to 10 MPH as preset by the driver on a digital display
    - **1.12.1.1.3.** Forward speed by way of engine acceleration or chassis brakes to attain and maintain the preset speed
    - **1.12.1.1.4.** Speed presets can be managed by entering the desired value by way of a 0-9 touch key and 0.1 incremental adjustments can be made using up or down arrow keys

EQUIPMENT SPECIFICATIONS

1.12.1.1.5. Adjustable speed presets
1.12.1.1.6. Engages/Disengages via a rocker switch
1.12.1.2. High speed cruise control
1.12.1.2.1. Cruise control shall be governed to 72 MPH maximum
1.12.1.2.2. Activated by dash mounted switch
1.12.1.2.3. Cancels with application of service brake or dash switch

Comply: ____Yes ____No

1.13. FRONT AXLE/SUSPENSION
1.13.1. Minimum 20,000 lbs. GAWR at tire/ground interfaces
1.13.2. Taper leaf springs
1.13.3. Heavy resistance shocks
1.13.4. All axle and steering components to have grease zerks
1.13.5. Stemco wet-type visible cap axle seals or approved equal
1.13.6. To be filled with manufacture approved synthetic lubricants

Comply: ____Yes ____No

1.14. REAR AXLE/SUSPENSION
1.14.1. Heavy duty tandem Meritor RT46-160 or equivalent
1.14.2. In-cab controlled air ride
1.14.3. 46,000 lbs. GAWR at tire/ground interfaces
1.14.4. 52" axle spacing
1.14.5. Tracking rods
1.14.6. 20,000 lbs. “Pusher” axle installed in front of drive wheels
1.14.7. To be filled with manufacture approved synthetic lubricants
1.14.8. Transmission and axle ratio shall be selected by manufacturer for performance to be optimized at 65 while permitting truck to operate up to 75 MPH Maximum on highway without excessive engine speed.

Comply: ____Yes ____No

1.15. BRAKES
1.15.1. Dual air disc brake system with automatic traction control
1.15.2. ABS brake system with two axle parking brakes
1.15.3. System to include an 18.7 CFM air compressor
1.15.4. Bendix AD-IS EP air dryer or equal
1.15.5. Independent emergency brakes
1.15.6. Steel air tanks with pull cord drain
1.15.7. Color coded air lines
1.15.8. Hand control air valve mounted in instrument panel
1.15.9. Parking brake control, yellow and red knobs mounted on instrument panel

Comply: ____Yes ____No

EQUIPMENT SPECIFICATIONS

1.16. WHEELS
- **1.16.1.** Polished Aluminum wheels
- **1.16.2.** Front size – 22.5 X 12.25
- **1.16.3.** Rear size – 22.5 x 8.25
- **1.16.4.** 10-Stud

Comply: ____Yes ____No

1.17. TIRES
- **1.17.1.** First line, first quality
- **1.17.2.** Front - Single highway tread: 425/65R x 22.5, 20 ply
- **1.17.3.** Rear - Dual highway tread: 11R22.5, 16 ply
- **1.17.4.** Load ratings must meet or exceed GVWR of vehicle

Comply: ____Yes ____No

1.18. ELECTRICAL SYSTEM & LIGHTS
- **1.18.1.** 12-volt system
- **1.18.2.** 270-amp alternator
- **1.18.3.** Batteries with a minimum 2920 CCA combined
- **1.18.4.** Battery box
- **1.18.5.** Remote jump-start studs, with tethered protective caps, located outside of the battery box
- **1.18.6.** Battery disconnect switch, located inside cab, near driver's seat, similar to the below picture.
  - **1.18.6.1.** 
- **1.18.7.** All exterior lighting should be LED
- **1.18.8.** Headlights
  - **1.18.8.1.** Automatic daytime running lights
  - **1.18.8.2.** Automatic on if windshield wipers are turned on
  - **1.18.8.3.** Automatic on with low ambient light levels
  - **1.18.8.4.** Warning buzzer/alarm when headlight switch is on and ignition switch is in off position
  - **1.18.8.5.** Intermittent windshield wipers with washers
  - **1.18.8.6.** Self-cancelling directional signals
  - **1.18.8.7.** Backup alarm, 97 dba
  - **1.18.8.8.** AM/FM/WB radio with auxiliary front input, Bluetooth/hands free function and steering wheel controls
  - **1.18.8.9.** Two (2) 12V accessory power outlets with covers, mounted in dash (for cell phone chargers, GPS devices, etc.)

