# BID SPECIFICATIONS
# FOR
# ONE MAN POTHOLE PATCHER – OPTION B
# DURAMAX
# $207,777.00 (INCLUDING OPTIONS) TIER 4

**GENERAL**

These specifications shall be construed as the minimum acceptable standards for a single-operator, truck-mounted, automatic pothole patcher with a remote-controlled boom operated from the driver's seat of the truck chassis. Should the manufacturer's current published data or specifications exceed these standards, the manufacturer's standards shall be considered minimum and shall be furnished. All integral parts not specifically mentioned in the scope of these specifications that are necessary to provide a complete working unit shall be furnished. Additionally, the machine for bid offered shall include all standard manufacturers' equipment. The one man pothole patcher must be a new current production model and shall meet all EPA applicable standards at the time of manufacture.

The use of specific names and numbers in the specification is not intended to restrict the bidder or any seller or manufacturer, but is intended solely for the purpose of indicating the type, size and quality of equipment considered best adapted to the uses of counties participating in this joint bid.

**BID SUBMITTAL FORM**

Each bidder must submit his or her bid on the Bid Submittal Form included in the Invitation to Bid package. All written warranties to be submitted shall be attached to the Bid Submittal Form.

**BID PRICE**

The bid price shall include all destination charges, delivery charges, title fees, rebates, and all other applicable costs and refunds.

**MANUALS**

Each unit will be provided with one (1) copy of the operator's manuals, one (1) copy of the current parts manuals and (1) copy of the repair manual. Units will not be accepted for delivery until the manuals as outlined above are received by the purchaser.

**WARRANTY**

Units purchased under this specification shall be warranted against defects in materials and workmanship for a period of not less than one year from date of delivery to customer. Items thought to be defective will be returned to factory prepaid to be repaired or replaced.

Yes ___ No ___
Page #_____
or
Attachment_____

**MINIMUM REQUIREMENTS**

The truck-mounted machine shall be designed and constructed to repair larger cracks, potholes, and broad areas and completely controlled by one person from the driver's position of the truck cab with no support equipment necessary. The machine shall be capable of blowing water, dust or debris from the pothole or surface to be repaired. The machine must be capable of patching while moving forward or reverse, must be capable of patching at temperatures as low as 5 degrees F, and must be able to perform all patching functions with transmission engaged and in motion. The machine must be capable of performing each of the following functions:

-- clean cracks and surfaces

-- spray liquid asphalt emulsion over area to provide a tack coat

-- apply emulsion-coated aggregate to provide a high-density cover repaired area with dry aggregate

Yes ___ No ___
Page #_____

**DIMENSIONS**

Width and height to meet State and Federal requirements without requiring oversize permits

Yes ___ No ___
Page #_____

CHASSIS: CAB-OVER Crane Carrier Co., C0E2 or Equivalent

Minimum Requirements:

| | |
|---|---|
| GVWR : | 33,000 lbs. |
| Front Axle: | 14,600 lbs. |
| Rear Axle: | 23,000 lbs. Springs-23,000lbs. |
| Air Brakes: | 20.8CFM @ 2,600 rpm |
| Engine: | 300hp @ 2,600 diesels, 6.7liter, with 18.7CFM Air compressor |
| Wheelbase: | 177" |
| Cab-to-axle: | 145" |
| Overall Length: | 300" |
| Turning Radius: | 25' |

Yes ___ No ___
Page #_____

**Tires:** Front Single highway tread, Rear dual highway tread**-**11R22.5-14

Yes ___ No ___
Page #_____

**Wheels:** 11.25inch B.C. hub piloted

Yes ___ No ___
Page #_____

**Transmission:** Allison, 3000 RDS or Equivalent

Yes ___ No ___
Page #_____

Lights, Day time running lights, Map light, turn signal/hazard, 12 volt power outlet, Air, Coolant, Fuel, Temperature Gauge, Speed-o-meter & Trip meter, Tachometer, back up alarm, tinted glass cruise control am/fm radio. Tool box mounted on the truck chassis

Yes ___ No ___
Page #_____

**AGGREGATE SYSTEM:**

The aggregate tank shall be rectangular in shape and have a minimum capacity of 5 cubic yards. The opening on the tank shall be large enough in length to accommodate loading from large industrial loaders and have a safety screen in place. Aggregate system shall perform with wet or dry material. The hopper box will be equipped with two (2) air operated slide gates. Aggregate shall be fed via gravity into the venturi air system which will create a vacuum to draw it into the aggregates hose to provide a constant and even flow of material. The blow-vac system must be capable of passing 2-1/2 inch material without clogging the feed system**. The hopper shall be equipped with a roll tarp system capable of being operated by one person.**

