

**Hydraulic Guard Rail Post Driver/Puller – Truck Mounted – 33,000 lb. GVWR**

Hydraulic guard rail post driver/puller (“Driver/Puller”), truck mounted, new and of current model, equipped as advertised by the manufacturer, to meet or exceed the following **MINIMUM** specifications:

**Proposed Driver/Puller:** Make: \_\_\_\_\_ Model: \_\_\_\_\_

**Proposed Truck:** Make: \_\_\_\_\_ Model: \_\_\_\_\_

Non-Restrictive Clause: Any use of brand name or equal within this specification is to be considered a reference for the purpose of describing the standard of quality, performance, and characteristics desired. It is not intended to limit or restrict competition.

**The bidder must respond to each of the following statements.** Specifications listed are **minimum** requirements that must be met for a bidder to qualify for an award. A “YES” response means the bidder guarantees that they meet or exceed the requirement. A “NO” response means the bidder cannot meet the requirement and will not be considered. The bidder must supply printed literature that shows compliance with each requirement of the Specifications and, if on inspection, an item is found not to comply, the Driver/Puller(s) will be rejected.

**Descriptive literature shall be furnished to substantiate the details specified throughout this bid.**

**SPECIFICATIONS**

**Hydraulic Guardrail Post Driver/Puller:**

**Flat Bed:** The flatbed shall be constructed of 6-inch I-beam longitudinally, 4-inch channel cross-members, 5-inch channel side rails, corner lights, reflectors, and mud flaps. The bed shall have two (2) toolboxes mounted ahead of the rear axles of the truck, one (1) on each side.

**Comply Yes/No:** \_\_\_\_\_

**Turn Table:** The turntable shall be a 4-inch-wide flange beam by 88 inches in diameter, rolled to allow roller bearings to run on inside flanges. The subframe will be constructed of heavy steel with 5-inch by 5 1/2 inch angle side runners. The subframe to rotate on six roller bearings, three (3) in front and three (3) at the rear. The side frame shall be equipped with a heavy-duty Nylatron or similar wear plate for the driver frame to slide on. The turntable will be driven by a hydraulic motor, giving 240 degrees of rotation.

Turntable diameter (inches): \_\_\_\_\_ Turntable rotation (degrees): \_\_\_\_\_

**Comply Yes/No:** \_\_\_\_\_

**Frame Assembly:** The drive frame will be constructed of a 6-inch box beam. Rail assembly will be a 4-inch I-beam with heavy-duty journal-bearing loops. Inside of the rail beam will be used to guide drop hammer and anvil. The rail boom will be a 5-inch standard pipe. The overall height of the rail and boom assembly will be a **maximum** of 15 feet 8 inches.

Rail and boom assembly overall height (feet): \_\_\_\_\_

**Comply Yes/No:** \_\_\_\_\_

**Travel:** The Post Driver/Puller component will extend 36 inches from the outside of the main unit (Driver/Puller) and then retract back to the original position. This travel will be 30 inches to 66 inches from the truck body.

Travel (inches): \_\_\_\_\_

**Comply Yes/No:** \_\_\_\_\_

**Auxiliary Engine:** The Driver/Puller will have a 4.5L Tier 4 Final emissions-rated industrial engine rated for 74 horsepower. The engine will include an electric fuel pump from the chassis fuel tank. Engine to have a 12-volt electrical system with starter and flywheel alternator.

Make: \_\_\_\_\_ Model: \_\_\_\_\_

Displacement (liters): \_\_\_\_\_ Power (horsepower): \_\_\_\_\_

**Comply Yes/No:** \_\_\_\_\_

**Hammer:** Hammer to be provided with a safety pin for stowage and transport.

Weight: 1,500 pounds.

Dimensions: 12-inches (length) by 12-inches (wide) by 30-inches (height).

Material: A36 plate steel.