Comply: ____Yes ____No

EQUIPMENT SPECIFICATIONS

1.19. PAINT
- **1.19.1.** Cab: Manufacturer's standard white
- **1.19.2.** Chassis: Manufacturer's standard black

Comply: ____Yes ____No

1.20. AUXILIARY EQUIPMENT
- **1.20.1.** FMCSA/DOT Mandated Safety Items
  - **1.20.1.1.** One (1) UL listed, 5lb B:C rated, or higher, fire extinguisher securely mounted in cab
  - **1.20.1.2.** Two (2) 20 Lb. dry powder fire extinguishers securely mounted on equipment deck
  - **1.20.1.3.** Two (2) 20 Lb. dry powder fire extinguishers securely mounted on rear access deck
  - **1.20.1.4.** One (1) set of three (3) bidirectional reflective triangles conforming to FMVSS No. 125
  - **1.20.1.5.** At least one (1) spare fuse for each type/size used in the truck
  - **1.20.1.6.** Mud flaps; front and rear
  - **1.20.1.7.** Rear Fenders
  - **1.20.1.8.** Digital Speed Meter System
  - **1.20.1.9.** Capable of reading speed in three (3) digits
  - **1.20.1.10.** Powered and protected by the skip timer via network cable
  - **1.20.1.11.** Rear DVR Backup Camera
  - **1.20.1.12.** 7" (minimum) color monitor mounted in truck cab
  - **1.20.1.13.** Removable storage device (SD card, thumb drive) for recorded video storage

Comply: ____Yes ____No

2. PLATFORM and CANOPY
- **2.1.** The platform shall be of heavy-duty construction and adequate strength to accommodate all the component equipment and accessories
- **2.2.** All walk areas shall be covered with non-skid safety tread, minimum 8-gauge steel
- **2.3.** Rear platform shall have a drop deck area of approximately 24" x 96"
- **2.4.** Rear platform shall have an accessibility panel between the frame rails of the chassis
- **2.5.** Folding steps shall be located at the rear center of the platform and designed to fold up in the event of ground interference
- **2.6.** A hinged stair assembly shall be located between the frame rails of the chassis for accessibility from the drop deck to the operator level
- **2.7.** Folding gates shall be installed to enclose the material storage deck
- **2.8.** The ladders will be positioned to give the best access possible in order to service the equipment and accessories
- **2.9.** A steel railing will be installed around the entire platform except at the ladder entrance areas
- **2.10.** Ladders shall be furnished on both sides of the platform
- **2.11.** The ladder entrance areas shall be able to be closed off with a safety chain
- **2.12.** Storage room for 16,000 lbs. of thermoplastic material on pallets shall be provided on deck
- **2.13.** Storage area shall be configured to allow loading of material into kettles while placing pavement markings on the roadway
- **2.14.** Undercoating shall be applied to the underside of the platform

EQUIPMENT SPECIFICATIONS

2.15. A canopy shall cover the entire platform
2.16. The canopy structure shall be able to securely support an arrow board or message sign with tilting mechanism

Comply: ____Yes ____No

3. AIR TAKE-OFF
3.1. An air take-off will be provided on the right-hand side of the truck with a quick disconnect air chuck