Yes ___ No ___

Page #_____

**AGGREGATE CONDUIT SYSTEM:**

The aggregate conduit system shall consist of an abrasion resistant 3-1/2 inch ID flexible non-kinking plastic wire reinforced rubber neoprene-lined hoses designed for long life. The flexible hoses shall be fitted with a vent flow nozzle that has a ½ inch by 1/16 inch single spray slot incorporated in the nozzle body. No multiple spray slots or rings will be accepted. The perforated holes in the vent flow nozzle shall relieve air pressure as the aggregate mix exits the nozzle to prevent the coated aggregate mix from being blown out of the repair area. The unit must not prevent over-spray of material therefore allowing repairs to be made close to objects such as cars and curbs.

The operator will control the flow of aggregate with the RPM's of the auxiliary engine only. No belts, conveyors or two speed blower controls will be accepted.

The unit must be capable of dispensing aggregate at the rate of 135 lbs. per minute in continuous operation under normal patching conditions when using ¼ to ½ in aggregates. Unit must be capable of performing repairs with aggregate up to ¾ inch in size. Yes ___ No ___

Page #_____

**AUXILARY ENGINE:**

The pothole patching machine shall be powered by a liquid cooled diesel tier IV engine with a rated gross horse power of 49 BPH. The engine must carry a factory warranty of two (2) years. The engine must be enclosed by an engine compartment with an access door and the enclosure will be lined with sound suppression material. Enclosure shall be powder coated black. Engine shall be protected with an automatic shut down system to protect against a loss of engine oil pressure and overheating. Yes ___ No ___

Page #_____

**BLOWER SYSTEM:**

The blower shall be directly coupled to the flywheel of the engine. It shall produce a minimum of 450 CFM at 7 PSI at 1800 RPM's. The blower shall be protected from overheating by a pop-off valve set at 10PSI. The filter for the blower shall be an easily accessible paper type with a minimum of 175 square inches of filtration

Yes ___ No ___

Page #_____

The emulsion tank shall be an ASME certified pressure vessel with a minimum capacity of 300 gallons. It shall have a 200 PSI working pressure at 500 degrees F. It shall be insulated with 2 inch fiberglass insulation with an R value of 15 and covered with a weatherproof, fire retardant re-enforced plastic cover with metal end caps. Overnight heating will be done with 2-1500 watt, 120 volt heater blankets that are thermostatically controlled. The heater blankets are wrapped around the outside if the tank to provide gentle heat on the emulsion tanks itself to avoid putting direct heat on the emulsion. The heating system shall be capable of operating continuously regardless of whether the emulsion tank is empty or full with no damage to the heater blankets or other components. This allows and empty tank to be preheated in cooler weather. The tank shall have a pressure relief valve set between 100 PSI and 110 PSI. The tank must have a minimum 12 inch filler neck with a T-bolt closure.

Tank shall have a 5 inch dial thermometer that is visible from ground level. Yes ___ No ___

Page #_____

The unit must feed the emulsion via a pressurized emulsion tank to allow the system to be unaffected by cold weather. Must be capable of performing in temperatures as low as 0 degrees F. Yes ___ No ___

Page #_____

**EMULSION CLEAN OUT SYSTEM:**

The emulsion clean out tank shall be a 15-gallon pressurized vessel with a working pressure of 200 PSI at 450 degrees F. It shall have a pressure relief valve set at 100 PSI to 110 PSI. In the open position, diesel or solvent from the clean out tank will flow through the emulsion line and valves to allow the system to shutdown without clogging.

Yes ___ No ___
Page #_____

No disassembly or soaking of any part of the emulsion system will be necessary. The entire cleanout procedure shall not get emulsion, diesel or solvent on the operator.

Yes ___ No ___
Page #_____

**HOT FLUID HEATING SYSTEM:**

The unit shall come equipped with a heat exchanger system to keep the emulsion lines and valves hot during operation in cool or cold weather. A 12 volt circulation pump shall circulate heat transfer oil through a 2 inch diameter, 4 foot long pipe inside the emulsion tank, around the valve, to the spray nozzle and back to the heat exchanger. This will help maintain heat in the emulsion tank and will keep the nozzle at 140 to 160 degrees F for cold weather operation. No units circulating engine coolant will be accepted.

