ORDER: AUTHORIZE ADVERTISEMENT FOR SEALED BIDS FOR PURCHASE OF ONE PATCH TRUCK FOR THE ROAD DEPARTMENT

Motion was made by John Morgan, duly seconded by Tim Gordon, to authorize advertisement for sealed bids for purchase of one Patch Truck for the Road Department.

The vote on the motion was as follows:

Supervisor Brent Larson, voted yes
Supervisor John Morgan, voted yes
Supervisor Tim Gordon, voted yes
Supervisor Scott Allen, voted yes
Supervisor Greg Bynum, absent

After the vote, President Larson, declared the motion carried, this the 7th day of October, 2024.

Brent Larson, President
Board of Supervisors

Mike Roberts, Chancery Clerk

ADVERTISEMENT FOR BIDS

STATE OF MISSISSIPPI
COUNTY OF LAFAYETTE

Sealed bids will be received by the Board of Supervisors of Lafayette County, Mississippi, until 10:00 A.M. on Friday, November 1st, 2024, in the Chancery Clerk's Office, 300 North Lamar, Oxford, Mississippi, 38655 for purchase of one or more Patch Trucks for the Road Department.

LAFAYETTE COUNTY – BID NUMBER 338
ONE OR MORE PATCH TRUCKS

Complete specifications may be obtained from the County Administrator's office located at 300 North Lamar, Oxford, MS 38655 or by email at kvictor@lafayettecoms.com
.

Bids must include "Lafayette County-Bid Number 338, "One or more patch trucks" on the outside of the sealed bid. Bids will be awarded to the lowest and best acceptable bidder, except that the Board reserves the right to reject any and all bids.

Published by order of the Board of Supervisors of Lafayette County, Mississippi.

Kate Victor
County Administrator
Lafayette County, Mississippi

October 9 and 16, 2024

Revision Date: 09/2020

1.1	Unit shall be truck mounted with a forward mounted boom and use the Spray Injection method to repair cracks, potholes, broad distressed areas and shoulders at a minimum. For operator visibility and safety, the boom must fold horizontally and store at height below windshield. Units with vertical storing booms will not be accepted. All patching operations must be controlled from the safety of the truck cab. The unit shall be capable of blowing water, dust or debris from the pothole or surface to be repaired. A tack coat of hot emulsion shall be applied by the unit on the cleaned area. Emulsion-coated aggregate must be injected into the repair area. The machine shall be capable of operating in temperatures down to 5 degrees Fahrenheit. The delivery of aggregate and emulsion to the patch shall not require augers, conveyors or pumps to operate.	
1.2	The equipment being bid must be new, current year production and meet the needs of this specification without modification. The model must be currently advertised, have been in production for a min. of two years and have a working volume of not less than called for in this specification. Hybrid, one-off or prototype equipment is unacceptable.	
1.3	These specifications are not intended to be restrictive, but are meant to describe the kind and size of unit desired to be purchased in detail. If bidder is basing the proposal on equipment other than what is specified in these bid documents and wishes the equipment to be considered as an "approved equal" they shall submit on a separate sheet, an item by item description of that which is proposed. The bidder's specifications must be complete and of sufficient detail to cover all items included in this bid specification and in a manner that allows a direct comparison. Any item not covered will be deemed as not meeting specifications.	

2.1	Spray Injection design with aggregate supplied from hopper by gravity feed.	
2.2	Chassis mounted and rated for highway class use.	
2.3	Horizontal folding forward boom operated from cab.	
2.4	Electric blanket heated emulsion tank.	
2.5	Emulsion tank capacity of 300 gallons.	
2.6	Overnight electric heating for maintaining emulsion temp.	
2.7	Air delivery system with no augers or conveyors	

3.1	Tank construction must be an ASME certified pressure vessel and include a contents gauge.	

3.2	Tank with 300 gallon capacity, tested to 195 psi at ambient temperature.	
3.3	Minimum R15 rated fiberglass insulation.	
3.4	Waterproof fire retardant fiberglass tank wrap over insulation.	
3.5	12" minimum loading hatch equipped with "T" bolt closures.	
3.6	Minimum 3" drain valve installed on bottom of tank.	
3.7	In operation emulsion shall be heated by a circulating oil loop running continuously along emulsion path from tank to nozzle. Circulating oil shall be heated by the auxiliary engine coolant via a plate type heat exchanger. Systems that rely on the chassis engine coolant for heating will not be considered.	
3.8	Overnight heating shall be done with two electric heat blankets wrapped under the tank (1500W minimum each). A thermostat and overnight heating extension cord will be included. Heating probes will not be considered for alternate as they do not allow tank pre heating and 100% use of emulsion tank volume.	
3.9	Heating system must be capable of operating continuously whether tank is empty or full without damage to the heating system and controls.	
3.1	Must have thermostatic control switch.	
3.11	Empty tank must be capable of being pre-heated prior to filling without damage to tank heating system or shock to emulsion.	
3.12	System must be capable of maintaining heat so as to allow operation of patcher in ambient temperatures as low as 5 degrees F.	