Comply: ____Yes ____No

4. REAR OPERATOR CONTROL SYSTEM
4.1. Center console shall include:
4.1.1. Switches shall control items associated with the striping operation
4.1.2. Regulators located on the operator panel to accommodate:
4.1.2.1.1. Bead tank pressure adjustments
4.1.2.1.2. Atomizing spray pressure adjustments
4.1.3. Gauges for monitoring:
4.1.3.1.1. Thermoplastic pressure
4.1.3.1.2. Fuel Level
4.1.3.1.3. System air pressure
4.1.3.1.4. Hydraulic pressure
4.1.3.1.5. Atomizing air
4.1.3.1.6. Bead tank pressure

Comply: ____Yes ____No

5. AUXILIARY POWER UNIT COMBINATION
5.1. The auxiliary power unit shall be skid-mounted on platform above the rear axle group
5.2. Engine:
5.2.1. Shall be a liquid cooled diesel, developing minimum gross power of 140 HP at rated RPM
5.2.2. Shall have a 12-volt electric system including starter, battery, and 120-amp alternator
5.2.3. Shall have key with switch, electric hour meter (oil pressure actuated), vernier throttle, tachometer, approved type air cleaner with air restriction indicator, lube oil and fuel filters with replaceable elements, muffler, oil pressure gauge and coolant temperature gauge
5.2.4. An automatic engine shutdown for high coolant temperature and low oil pressure shall be included
5.2.5. The cooling system shall be protected with permanent type anti-freeze to -20°F., or lower
5.2.6. An engine enclosure with lockable side panels shall be furnished for weather protection
5.2.7. Fuel shall be drawn from the chassis fuel tank(s)
5.2.8. The engine control panel shall be located on the curbside of the truck
5.2.9. This unit and all other power system components must meet current OSHA noise level standards
5.3. Compressor:
5.3.1. The air compressor shall be a BOSS, Dynaset (or equal)

EQUIPMENT SPECIFICATIONS

5.3.2. rotary screw type hydraulically driven (no exceptions)
5.3.3. rated at no less than 250 CFM at 120 psi
5.3.4. The compressor shall have a 0-100% step less air intake control to provide air as demanded by the equipment
5.3.5. Shall have a bypass control for no load starting of the auxiliary engine
5.3.6. All airlines shall be Teflon, 1/4" minimum ID
5.3.7. Air supply system shall include a filter/dryer capable of passing total CFM air from the compressor
5.3.8. An air oiler shall be supplied to the console air manifold to supply oiled air to the outrigger lift cylinders and solenoid valves on the outrigger
5.3.9. Oilers shall be readily accessible for servicing

5.4. Hydraulic System:
5.4.1. 50 GPM @ variable displacement
5.4.2. The hydraulic system shall be of sufficient size and design to maintain pressure and flow to all hydraulic demands
5.4.3. Hydraulic Motors:
5.4.3.1. Hydraulic motors shall drive the thermo pumps, mixers, hot oil pumps and the generator
5.4.4. Hydraulic pumps:
5.4.4.1. The system shall contain multiple variable displacement pumps to operate different circuits
5.4.5. Hydraulic valves:
5.4.5.1. Shall be proportional to effectively control delivery
5.4.5.2. Shall be mounted below the platform on either side of the body and readily accessible for service

5.5. Steering:
5.5.1.1. A separate variable displacement pump shall be mounted on the auxiliary engine and be dedicated to the carriage operation and generator drive

Comply: ____Yes ____No

6. THERMOPLASTIC KETTLES
6.1. Two (2) lateral designed, 8000 lbs. kettles (1 yellow, 1 white)
6.2. Kettles shall be diesel fired and oil-jacketed
6.3. Thermocouple probe for temperature control shall measure actual thermoplastic temperature for control of the burner
6.4. The kettle shall be weatherproof; this includes loading chute and vent to prevent water from entering the melting chamber
6.5. Loading chute shall be located at the front of the kettle and allow for waist-level loading
6.6. The loading hatch will be weatherproof and of the safety type
6.7. The melting chamber will be covered whether the door is open for loading or closed
6.8. Kettles shall extend all the way to the rear of the truck
6.9. Shall include a helical mixer design that forces material to smash and mix
6.10. System shall incorporate internal recirculation plumbing