Yes ___ No ___
Page #_____

**PATCHER FRAME:**

The frame shall be constructed on 10 inch channel main beams with steel rectangular tubing for the other frame members and is equipped with brake and tail lights with directional signals. The patcher dimensions shall be 92 inches wide, 220 inches long and 76 inches high. Empty patcher shall weigh at a minimum 6320 pounds. The patcher shall be painted high-visibility orange except for engine enclosure and minor components that will be powder coated black.

Yes ___ No ___
Page #_____

**FRONT MOUNTED BOOM AND CONTROL SYSTEM:**

The unit will be a fully proportional, 3-axis, single joystick that is modular in construction. The system is used in conjunction with a hydraulically operated mechanical arm mounted to the truck. The arm is used to position the vent flow nozzle over the section of the roadway needing repair. The system must be operable by a single person from the driver's seat in the cab of the truck with minimal
training.

Yes ___ No ___
Page #_____

**CONTROL SYSTEM:**

The control system shall be a modular unit that includes a mounting base. The console is a fully adjustable design with a cushioned armrest and operator interface panel located at the operator's fingertips. The console will have 3 easily accessible switches that control the master power, engine kill and pump control. All switches are to be illuminated with function. The console must have a display area for function indicators and engine information.

Yes ___ No ___
Page #_____

The joystick shall have a non-gated X and Y axis that are 100% proportional. The joystick shall have a second thumb actuated switch with a gated X and Y axis that are 100% proportional. The joystick handle will have buttons for selecting functions including: throttle, emulsion flow, vibrator and rock flow. The joystick shall be able to control 4 proportional valve functions simultaneously. All proportional control must be provided by a programmable controller that monitors the joystick positions and all inputs.

Yes ___ No ___

Page #_____

The programmable controller shall be an Epec model programmable controller or equal. It must have CAN ports that can accept J1939 or CANOpen devises for expansion. The controller must have a minimum of 6 analog inputs, 11 digital inputs and 22 programmable output configurable for PWM or digital output. The PWM outputs shall be current regulates and will operate in the selected range regardless of fluctuations in the truck system voltage. The controller must have flash memory to be able to store parameter values for the controller. These parameters must be able to be altered by the user Yes ___ No ___
Page #_____

The system must have safety control protection for all valve functions to prevent inadvertent motion during transport for safety. The controller system shall incorporate the use of short circuit protected outputs. Shall also have a power input range of no less than 10 and no more than 30 volts. The controller must be protected from over voltage situations. The operating temperature of the system shall be -40C to 70C. In the event of an arm position sensor error, the system must be able to be put into a safety mode that ties the main arm movement to an axis of the joystick and the secondary arm to the other axis.

Yes ___ No ___
Page #_____

**Mechanical ARM:**

The unit must come with a 4 axis, heavy duty, hydraulically manipulated assembly used to position a dispensing nozzle. The arm and control must prevent the nozzle from moving beyond the side of the vehicle into the traffic lane. The range of motion must allow repair a minimum of 36" beyond the side of the vehicle opposite the traffic lane. The nozzle must be vertically adjustable to compensate for vehicle height variations. The mechanical arm (boom) is to 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! Yes ___ No ___
Page #_____

All pivot points must be greaseable and replaceable. The arm must mount to the passenger side of a truck bumper with 4 bolts. A stow bracket, and a welded cylinder bracket are also attached to the bumper. The arm must have a stow support for traveling to eliminate bushing fatigue at all pivots. All arm cylinders and rotary actuator must utilize counter balance valves to maintain position while moving the truck or
operating the arm. Yes ___ No ___
Page #_____

The emulsion control valve must be mounted near the emulsion nozzle and all hoses to the tank must be protected in insulating wrap to prevent clogging. The arm must have a minimum reach of 96 inches from the bumper. The nozzle must rotate through a 36 inch radius and 270 degrees of rotation and have a vertical range of motion no less than 8 inches at the nozzle tip.