Hammer weight (pounds): \_\_\_\_\_ Hammer length (inches): \_\_\_\_\_

Hammer width (inches): \_\_\_\_\_ Hammer height (inches): \_\_\_\_\_

**Comply Yes/No:** \_\_\_\_\_

**Boom Length:** 15 feet

Boom Length (feet): \_\_\_\_\_

**Comply Yes/No:** \_\_\_\_\_

**Hydraulic System:** The hydraulic system will be comprised of a gear pump providing 28-gpm @ 2500 rpm and 1500 psi. The hydraulic valves will be manually operated and mounted in one (1) valve bank. All valves will be spring-centered, and neutral. The hydraulic system will have a 55-gallon hydraulic tank with full flow 25-micron filter, sight glass, internal magnet, internal 100-mesh suction strainer, dual tank filler/breather caps. Tank to have an internal cooling baffle.

Hydraulic tank size (gallon): \_\_\_\_\_

**Comply Yes/No:** \_\_\_\_\_

**Elevating Cylinder:** Single cylinder, double acting with 4-inch bore and 2-inch chrome rod.

Bore (inches): \_\_\_\_\_ Chrome rod (inches): \_\_\_\_\_

**Comply Yes/No:** \_\_\_\_\_

**Leveling Cylinder:** Single cylinder, double acting with 4-inch bore and 2-inch chrome rod. The cylinder to be mounted 90 degrees from the elevating cylinder to 15 degrees over rear of vertical. Leveling (side movement) will be 45 degrees of total movement with 22.5 degrees of each side of vertical.

Bore (inches): \_\_\_\_\_ Chrome rod (inches): \_\_\_\_\_

Leveling total movement (degrees): \_\_\_\_\_ Movement each side of vertical (degrees): \_\_\_\_\_

**Comply Yes/No:** \_\_\_\_\_

**Positioning Cylinders:** Two (2) heavy-duty, double-acting with 2 1/2 inch bore and 1 3/8-inch chrome rod. Cylinders to have 30 degrees of total movement, 15 degrees on each side.

Bore (inches): \_\_\_\_\_ Chrome rod (inches): \_\_\_\_\_

Total movement (degrees): \_\_\_\_\_ Movement each side (degrees): \_\_\_\_\_

**Comply Yes/No:** \_\_\_\_\_

**Hammer Cylinder:** Single cylinder, single acting, and 3.5-inch bore, 3-inch rod, 36-inch stroke, and non-adjusting seals with chrome rod.

Bore (inches): \_\_\_\_\_ Chrome rod (inches): \_\_\_\_\_ stroke (inches): \_\_\_\_\_

**Comply Yes/No:** \_\_\_\_\_

**Foot Extension\Post Puller Cylinders:** Two (2) cylinders, double acting with 3-inch bore, 1.5-inch chrome rod, 36-inch stroke. Pulling capacity to be a minimum of 21,000 pounds

Bore (inches): \_\_\_\_\_ Chrome rod (inches): \_\_\_\_\_

Stroke (inches): \_\_\_\_\_ Pulling capacity (pounds): \_\_\_\_\_

**Comply Yes/No:** \_\_\_\_\_

**Auxiliary Post Pulling Cylinder:** Single cylinder, double acting with a 4-inch bore and 2-inch chrome rod with 44 inches of travel. Cylinder to be externally mounted on rail with separate control valve. Cylinder to have a minimum pulling capacity of 14,000 pounds.

Bore (inches): \_\_\_\_\_ Chrome rod (inches): \_\_\_\_\_

Travel (inches): \_\_\_\_\_ Pulling capacity (pounds) : \_\_\_\_\_

**Comply Yes/No:** \_\_\_\_\_

**Foot Assembly:** The foot assembly is used for driving and pulling the guard rail post. The foot assembly must be reversible, thus allowing the Driver/Puller to operate on the back side of existing guard rail. The foot will have an extension of 48 inches.

**Comply Yes/No:** \_\_\_\_\_

**Anvil Block and Post Adapter:** The Driver/Puller will have a 4-inch solid steel anvil block with bolt-on doweled post adapters. The Driver/Puller will have a cable sling for attaching the anvil to the hammer and a 2-inch hardwood striker block. Two (2) 6-inch by 8-inch wooden post adapters and two (2) 6-inch by 4-inch I-beam steel post adapters will be supplied.

**Comply Yes/No:** \_\_\_\_\_

**Post Puller Plates:** Two (2) 6-inch by 8-inch wooden post puller plates and two (2) 6-inch by 4-inch I-beam steel post puller plates, all with chains will be supplied.