Comply: ____Yes ____No

EQUIPMENT SPECIFICATIONS

7. THERMOPLASTIC HEATING & PROCESSING
- **7.1.** Oil heat-transfer system:
- **7.2.** Shall provide sufficient flame-heat to the following:
  - **7.2.1.1.** Yellow process kettle
  - **7.2.1.2.** White process kettle
  - **7.2.1.3.** 4 circuit hose and pump oil circulation
- **7.3.** Horizontal design
- **7.4.** Diesel fired
- **7.5.** Seven (7) 280 BTU/HR burners
- **7.6.** Insulated body with vertical exhaust
- **7.7.** The oil heat demands shall be controlled with programmable controls
- **7.8.** Each oil delivery circuit shall have a high capacity hot oil pump to effectively move heated oil from the heating unit to the kettle
- **7.9.** Thermo Delivery:
  - **7.9.1.** Main Thermo Valve:
    - **7.9.1.1.** Each kettle shall be equipped with a knife gate style shut-off valve, located at the discharge port of the kettle
    - **7.9.1.2.** Valve gate shall be actuated by an air cylinder
    - **7.9.1.3.** High-Volume Thermo Pump:
    - **7.9.1.4.** The thermoplastic shall be delivered to the spray guns by rotary lobe pumps, one white and one yellow
    - **7.9.1.5.** The pump will be oil jacketed
    - **7.9.1.6.** Two (2) pumps shall be furnished
    - **7.9.1.7.** Oil Jacketed thermo delivery system:
    - **7.9.1.8.** All lines shall be designed to ensure delivery of hot thermoplastic to destinations on the truck
    - **7.9.1.9.** The hot oil shall flow freely through the jacket to allow for circulation
    - **7.9.1.10.** All plumbing and lines shall be insulated against heat loss
    - **7.9.1.11.** All joints without oil jacket shall be wrapped with hot oil hose and covered with fiberglass and silicone coated tape
    - **7.9.1.12.** Thermo filtration:
      - **7.9.1.12.1.** A pre-filter shall be built into the kettle discharge port to prevent any large debris from entering the pump
      - **7.9.1.12.2.** The screen on the pre-filter shall have 3/8” holes
      - **7.9.1.12.3.** Filter screen shall be accessible for field inspection service and cleaning
      - **7.9.1.12.4.** A filter container shall be located close to the application guns cart
      - **7.9.1.12.5.** The filter container shall have a cover and filter elements of different mesh to accommodate different conditions
    - **7.9.1.13.** Hot oil circulation for plumbing:
      - **7.9.1.13.1.** A system designed to monitor and keep thermoplastic plumbing at proper operating temperatures shall be incorporated into the delivery system
      - **7.9.1.13.2.** The hot oil source for thermo lines shall be from a separate compartment within the main oil reservoir with independent temperature control
      - **7.9.1.13.3.** Circuit shall be equipped with a “Y” strainer
      - **7.9.1.13.4.** Hot oil circulation pump shall be a centrifugal design and driven by a hydraulic motor

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7.9.1.13.5. The circulation of the oil used to heat the thermo lines shall be divided into 4 independent segments, facilitating heating of the thermo guns and delivery hoses separate from the thermo pumps
7.9.1.13.6. Hot oil flow shall be controlled with manual ball valves
7.9.1.13.7. Operator shall be able to control the pump (on/off)
7.9.1.14. Thermo purge system:
7.9.1.14.1. The system shall be designed to return 95% of the thermo in the hoses back to the kettle
7.10. Thermo Application
7.10.1. Thermo application guns:
7.10.1.1. Shall include six (6) Hornsby application guns
7.10.1.2. The thermoplastic guns will be thin line spray type guns designed to spray material at speeds of up to 5-7 MPH and at thicknesses of 30, 60 or 90 mils
7.10.1.3. Ribbon attachments to be included
7.10.1.4. Thermo crossover:
7.10.1.4.1. The system shall be equipped with thermoplastic plumbing crossover for multiple options to deliver thermoplastic from the right side of the truck to the left side of the truck
7.10.1.5. Spray thermo feature:
7.10.1.5.1. Equipment shall be fitted with all necessary plumbing, valves, regulators, and gauges to facilitate spray thermo application
7.10.1.5.2. Regulators shall be mounted in a central location on the rear center console

