

**ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT
EQUIPMENT AND PROCUREMENT DIVISION
BID INVITATION**

Bid Number: M-13-016R

BID OPENING LOCATION:
AHTD Equipment &
Procurement Division
11302 West Baseline Road
Little Rock, AR 72209

MAIL TO:
AHTD Equipment &
Procurement Division
P.O. Box 2261
Little Rock, AR 72203

DELIVER TO:
AHTD Equipment &
Procurement Division
11302 West Baseline Road
Little Rock, AR 72209

Bid Opening Date: August 14, 2012 Time: 11:00 a.m.

Sealed bids for furnishing the commodities and/or services described below, subject to the Conditions on Page 2 of this bid invitation will be received at the above-noted mail and delivery locations until the above-noted bid opening date and time, and then publicly opened at the above-noted bid opening location. **Bids must be submitted on this form, with attachments when appropriate, or bids will be rejected. Late bids and unsigned bids will not be considered.**

In compliance with this Bid Invitation and subject to all the Conditions thereof, the undersigned offers and agrees to furnish any and all items upon which prices are quoted, at the price set opposite each item.

Company Name: _____

Name (Type or Print): _____

Address: _____

Title: _____

Phone: _____ Fax: _____

City: _____ State: _____ Zip: _____

E-Mail: _____

Federal Tax ID or Social Security No.: _____

Signature: _____

Signature must be legible, original (not photocopied) and in ink.
Unsigned bids will be rejected.

Truck Mounted Auger/Core Combination Drill Unit 1 ea. Amount _____

To meet the requirements of Arkansas State Highway and Transportation Department Specifications 13-179A-064 attached to and made a part of this bid.

FOB: AHTD – Equipment & Procurement, 11302 Baseline Road, Little Rock 72209

Truck proposed to furnish:

Make: _____ Model: _____ Warranty: _____

Drill proposed to furnish:

Make: _____ Model: _____ Warranty: _____

Guaranteed Delivery Date _____

If any literature and/or specifications of items conflict with AHTD specifications, the conflict(s) shall be specifically noted, corrected and submitted with the bid.

Bid Bond in the amount of 5% of total bid price required of all bidders at time of bid opening or bid will be rejected. **Personal and company checks are not acceptable as Bid Bonds.** See Condition 3 on page 2. **Performance Bond** in the amount of 5% of total bid price will be required of successful bidder prior to providing goods/services. **Personal and company checks are not acceptable as Performance Bonds.** See Condition 3 on page 2.

Bids and Specifications are available on-line by going to the AHTD Web Site – www.arkansashighways.com and clicking on “Commodities and Services Bids/Contracts Information”. Tabulations will also be available at this site within 72 hours after bid openings. If you have any questions, call this office at 501-569-2667.