**Comply Yes/No:** \_\_\_\_\_

**Counterweights:** 2,500 pounds of steel plate counterweights will be supplied with the Driver/Puller. The maximum overhang when the Driver/Puller is rotated to the side will be 13 inches.

Counterweights (pounds): \_\_\_\_\_ Overhang (inches): \_\_\_\_\_

**Comply Yes/No:** \_\_\_\_\_

**Operator Station:** The operator's station shall face the controls at the left side of the rail assembly and shall be rail-mounted allowing for in/out slide and rotational movement with the machine allowing for a clear, consistent view of the work area regardless of machine positioning. The seat will be heavy-duty with padded seat, backrest, and safety orange seat belt. Industrial metal guards shall be in place for any moving parts facing the operator station.

**Comply Yes/No:** \_\_\_\_\_

**Truck Drive Remote Control:** The operator will be able to move the truck forward, reverse, and reposition it from the operator station. This will override the in-cab controls.

**Comply Yes/No:** \_\_\_\_\_

**Post Driver Drill Attachment:** The drill shall be self-contained and mounted onto the post driver gantry, having a hole diameter range of 6-inches to a **maximum** of 20-inches and a **maximum** depth of 60-inches with hydraulic down pressure capability producing 5,000 pound feet of torque. The drill shall be installed and supplied with all necessary hoses, valves, hardware, and special tools needed for operation including a 3-inch round Kelly bar/lower stabilizer bearing and any needed adapters and shall accept 2-inch hex hub auger shaft(s).

The unit will also have the following three (3) augers:

- One (1) 6-inch diameter bullet tooth auger with a 2-inch hex hub
- One (1) 10-inch diameter bullet tooth auger with a 2-inch hex hub
- One (1) 12-inch diameter bullet tooth auger with a 2-inch hex hub

Hole diameter range minimum (inches): \_\_\_\_\_ Hole diameter range maximum (inches): \_\_\_\_\_

Hole depth maximum (inches): \_\_\_\_\_ Torque (pounds-feet): \_\_\_\_\_

**Truck Chassis and Accessories:**

**GVWR:** 33,000 pounds

GVWR (pounds): \_\_\_\_\_

**Comply Yes/No:** \_\_\_\_\_

**CA Dimension:** 102 inches

CA dimension (inches): \_\_\_\_\_

**Comply Yes/No:** \_\_\_\_\_

**Wheelbase:** 152 inches

Wheelbase (inches): \_\_\_\_\_

**Comply Yes/No:** \_\_\_\_\_

**Engine:** 9-liter minimum, 370-horsepower minimum, water-cooled, diesel, minimum torque of 1,000 pound-feet, meeting all current federal and EPA requirements

Make: \_\_\_\_\_ Model: \_\_\_\_\_

Displacement (liters): \_\_\_\_\_ Power (horsepower): \_\_\_\_\_

Torque (pound feet): \_\_\_\_\_

**Comply Yes/No:** \_\_\_\_\_

**Engine Protection:** The Truck shall have automatic shutdown system to include oil pressure, oil temperature, and coolant temperature.

**Comply Yes/No:** \_\_\_\_\_

**Transmission:** Heavy-duty, fully automatic, 6-speed with overdrive designed for on-road/off-road operations, shall be set-up for dual operator stations.

Make: \_\_\_\_\_ Model: \_\_\_\_\_

Speeds: \_\_\_\_\_

**Comply Yes/No:** \_\_\_\_\_

**Brakes:** Full air, disc, ABS with 4 channel/4 sensor/4 modulator configuration for front and rear axle compatibility, sized to meet all applicable state and federal safety standards for size, weight and application of the truck.

**Comply Yes/No:** \_\_\_\_\_

**Axle Rating and Suspension:**

Front: 12,000-pound rated, multi-leaf springs with shock absorbers, setback configuration, disc brake compatible hubs.

Front Axle Weight rating (pounds): \_\_\_\_\_ Front Suspension Weight rating (pounds): \_\_\_\_\_

Rear: 21,000-pound rated, multi-leaf springs, single-speed, with full locking wheel differential (anti-spin device), disc brake compatible hubs.