Comply: ____Yes ____No

8. HEAT OIL TRANSFER
8.1. The oil heating system shall deliver an adequate supply of heat transfer oil to provide and maintain sufficient heat for spray, ribbon extrusion and screen extrusion applications throughout the material delivery system during striping operations
8.2. Diesel fired heat transfer oil heating furnace
8.3. Thermostatically controlled electronic ignition system
8.4. One circulation pump for each of the two colors
8.5. Designed to easily handle the temperatures, pressures, and flow demand of the system

Comply: ____Yes ____No

9. GLASS BEAD DELIVERY
9.1. Bead Tanks:
9.1.1. Two (2) 3,000 lbs. Bead Tanks
9.1.2. Shall contain a vacuum bead fill system with internal vacuum and fill pipes
9.1.3. Dual desiccant type air dryers mounted under body
9.1.4. Independent pressure gauges on tanks
9.1.5. Shall have a separate ball valve for fill shut-off and quick dump with exhaust
9.1.6. ASME 100 psi preset pressure relief valves
9.1.7. Low access vacuum fill port
9.1.8. Quick access, glass bead butterfly valve on fill and discharge

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9.2. Bead delivery:
- **9.2.1.** System shall contain double drop plumbing with independent delivery
- **9.2.2.** Shall deliver both type I and type IV beads or elements
- **9.2.3.** Delivery lines shall be sized to prevent surging

9.3. Bead guns:
- **9.3.1.** Two bead guns per thermo application gun (Ten total)
- **9.3.2.** Shall contain double action cylinder with changeable nozzles
- **9.3.3.** Shall contain an independent solenoid valve interfaced with Skip-Line system

Comply: ____Yes ____No

10. AIR NOZZLES
- **10.1.** Each carriage shall include multi-channel flat jet nozzles, mounted directly in front of each spray gun row
- **10.2.** The "on/off' air supply to these nozzles shall be controlled by means of a valve actuated on the operator console.
- **10.3.** Each air nozzle shall have a manual adjustment air flow control

Comply: ____Yes ____No

11. OUTRIGGER AND CARRIAGE SYSTEM
- **11.1.** Carriages shall maintain any position without creep in or out
- **11.2.** Lateral positioning controlled by operator with steering wheel
- **11.3.** Outriggers shall be located behind rear most wheels of chassis
- **11.4.** Outrigger extension on two sides, 52" travel each
- **11.5.** Floating cart on vertical linear bearings
- **11.6.** Cart shall support up to 400lbs. capacity
- **11.7.** Dual wheel caster on cart assembly to straddle line
  - **11.7.1.** Wheel must be adjustable to accommodate rumble strips, markers, etc.
- **11.8.** Carriage Lift:
  - **11.8.1.** Pneumatic cylinder lift actuated with manual switch on operator switch box
  - **11.8.2.** Automatic carriage lift when truck is in reverse
  - **11.8.3.** Carriage default latch system:
  - **11.8.4.** Shall require compressed air to allow deployment of carriage
  - **11.8.5.** Carriage shall remain up and latched with loss of compressed
  - **11.8.6.** Defaults to the retracted position in the event of a power failure

Comply: ____Yes ____No

EQUIPMENT SPECIFICATIONS

11.9. Carriage gun arrangement

11.9.1. Right Carriage/Edgeline guns are to be positioned as follows:

A	A	Two (2) Air blowers
W	W	Two (2) White Guns – 4-8” lines
B	B	Two (2) Bead Guns
B	B	Two (2) Bead Guns