Yes ___ No ___
Page #_____

**Wiring and Connection Specifications:**

Wiring and harness system should meet ISO rating IP68 and NEMA 6. The connectors should be zinc die cast E-coated, similar to a MIL spec connector. Each should have three sealing points- the lock ring itself, a raised portion of the molded plastic around each pin, and a viton O-ring that seals the whole connector. The cable jacket should be TPE- thermoplastic elastomer, and molded to the connectors. Connectors and harness should be rated and tested for a temperature range from – 30C to + 70C. Connectors should be tested to be water tight when submerged in 6'

of water for 24 hours, in 275' of water for 1 hour, and when subjected to a 1000-psi pressure wash. The connectors should be designed to have NO corrosion after 500 hours in a 35C salt spray. Cabling should be rated excellent in its resistance to oxidation, heat, oil, low temperature flexibility, weather, sun, ozone, abrasion, electrical priorities, flame, water, acid, alkali, gasoline, benzol, toluol, degreaser solvents, alcohol, and weld slag.

Yes ___ No ___
Page #_____

**Hydraulic Valve Enclosure:**

The intent of this specification is to describe a hydraulic valve enclosure designed for over-the-road and mobile applications. The Enclosure must be constructed of minimum 10-gauge steel with the option of stainless steel construction.

Yes ___ No ___
Page #_____

Enclosure must be of template style for bulkhead "through" mounting of the valve and be completely free from internal tubing or hoses from the work ports and inlet of the valve. The valve must be electrically operated proportional type and must be removable as a unit with template for service and accessibility. Enclosure shall have gusseted frame mounting flanges for horizontal mounting to the truck frame.

Yes ___ No ___
Page #_____

There shall be optional side access panels for further service and accessibility and the provisions for cable or electronic control valves. All panels must have formed gaskets and be weather sealed with bottom welded mounting nuts for panels. All panels and valve plate to be secured with stainless steel bolts. Enclosure lid shall have handles and a minimum of six latches for quick release and easy access to valve compartment. Lid shall seat against buna style lip seal incorporated beneath and against the entire length of the lid assembly. The Assembly will be designed to accommodate a variety of valve controls including, mechanical cables, pneumatic and electrical and any combination thereof

Yes ___ No ___
Page #_____

Electrical, air and cable connections shall be made via bulkhead connectors on the front (cab) side of the enclosure. Hydraulic hose connections shall be made through the bottom of the valve plate for easy access. Enclosure must be symmetrical and capable of mounting on either side of the truck frame. Model MTEA-200 ValveGuard enclosure is acceptable.

Yes ___ No ___
Page #_____

**Cartridge Control Valve:**

Integrated valve to be of the cartridge design capable of 20 GPM input flow. The unit will have four proportional 3 position 4 way, closed center design used in conjunction with a pressure compensator. Manual overrides are provided on each of the cartridges in case of a power failure or interrupt. 12volt electrical connections to be of DIN style. Optional Load sense port for horsepower limiting and full load sense capabilities. An optional relief valve integrated into the manifold available for circuit protection. Unit to have 0-6 GPM control range for each valve. StormGuard Series Valve, SG040900XX is acceptable.

Yes ___ No ___
Page #_____

**HYDRAULIC FLUID RESERVOIR:**

The hydraulic fluid reservoir must contain a replaceable filter, filler breather, sight gauge, drain port, suction strainer, temperature switch, low level float switch, and a remote mounted fluid cooler with electric fan. The reservoir must be

powder coated, black in color, frame mounted, and made of steel.

Yes ___ No ___
Page #_____

**WARNING LIGHTS:**

30" x 60", two-way lighted arrow board with cab controls. Cab-mounted rotating beacon.

Yes ___ No ___
Page #_____

**FINISHING:**

The entire unit shall be primer painted and finished with a high grade of enamel paint to match manufacturer standard color.

Yes ___ No ___
Page #_____

**DESIGN:**

This unit applies tons of highly abrasive aggregate per day. All features of this pothole-patching machine have been designed to reduce wear and maintenance costs.

Yes ___ No ___
Page #_____

**DEMONSTRATION:**

In order to be considered for purchase, any company wishing to supply the equipment described in this specification must perform a satisfactory on-site demonstration for evaluation by the buyer. This demonstration must also include an operator from the purchasing agency operating the unit for not less than one hour continuously. Aggregate of 2.5-inch diameter will also be fed through the aggregate feed system to determine specification compliance. The test unit will be compared with the complete specification at this time.