4.1	The frame is to be constructed of minimum 10" gusseted steel channel for safety and strength.	
4.2	Aggregate hopper of 5 yard min. capacity with min. 9 ft. x 7 ft. rectangular top opening to allow easy loading from a front end loader bucket.	
4.3	A hopper vibrator will be included and wired to operate from joystick via a momentary push button switch.	
4.4	Steel round fenders shall be included and equipped with mud flaps and anti-sail brackets.	
4.5	The Patcher frame shall be secured to the truck chassis with eight square U-bolts and two additional side straps.	
4.6	A 10 lamp LED directional arrow board will be mounted at the back of the machine and be selectable for left/right or both traffic control.	
4.7	The Patcher frame shall incorporate amber and red LED marker lights along its frame according to federal highway standards.	
4.8	The Patcher frame shall contain two LED rear tail lights. Lights shall be wired in conjunction with truck tail lights for running, braking, and turning.	
4.9	Patcher will feature two separate Class 2 LED amber 360 degree strobe lights mounted at top of Patcher for 360 degree visibility.	
4.10	Patcher is designed to be mounted on a 33,000 GVW cab over chassis.	

5.1	The pothole patching machine shall receive aggregate from the integrated hopper. No augers, conveyors, or any other mechanical devices shall be allowed. It must have the ability to pass aggregate up to 2-1/2" in size without clogging or manual adjustment. No machine will be considered without demonstrating this capability. The aggregate feed system must be capable of reliably delivering 1/4" - 3/8" aggregate within an engine RPM range of 1200 - 1800.	
5.2	Integrated 5 yd Hopper, rectangular in shape with 9ft x 7ft. Opening.	
5.3	Hopper equipped with dual slide gates. Uppder gate is service gate valve to shut hopper from aggregate delivery. Second slide gate used in patching operation to open and close aggregate hopper to air stream.	
5.4	Venturi designed to draw aggregate into the air stream. Must have access panel.	
5.5	Must be able to clean or replace venturi standing at ground level.	
5.6	Aggregate hose will be a minimum 3.5" ID. Non-kinking, wire reinforced rubber hose with neoprene liner.	
5.7	Emulsion Hose Heating by A 12 volt pump shall circulate heat transfer oil through a pipe inside the emulsion tank and min. 3/8" diameter lines the full length of the hose to the emulsion nozzle, then back. All parts including emulsion valves, hose, and nozzle will be heated by this hot fluid heating system.	
5.8	Equipped with Vent-Flow nozzle. The nozzle shall be designed so it diffuses/ slows down the air stream at the tip to minimize overspray. The emulsion nozzle will be slotted to create a single fan of emulsion to properly coat the aggregate. The nozzle may be warmed with an optional separate low voltage DC heating blanket to prevent material build up during cold weather operation.	

6.1	The pothole patching machine will be equipped with a 4 axis, heavy duty, hydraulically manipulated boom arm assembly used to position the Vent-Flo nozzle. The arm and control must prevent the nozzle from moving beyond the side of the vehicle into the traffic lane. Boom designs that stow for travel and obstruct driver view will not be considered.	
6.2	Boom range of motion must allow repair a minimum of 36" beyond the side of the vehicle on the passenger and 24" on the driver's side without repositioning the truck chassis.	
6.3	The front discharge nozzle must be vertically adjustable to compensate for vehicle height variations. Vertical adjustment must be controlled by joystick inside cab.	
6.4	In storage and transport the boom must fold against the bumper of the vehicle and in no way obstruct the driver's vision when locked in the transport position. This is a safety issue! Nor shall it interfere with the factory mounting and use of the truck headlights in order to maintain compliance with NHTSA standards.	
6.5	The boom must have a stow support for traveling to eliminate bushing fatigue at all pivots.	
6.6	All boom pivot points must be lubricated and fully replaceable in the field.	
6.7	The boom must have a minimum reach of 120" from the bumper.	
6.8	The emulsion control valve must be mounted near the emulsion nozzle and be electronically controlled via a CANBUS communication cable.	
6.9	The nozzle must rotate through a 36 inch radius and have a vertical range of motion no less than 8 inches at the nozzle tip.	