11.9.1. Left Carriage/Centerline guns are to be positioned as follows:

A	A	A	Three (3) Air blowers
Y	Y	Y	Three (3) Yellow Guns – 3-4” lines
B	B	B	Three (3) Bead Guns
B	B	B	Three (3) Bead Guns

Comply: ____Yes ____No

12. CONTROL CENTER

12.1. An independent controller shall be provided for each side of the truck (qty. 2), mounted on handrail in close proximity to respective operator

12.2. Shall consist of an internal sheet metal covered framework, providing space for control panel, electrical controls, spray equipment connections, and any other auxiliary parts required by the spray equipment

12.3. The face of the control panel will be painted flat black

12.4. Shall have a hinged, lockable safety cover on the outside

12.5. Shall be mounted in an inclined position and shall have mounted on it all the necessary regulators, gauges, valves, switches, and indicators required for the operation of the striping equipment

12.6. All parts shall be of the panel type and located behind the panel if at all possible

12.7. A forward tilting front panel shall allow access to the interior for service

12.8. Included on the control panel will be:

12.8.1. automatic valve controllers

12.8.2. heat gauges for temperature readings for the thermoplastic in pre-melter

12.8.3. oil temperature

12.8.4. controllers for the agitators

12.9. The spray equipment shall be electrically controlled by means of toggle switches, knobs and touchscreen PLC display

12.10. A "kill switch" and a digital speedometer shall be located in the truck cab

12.11. The “kill switch” shuts down all paint and bead gun operations

12.12. No other paint operation controls will be placed in the cab of the truck

Comply: ____Yes ____No

EQUIPMENT SPECIFICATIONS

13. HYDRAULIC POINTER SYSTEM
- **13.1.** A front mount adjustable pointer guide shall be provided
- **13.2.** Manually retracted, folded and secured for transport
- **13.3.** 10" diameter caster wheel
- **13.4.** Extendible to at least 10ft. forward of the cab
- **13.5.** Capable of being hydraulically retracted to approximately 45 degrees vertical by a cab switch with positions of – Lift, Hold, Float

Comply: ____Yes ____No

14. CAB MOUNTED LASER GUIDANCE
- **14.1.** There shall be supplied a GL-3000-P Laser System using an ultrahigh visibility green laser to establish visual line control for the striping machine
- **14.2.** The operator adjusts the laser spot to the desired reference point on the road via a remote-control panel located in the cab of the truck
- **14.3.** The control shall have a three-function switch for:
  1. Laser on Steady mode
  2. Laser on blinking mode
  3. Laser Off
- **14.4.** There shall be a corresponding green light located on the laser status panel indicating the laser status:
  1. Light on Steady mode
  2. Light Blinking mode
  3. No Light (Off)
- **14.5.** The laser, all optics, mechanical mechanisms, and electronics shall be in a rugged, weatherproof housing that is mounted to the roof of the truck with a remote control to adjust on the spot of the road: up, down, right, left.
- **14.6.** Spot can be pointed to either the center line of the edge line

Comply: ____Yes ____No

15. CARRIAGE-MOUNTED LASER GUIDANCE
- **15.1.** A LaserLine model GL3000PM system shall consist of a single laser beam unit mounted on each carriage
- **15.2.** The laser spot shall move laterally with the movement of the carriage by the operator

Comply: ____Yes ____No

16. VIDEO MONITOR SYSTEM
- **16.1.** A closed-circuit color television system with three (3) High Definition cameras with auto iris lenses and one (1) 12" monitor with a programmable video crosshair generator shall be provided
- **16.2.** Cameras shall be mounted in self-leveling weather resistant enclosures equipped with a self-leveling pendulum device
- **16.3.** Camera mounting brackets will be provided (three total), one (1) on each side of the striper and one (1) in the rear for backing
- **16.4.** The side brackets will be electronically extendible and controlled from inside the chassis cab

EQUIPMENT SPECIFICATIONS

16.5. Quick connect electrical outlets will be provided at each camera mounting location to enable the camera to be disconnected for storage