Yes ___ No ___
Page #_____

**ENVIRONMENTAL:**

The unit must not produce more than one (1) quart of waste fluid in the process of preparing the machine to patch, nor during the cleanup sequence before storing the machine overnight. The use of one (1) quart or less of waste fluid must be sufficient to prepare the emulsion spray system for operation or for its normal cleanup and storage.

Yes ___ No ___
Page #_____

**OPTIONS:**

**Bid must include the cost for each of the following options, itemized separately on the bid:**

Cab mounted display attached to a camera mounted on the rear of the unit so the operator can see behind the truck.

Yes ___ No ___
Page #_____

30” x 60” Arrow board in lieu of standard arrow board

Yes ___ No ___
Page #_____

Tool box mounted on the truck chassis

Yes ___ No ___
Page #_____

**NOTE:** Award will be made on the basis of the total cost of the machine with all options included. However, a county may, at its discretion, deduct one or more of the above-referenced options from the machine, and in such event, the cost of the options as stated on the bid shall be deducted from the total cost of the machine. There shall be no other deductions and no additions made to the machine by the purchasing county or by the vendor.

# OPTION COST SHEET FOR ONE MAN POTHOLE PATCHER- OPTION B TIER 4

| Option | Option Price |
|---|---|
| Cab mounted display attached to a camera mounted on the rear of the unit. | $ 900.00 |
| 30" x 60" Arrow board in lieu of standard arrow board | $ 3,100.00 |
| Tool box mounted on the truck chassis | $ 750.00 |

**NOTE:** Award will be made on the basis of the total cost of the machine with all options included. However, a county may, at its discretion, deduct one or more of the above-referenced options from the machine, and in such event, the cost of the option as stated on the bid shall be deducted from the total cost of the machine. There shall be no other deductions and no additions made to the machine by the purchasing county or by the vendor.

# COUNTY JOINT BID PROGRAM
# PURCHASE PROCEDURES

Effective January 1, 2008

All purchases by counties pursuant to the County Joint Bid Program shall be made by (1) mailing or faxing the appropriate Purchase Order to the vendor who has been awarded the contract for the item to be ordered **and** (2) faxing a copy of the Purchase Order to the Association of County Commissions of Alabama (ACCA) office at 334-263-7678. Purchase Order Forms and all necessary information regarding the vendor and items available can be obtained at the ACCA website (www.alabamacounties.org).

Each purchase order shall be signed by the person authorized by the county to sign and shall include the County Joint Bid Program Item Number. A copy of the form submitted shall be retained by the county.

The county shall deal directly with the company representative for the vendor in making purchases under this program. The vendor shall complete all orders in compliance with its agreement under the program, and shall deal directly with each county in processing and completing their orders and in complying with service and warranty requirements. Road sign vendors should keep in mind that they are required to deliver all items to the location identified by the county ordering them within thirty (30) calendar days from the date of order, and the cost of any items not delivered within this time period will be reduced in price by 10%.

It is important to remember that under *Code of Alabama 1975, § 41-16-50(b)*, all purchases made pursuant to this program shall be subject to the terms and conditions of Alabama's Competitive Bid Law. Therefore, counties are only authorized to purchase the specific items awarded under the program according to the bid specifications and must comply with these procedures in placing all orders.

There can be no deletions or additions to items purchased under this program, except as specifically provided for in the bid specifications. Optional equipment authorized under the bid specifications on certain heavy equipment orders may be deleted by the county at the time of purchase, and in that event, the cost of that item as provided by the vendor shall be deducted from the total cost of the item.

# COUNTY JOINT BID PROGRAM
# ONE MAN POTHOLE PATCHER OPTION B TIER 4
# PURCHASE ORDER FORM

***This form must be mailed or faxed to the Vendor with***
***Copy faxed to the ACCA Office at 334-263-7678***

Date of Order: _____ County Purchase Order No. _____

County: _____ County Contact Person: _____

County Address: _____

_____

County Phone Number: _____

County Fax Number: _____

E-mail Address: _____

Equipment Model or Item Name and Number: DURAMAX

Number of items ordered: _____ Price per item: _____

Vendor: Coblentz Equipment & Parts Co,. Company Contact: Matthew Coblentz

Vendor address: 10400 Highway 80 East
Montgomery, AL 36117

Deliver to the Attention of: _____

Delivery Address: _____

_____

_____

Requested delivery date: _____

Name of person making purchase request: _____

Title: _____

Authorized County Signature: _____

Initial confirming form sent to vendor: _____

Initial confirming form sent to ACCA: _____