Rear Axle Weight rating (pounds): \_\_\_\_\_ Rear Suspension Weight rating (pounds): \_\_\_\_\_

**Comply Yes/No:** \_\_\_\_\_

**Cooling System:** Vocational/severe-duty, high-capacity radiator, silicone hoses.

**Comply Yes/No:** \_\_\_\_\_

**Electrical:**

Alternator: 12-volt, 160-amp alternator

Rating (amps): \_\_\_\_\_

Battery: Two (2) 12-volt maintenance free batteries, 1100 CCA.

Power (CCA per battery/total CCA): \_\_\_\_\_

**Comply Yes/No:** \_\_\_\_\_

**Frame:** All grade 8 bolts and hardware (preferred) or Huckbolts for assembly. Minimum 80,000 PSI high strength, low alloy steel.

**Comply Yes/No:** \_\_\_\_\_

**Fuel System:** 100-gallon (minimum) tank capacity (any configuration) with dual-stage fuel filters.

Number of tanks: \_\_\_\_\_ Capacity per tank (gallons): \_\_\_\_\_

**Comply Yes/No:** \_\_\_\_\_

**DEF Tank:** 7-gallon frame-mounted.

Capacity per tank (gallons): \_\_\_\_\_

**Comply Yes/No:** \_\_\_\_\_

**Steering:** Power-integral

**Comply Yes/No:** \_\_\_\_\_

**Driveline:** Heavy-duty u-joint

**Comply Yes/No:** \_\_\_\_\_

**Back-up Alarm:** Smart, self-adjusting alarm system which is activated upon engagement of the reverse gear of the vehicle, is audible above normal outdoor sounds, and meets FMVSS requirements. The back-up warning alarm shall be mounted on the rearmost part of the vehicle, be protected from water and road spray, and meet a minimum 82 dB up to 107 dB depending on surrounding ambient noise levels.

**Comply Yes/No:** \_\_\_\_\_

**Back-up Camera:** Complete, fully functional, and operational back-up camera system providing a clear view of the area directly behind the vehicle to allow safe reverse travel of vehicle.

**Comply Yes/No:** \_\_\_\_\_

**Cab and Equipment:** Conventional-type, steel or aluminum construction with fiberglass front hood and fender assembly, tilting hood and fender assembly, equipped with door pads and back of cab pads for sound deadening and insulation.

All standard equipment including, but not limited to:

- Five (5) cab-mounted marker lights
- Stainless steel cab-mounted exterior sun visor
- Exterior assist handles both sides (if exhaust is in the way, then an interior assist handle will be acceptable for the side affected)
- Power RH and LH west coast mirrors with convex auxiliary mirrors (LH & RH)
- Deluxe high-back air suspended driver and passenger seats with armrests

- Two (2) cup holders
- High-visibility orange safety belts
- Factory air conditioning and heater with defroster
- Warning lights and buzzers for air pressure, oil pressure and water temperature
- Direct reading gauges for oil pressure, water temperature, and air pressure
- Tachometer
- Power windows and door locks
- 12-volt accessory dash-mounted power outlet
- AM/FM Bluetooth stereo radio with hands-free option
- Dual air horns
- Tinted glass all around
- Multi-speed electric windshield wipers and washers with intermittent mode
- Tilt steering column
- Front tow hooks
- Heavy-duty front bumper
- Any other body builder wiring not included that would be needed to set up and run a flatbed mounted aerial lift truck with toolboxes and lighting with enough to terminate at end of frame, to be hung on rear of cab.
- Holder for operator's manuals

**Comply Yes/No:** \_\_\_\_\_

**Paint:** Manufacturer's standard white

**Comply Yes/No:** \_\_\_\_\_

#### **ADDITIONAL REQUIREMENTS**

**Service:** The Driver/Puller shall be delivered fully assembled and ready to operate. Factory-trained dealer representative is to inspect the Driver/Puller upon delivery and provide receiving MDOT equipment manager with information on operational, service, and maintenance requirements. Bidder shall maintain a representative inventory of replacement parts and service facilities as well as all necessary diagnostic tools/equipment/software and software licenses needed for diagnosis, repair, service, and maintenance.