Comply: ____Yes ____No

17. DATA LOGGER

17.1. DL-18 or approved equal

17.2. The touch screen interface shall have integrated data logging software contained with its dedicated hardware. Laptop or PC-based data loggers will not be accepted

17.3. The data logger shall receive all sensor and system data via CAN network. Direct sensing of pneumatic or actuator solenoids will not be accepted

17.4. The data logger shall allow input for, and record, the following custom fields for tracking and filtering work accomplished:

Common Fields (Custom fields are required):		
Job Name	Crew Name	Highway
Mileposts	Material Batch Number	

17.5. The data logger shall record the following data and performance measures:

Date & Time	Road Surface Temperature	Solid/Skip/Total Footage by Line Width
Material Usage (Volume)	Ambient Temperature	
GPS Coordinates	Relative Temperature	
Material Temperatures (multiple temperature readings allowable, such as tank, manifold, heat exchanger, or line temperature near the gun.		Odometer (total distance striping system engaged)
Bead usage (weight), for up to six bead tanks. (Special beads or powdered compounds such as VisiLok, 3M Element, etc. shall be trackable with separate usage and application rates.)		

17.6. Data shall be recorded as raw snapshots to allow for broad data analysis and fraud or data tampering detection

17.7. Reports may be printed from the vehicle

Comply: ____Yes ____No

18. INTERCOM SYSTEM

18.1. MASTER STATION David Clark U3800 or approved equal

18.2. 12 VDC power source in-truck electrical system

18.3. Shall contain controls, power input and remote outputs, plus two (2) headset jacks

18.4. Shall be of rugged heavy gauge polycarbonate (-80 °to 212° F) housing with all controls, connectors and covers weather tight

18.5. Shall have less than 300 milliamps current draw

18.6. Shall be a three (3)-station intercom system

18.7. The remote headset station shall be a David Clark U3802 and U3801 via C38 Jumper Cord or approved equal and have a headset jack with listen volume control

18.7.1. Shall have the same housing and weather tight design as MASTER STATION

18.8. Three (3) single ear headsets for the rear operators shall be behind-the-head style to accommodate safety hats or helmets

EQUIPMENT SPECIFICATIONS

18.8.1. Shall provide maximum noise attenuation for hearing protection and clear, isolated reception M-7A noise canceling microphone that provides clear transmission at normal voice levels
18.8.2. Shall have a five-foot (extended) coil cord with weather protected PJ051 plug
18.9. Shall have two conductor shielded power cord, twenty feet
18.9.1. Connects David Clark U3800 or approved equal to power source
18.9.2. One end of the power cord shall be stripped and tinned for connection to truck battery or fuse rack
18.9.3. A noise filter will be installed in the system to prevent feedback from other electrical components

Comply: ____Yes ____No

19. TRAFFIC CONTROL & SAFETY LIGHTING
19.1. Carriage marker lights
19.1.1. Flashing LED amber and green marking lights shall be mounted at each extreme extension of the outrigger carriage
19.2. Lighting, Platform LED
19.2.1. Marker and clearance lighting shall be LED, and recessed flush mounted in grommets
19.3. Safety Lighting
19.3.1. Light bars
19.3.1.1. One (1) Sixty-inch bar (60”), amber and green, shall be mounted on the roof of the truck cab
19.3.1.2. Two (2) mini strobe light bars (17”-24”), amber and green, shall be mounted to the rear of the signboard mount, just below raised sign
19.3.2. Strobe lighting
19.3.2.1. 360° green/amber LED strobe lights
19.3.2.1.1. One (1) on each of the front corners of the deck, on poles, total two (2)
19.3.2.1.2. Two (2) mounted on the rear of the deck
19.3.2.2. 180° green/amber LED strobe lights:
19.3.2.2.1. Three (3) on each side of the bed rail, total six (6)
19.3.2.3. Four (4) front-facing mini strobe, amber and green perimeter lights at grill corners
19.3.2.4. Two (2) rear-facing mini strobe amber and green perimeter lights mounted on rear bumper
19.3.2.5. Four (4) Whelen, clear linear, strobe heads shall be mounted on the truck – Two (2) at the rear and two (2) at the front of the vehicle near the grille of the cab
19.3.3. Flash pattern for all light bars and strobes must be capable of alternating between and asymmetric, low-frequency, “wig-wag” pattern and a low-frequency double or quad flash
19.3.4. Light bars shall meet all applicable Federal and State laws and regulations
19.3.5. All safety lights shall be SAE J845 360-degree Class 1 certified
19.3.6. Capable of dimming automatically vi photo-sensor
19.3.7. All safety lights to be controlled by an in-cab programmable controller
19.3.8. Programmable via Windows PC software
19.4. Night lighting system
19.4.1. Ten (10) high-output rectangular LED work lights shall be provided on the unit for nighttime striping operations
19.4.1.1. Two (2) lights shall be mounted on the deck area to illuminate the equipment
19.4.1.2. Two (2) lights shall be mounted on deck area by the rear operator
19.4.1.3. Two (2) lights – 1 forward pointing and 1 rear pointing towards each carriage cart shall be