7.1	The control system shall be located in the truck cab and be a modular unit that includes mounting base. The console will be fully adjustable in design with a cushioned armrest and operator interface panel located at the operator's fingertips. The console must include a color display for function indicators and engine information. The Joystick will control all movement of the boom and patching operation.	
7.2	The control system shall be located in the truck cab and be a modular unit that attaches to driver's seat. Console will be adjustable fore & aft and for height. Console will move with any driver's seat adjustments.	
7.3	The console will feature a key switch to control rear auxiliary engine, an illuminated rocker switch to control emulsion override valve, a full function joystick, and a color Human Machine Interface to program and monitor Patcher functions.	
7.4	All switches are to be illuminated with function. Color HMI screen will be self-illuminating. Buttons on HMI screen will be backlit.	
7.5	The fully proportional joystick will have color coded push buttons to select operation mode and activate vibrator.	
7.6	Joystick shall be a right handed unit mounted to console. Joystick shall use proportional position inputs to control boom speed. Joystick shall connect to controller using CANBUS communication.	
7.7	Thumbstick shall be integrated into joystick and control movement of the 3rd boom section with operator's right thumb.	
7.8	Human Machine Interface, HMI, will feature a 4.3" color display and utilize four push buttons and a cursor button mounted below the screen. HMI shall be on an adjustable mount for operator comfort.	
7.9	Control shall maintain a count of patches performed over the lifetime of the machine as well as patches performed this shift (within the last 12 hours).	
7.10	Boom speed shall be adjustable on HMI screen. Control will also feature a "Feather" mode activated by a momentary push button on the joystick that will decrease the speed of the boom movement by an adjustable amount. Emulsion & rock volume shall decrease proportionally when "Feather" mode is activated.	
7.11	Control shall notify operator of fault using HMI screen. Control shall display active faults on HMI screen. Control shall archive old faults to aid in troubleshooting.	

8.1	The unit will be equipped diesel engine with spin-on type oil and fuel filters. It will be joined to the frame with rubber engine mounts to prevent vibration transfer. A management system will be located on the engine enclosure for ease of operation and maintenance.	
8.2	The unit will be equipped with a water cooled direct injected turbocharged diesel engine. The auxiliary engine will have spin-on type oil filter. Rubber isolation engine mounts are required.	
8.3	Auxiliary engine will feature a spin-on type fuel filter with integrated water drain and a 5 micron rating.	
8.4	The engine will be protected with an engine enclosure that is certified by the manufacturer. It will be lockable for security and provide noise reduction for operator safety.	
8.5	Auto shutdown protection will be provided for oil pressure and coolant temperature.	
8.6	The Final Tier IV engine will be rated at no more than 74HP and be able to operate the delivery system to fill a patch with 1/4" stone @ 1100 RPM and 1 ½ " stone at no more than 1800 RPM.	
8.7	Engine cover will enclose engine, battery and hydraulic pump.	
8.9	The unit will include a min. 18 gallon Diesel fuel tank.	
8.10	Auxiliary engine will have horizontal muffler mounted above the engine with a vertical exhaust and rain cap.	

8.11	A minimum 13 gallon pressurized vessel will be included for flushing of emulsion lines and nozzle after use. It shall be equipped with a pressure relief valve set at 110 PSI.	
8.12	Engine must be electronically controlled and communicate with Patcher control system on the CANBUS network.	

9.1	The unit will incorporate a direct driven high volume low pressure roots type blower to operate the delivery system. No conveyor or auger type systems will be allowed due to higher wear parts and maintenance associated with those designs. An air compressor driven off the engine will also be required to pressurize the emulsion system. No pumps for emulsion delivery will be accepted.	
9.2	Spring loaded relief valve shall be set to 12 psi for aggregate blower protection.	
9.3	Blower shall be driven directly off of engine flywheel using a coupling designed for use with mobile internal combustion engines. Coupling shall have sacrificial rubber element.	
9.4	Blower shall use a 45 ft2 air filter mounted directly above blower. Air filter shall utilize foam prefilter. Filter change shall be accomplished without tools. No part of the patcher should be over the filter housing so as to make access easy.	
9.5	System will incorporate silencer to reduce noise associated with high volume blower airflow.	
9.6	Air compressor shall have 8.5 CFM capacity and be driven off of rear auxiliary engine. No use of high pressure air from the braking system of the truck chassis shall be permitted due to potential safety	
9.7	All pneumatic rams, valves, and air dryer shall be Parker brand and come with a 5 year product replacement warranty.	
9.9	No conveyors, augers or pumps will be used in the aggregate or emulsion delivery systems.	

10.1	The unit shall be painted Hi-Visibility Green with Sherwin Williams acrylic paint. It will be equipped with required safety decals and signage.	

11.1	The Patcher will be delivered mounted on the specified chassis. See attachment B for detailed requirements for truck chassis.	

12.1	The manufacturer shall warranty the equipment for a period of one year. Auxiliary engine must be covered for major components for a period of 2 years or 2000 hours. All pneumatic rams, valves, and air dryer shall be Parker brand and come with a 5 year product replacement warranty. Bidder warranty policy must be included with bid submittal.	
12.2	**Bidder must have parts, service and warranty support in the State of Mississippi**	**Yes**

	Aggregate hopper heater.	