**Acknowledge Yes/No:** \_\_\_\_\_

**Warranty:** Clearly stated terms and conditions of all manufacturer warranties shall be included with the bid package. All materials, specialty equipment, or accessories that prove defective in normal operation within the warranty period shall be replaced or repaired by the manufacturer free of all cost to MDOT, including all material, labor, and transportation costs. Warranty replacement and/or repairs shall be furnished promptly by the successful bidder within a time not to exceed thirty (30) calendar days. **The bidder shall provide written assurance with the bid package regarding warranty repairs.**

The delivering dealer will have sole warranty responsibility (**all components**) for the first ninety (90) calendar days after acceptance of equipment. The manufacturer shall provide, with the bid package, a list of warranty service locations within the State of Mississippi for all components of the Driver/Puller (body, chassis, electrical, etc.) which may need warranty repair beyond the first ninety (90) calendar days.

**Acknowledge Yes/No:** \_\_\_\_\_

**Workmanship:** Workmanship throughout shall conform to the highest standard of commercially accepted practice for the class of work and shall result in a neat and finished appearance. The design which the manufacturer proposes must be of substantial and durable construction in all respects. All parts shall be new. Used, reconditioned, or obsolete parts will not be accepted.

**Acknowledge Yes/No:** \_\_\_\_\_

**Parts Availability:** Dealer name and contact information located closest to the point of delivery:

Dealer Name: \_\_\_\_\_

Telephone: \_\_\_\_\_

Street Address: \_\_\_\_\_

City, State, ZIP: \_\_\_\_\_

**Acknowledge Yes/No:** \_\_\_\_\_

**Tests and Testing:** The complete Driver/Puller and all working and moving parts and operating devices shall be thoroughly tested and put in operating condition by the manufacturer. Prior to acceptance by MDOT, the manufacturer shall service and adjust the Driver/Puller for operation.

**Acknowledge Yes/No:** \_\_\_\_\_

**Literature:**

**Technical manuals:** Operator's manual, service/maintenance manual, and parts book are to be made available in both hard copy and electronic (PDF file format on USB flash drive) versions. One set of technical manuals shall be provided with each Driver/Puller upon delivery. Additional manuals may be ordered later.

**Technical service bulletins:** Successful bidder shall provide TSBs (technical service bulletins) for all Driver/Puller(s) delivered to MDOT as they are published, regardless of the date of delivery. TSBs may be furnished in paper or electronic format and shall be updated regularly.

The following additional information shall be provided by the vendor at time of delivery (electronically if possible):

- Manufacturer's recommended service/preventive maintenance intervals
- Recommended fluids, lubricants, and their SAE equivalents

**Two (2) copies of descriptive literature shall be furnished to substantiate the details specified in the bid.**

**Acknowledge Yes/No:** \_\_\_\_\_

**Certification:** The manufacturer(s) shall furnish certification that the Driver/Puller meets or surpasses current U.S. Department of Labor Occupational Safety and Health Administration (OSHA) Regulations, U.S. Department of Transportation Federal Motor Vehicle Safety Standards (FMVSS), and any other applicable Federal regulations.

**Acknowledge Yes/No:** \_\_\_\_\_

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NOTE: The Mississippi Department of Transportation is exempt, by way of contractual purchases, from Regulation Eleven and the protections provided by the Mississippi Motor Vehicle Commission. A written notice, established by public hearing on April 21, 2010, at 10:00 a.m., is on file with the Mississippi Motor Vehicle Commission, 1755 Lelia Drive, Suite 200, Jackson, MS 39216.

As a second stage or "specialty vehicle" manufacturer, you are not required to hold a Mississippi Manufacturer or Dealers' License and if you choose, may sell the finished motor vehicle directly to the Mississippi Department of Transportation.



**Acknowledge Yes/No:** \_\_\_\_\_

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**Vehicle Title or Certificate of Origin:**

**Assignment:** State of Mississippi/DFA – 941

**Mailing address:** Mississippi Department of Transportation, 9301  
P.O. Box 1850  
Jackson, MS 39215

**Acknowledge Yes/No:** \_\_\_\_\_

**Lienholder:** Upon award, if MDOT issues a **Notice to Proceed** instead of a **Purchase Order**, the Driver/Puller is being purchased through the State's Master Lease Purchase Program and the specified financial institution must be listed as Lienholder.

**Acknowledge Yes/No:** \_\_\_\_\_