EQUIPMENT SPECIFICATIONS

19.4.2. Four (4) road lights – illuminating each carriage and roadway, forward of the cart

19.5. Arrow board

19.5.1. Shall be mounted on the rear area of the equipment platform and capable of flashing a directional arrow to either the left or right side

19.5.2. Shall have a minimum of 25 hooded, LED amber lamps, with a dimension of approximately 48 inches by 96 inches

19.5.3. Shall pivot from a horizontal storage position to a vertical position for operation

19.5.4. A 12-volt electric linear actuator shall be provided to raise and lower the arrow board from the vertical to the horizontal position.

19.5.5. The toggle type control switch shall be mounted on the operators control console

Comply: ____Yes ____No

20. ACCESSORIES

20.1. Thermo drain pans (4 each)

20.2. Operator comfort cooling fans (total of 4 fans)

20.3. Tool Box

20.3.1. Recommended tools shall be provided

20.3.2. Foam cutouts and labeled drawers

20.4. Spare Parts Box

20.4.1. Recommend spare parts shall be provided

20.4.2. Labeled with part numbers and quantities

Comply: ____Yes ____No

21. TECHNICAL INFORMATION

21.1. The bidder will provide parts list, manuals, wiring diagrams, and detailed specifications on the following components:

21.1.1. Chassis

21.1.2. Thermoplastic Handling Equipment

21.1.3. Glass System

21.1.4. Glass Guns

21.1.5. Thermoplastic Pumps

21.1.6. Guidance System(s)

21.1.7. Skip Timer System

21.1.8. Intercom System

21.1.9. Thermoplastic Guns

21.1.10. Compressor

21.1.11. Gun Carriage System

21.1.12. A computer-generated engineer's detailed layout with weight distribution shall be provided with the bid submittal showing the location of Thermoplastic equipment, air and glass supply equipment, and other equipment necessary for the successful construction of the traffic striping machine.

21.1.13. Failure to supply information as requested for the previous items with the bid will cause the bid to be irregular and it will not be considered

EQUIPMENT SPECIFICATIONS

21.1.14. The successful bidder shall supply two (2) sets of electronic version operator's manuals, service manuals, parts books, wiring diagrams and applicable technical information for each machine purchased

Comply: ____Yes ____No

22. TECHNICAL SERVICES

22.1. The services of at least one (1) competent technician, trained in the use and operation of the thermoplastic machine, shall be furnished for a period of three (3) consecutive days to be scheduled at the discretion of the Authority for each machine purchased. This service shall be provided to instruct the purchaser's personnel in the use, operation, and maintenance of the machine on acceptance.

22.2. Pre-Delivery Conference (virtual)

22.2.1. A pre-delivery conference shall be held virtually, via Microsoft Teams or another platform. This meeting shall take place at or around 80-85% completion of the unit.

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**