	12 volt DC nozzle heating blanket.	
	Rear view camera.	
	Tool box side frame mount.	
	30 x 60 LED arrow board in lieu of standard.	
	Cleanout drip tank.	
	10lb. fire extinguisher.	
	Directional LED arrow board.	
	Vandalism package.	

1.1	Will be of cab over engine (COE) design.	
1.2	Will have a GVW of 33,000 lbs.	
1.3	Shall be the manufacturer's latest model, furnished and delivered new, complete, and ready for use.	
1.4	Will feature a 107 decibel backup alarm.	

2.1	Will be an inline 6 cylinder, turbocharged, and intercooled diesel engine.	
2.2	Will produce 240 horsepower.	
2.3	Will achieve 560 ft. lbs. of torque.	
2.4	Will include a 120V engine block heater.	
2.5	Will have alarm for low oil pressure, high coolant temperature, and low coolant level or equal.	
2.6	Will include dry type air, spin-on fuel, oil, and water filters.	
2.7	Will have a horizontal exhaust system, exiting behind the cab and below the frame.	

2.8	Will have heavy duty, thermostatically controlled cooling system with maximum radiator frontal area from the manufacturer. Fan drive will be matched to cooling system requirements. System will be protected with permanent type anti-freeze.	

3.1	Will be an Allison 2500 Highway Series, 6 speed transmission.	
3.2	Will have a console mounted push button shifter.	

4.1	Will be a heavy duty single drive rated at 21,000 lb. minimum.	
4.2	Will have a 5.29 rear axle ratio.	
4.3	Will have multi-leaf heavy duty Reyco mechanical suspension rated at 21,000 lb. minimum.	
4.4	Will include a rear axle stabilizer bar.	

5.1	Will be a heavy duty forged I beam axle rated at 12,000 lb. minimum.	
5.2	Will have parabolic leaf spring suspension rated at 12,000 lb. minimum.	

6.1	Will have air brakes with reservoirs, warning devices, and gauges meeting all D.O.T. regulations.	
6.2	Will have disc brakes on front axle.	
6.3	Will have drum brakes on rear axle.	
6.4	Will feature a Wabco SS1200 Plus air dryer with coalescing filter.	
6.5	Will have an engine mounted air compressor capable of achieving a minimum of 18.7 CFM.	

7.1	Will have hub piloted steel disc rims.	
7.2	Will use 11R22.5 size tires.	

8.1	Will use standard 10" steel rails with 34" frame spacing.	
8.2	Will feature a section modulus RMB of 1.4 million lb/in.	
8.3	Will have a 158" wheelbase.	
8.4	Will have a 108" overhang from rear axle.	

9.1	Will have a 45 gallon minimum fuel tank located on driver side frame rail.	
9.2	Will have a 7.5 gallon rectangular DEF tank mounted on driver side frame.	

10.1	Will be a 12 volt negative ground system.	
10.2	Will be powered by a 160 amp brushed alternator.	
10.3	Will use two dual purpose batteries to provide 1400 CCA.	
10.4	Will include a steel battery box mounted on right hand frame rail.	
10.5	Will feature a Big Switch battery disconnect located at battery box.	

11.1	Will use a factory built cab with left hand drive configuration.	
11.2	Will hydraulically tilt forward 55 degrees for engine service.	
11.3	Will include two power west coast heated mirrors with power tilt.	
11.4	Will include intermittent windshield wipers and washer system.	
11.5	Will include directional lights and four way flashers.	
11.6	Will include door activated interior courtesy light.	
11.7	Will feature a 5" LCD productivity screen.	
11.8	Will have cruise control.	
11.9	Will have power windows.	

11.10	Will have heating and air conditioning with radiator mounted condenser, dedicated side window defrosters, bi-level heater/defroster controls, and capable of producing 54,500 BTU/hour.	
11.11	Will feature an air suspension high back fabric driver seat.	
11.12	Will feature an air suspension high back fabric passenger seat.	
11.13	Will include all I.C.C. required marker lights.	
11.14	Will feature an AM/FM radio with WeatherBand frequency, USB input, and BlueTooth equipped.	
11.15	Will feature a center console with two cup holders and a lockable storage compartment.	

12.1	Will have first quality paint or coating for appearance and protection.	
12.2	Cab will be ice white in color.	
12.3	Frame & supporting components will be black.	
12.4	Rims will be white.	

13.1	Basic vehicle will be 12 month, unlimited mile.	
13.2	Engine will be 24 month, unlimited mile.	
13.3	Automatic transmission will be 36 month, unlimited mile.	
13.4	Axles and suspension will be 24 month, unlimited mile.	
13.5	Structural elements of frame & cab will have a 36 month, unlimited mile warranty.	
13.6	Cab will have a 36 month, unlimited mile warranty against corrosion.	