STANDARD BID CONDITIONS

M-13-016R

1. **ACCEPTANCE AND REJECTION:** The Arkansas State Highway and Transportation Department (AHTD) reserves the right to reject any or all bids, to accept bids in whole or in part (unless otherwise indicated by bidder), to waive any informalities in bids received, to accept bids on materials or equipment with variations from specifications where efficiency of operation will not be impaired, and to award bids to best serve the interest of the State.
2. **PRICES:** Unless otherwise stated in the Bid Invitation, the following will apply: (1) unit prices shall be bid, (2) prices should be stated in units of quantity specified (feet, each, lbs., etc.), (3) prices must be F.O.B. destination specified in bid, (4) prices must be firm and not subject to escalation, (5) bid must be firm for acceptance for 30 days from bid opening date. In case of errors in extension, unit prices shall govern. Discounts from bid price will not be considered in making awards.
3. **BID BONDS AND PERFORMANCE BONDS:** If required, a **Bid Bond** in the form of a cashier's check, certified check, or surety bond issued by a surety company, in an amount stated in the Bid Invitation, must accompany bid. **Personal and company checks are not acceptable as Bid Bonds.** Failure to submit a Bid Bond as required will cause a bid to be rejected. The Bid Bond will be forfeited as liquidated damages if the successful bidder fails to provide a required Performance Bond within the period stipulated by AHTD or fails to honor their bid. Cashier's checks and certified checks submitted as Bid Bonds will be returned to unsuccessful bidders; surety bonds will be retained. The successful bidder will be required to furnish a **Performance Bond** in an amount stated in the Bid Invitation and in the form of a cashier's check, certified check, or surety bond issued by a surety company, unless otherwise stated in the Bid Invitation, as a guarantee of delivery of goods/services in accordance with the specifications and within the time established in the bid. **Personal and company checks are not acceptable as Performance Bonds.** In some cases, a cashier's check or certified check submitted as a Bid Bond will be held as the Performance Bond of the successful bidder. Cashier's checks or certified checks submitted as Performance Bonds will be refunded shortly after payment has been made to the successful bidder for completion of all terms of the bid; surety bonds will be retained. Surety bonds must be issued by a surety company authorized to do business in Arkansas, and must be signed by a Resident Local Agent licensed by the Arkansas State Insurance Commissioner to represent that surety company. Resident Agent's Power-of-Attorney must accompany the surety bond. Certain bids involving labor will require Performance Bonds in the form of surety bonds only (no checks of any kind allowed). In such cases, the company issuing the surety bond must comply with all stipulations herein and must be named in the U. S. Treasury listing of companies holding Certificates of Authority as acceptable sureties on Federal Bonds and as acceptable reinsuring companies. Any excess between the face amount of the bond and the underwriting limitation of the bonding company shall be protected by reinsurance provided by an acceptable reinsuring company. Annual Bid and Performance Bonds on file with E & P Division must have sufficient unencumbered funds to meet current bonding requirements, or the bid will be rejected, unless the balance is submitted as set forth above, prior to bid opening.
4. **TAXES:** The AHTD is not exempt from Arkansas State Sales and Use Taxes, or local option city/county sales taxes, when applicable, and bidders are responsible to the State Revenue Department for such taxes. These taxes should not be included in bid prices, but where required by law, will be paid by the AHTD as an addition thereto, and should be added to the billing to the AHTD. The AHTD is exempt from Federal Excise Taxes on all commodities except motor fuels; and excise taxes should not be included in bid prices except for motor fuels. Where applicable, tax exemption certificates will be furnished by the AHTD.
5. **"ALL OR NONE" BIDS:** Bidders who wish to bid "All or None" on two or more items shall so stipulate on the face of bid sheet; otherwise, bid may be awarded on an individual item basis.
6. **SPECIFICATIONS:** Complete specifications should be attached for any substitution or alternate offered, or where amplification is necessary. Bidder's name must be placed on all attachments to the bid.
7. **EXCEPTIONS TO SPECIFICATIONS:** Any exceptions to the bid specifications must be stated in the bid. Any exceptions to manufacturer's published literature must be stated in the bid, or it will be assumed that bidder is bidding exactly as stated in the literature.
8. **BRAND NAME REFERENCES:** All brand name references in bid specifications refer to that commodity or its equivalent, unless otherwise stated in Bid Invitation. Bidder should state brand or trade name of item being bid, if such name exists.
9. **FREIGHT:** All freight charges should be included in bid price. Any change in common carrier rates authorized by the Interstate Commerce Commission will be adjusted if such change occurs after the bid opening date. Receipted common carrier bills that reflect ICC authorized rate changes must be furnished.
10. **SAMPLES, LITERATURE, DEMONSTRATIONS:** Samples and technical literature must be provided free of any charge within 14 days of AHTD request, and free demonstrations within 30 days, unless AHTD extends time. Failure to provide as requested within this period may cause bid to be rejected. Samples, literature and demonstrations must be substantially the same as the item(s) being bid, unless otherwise agreed to by AHTD. Samples that are not destroyed will be returned upon request at bidders expense. Samples from successful bidders may be retained for comparison with items actually furnished.
11. **GUARANTY:** Unless otherwise indicated in Bid Invitation, it is understood and agreed that any item offered or shipped on this bid shall be newly manufactured, latest model and design, and in first class condition; and that all containers shall be new, suitable for storage or shipment and in compliance with all applicable laws relating to construction, packaging, labeling and registration.
12. **BACKORDERS OR DELAY IN DELIVERY:** Backorders or failure to deliver within the time required may constitute default. Vendor must give written notice to the AHTD, as soon as possible, of the reason for any delay and the expected delivery date. The AHTD has the right to extend delivery if reasons appear valid. If reason or delivery date is not acceptable, vendor is in default.
13. **DEFAULT:** All commodities furnished will be subject to inspection and acceptance by AHTD after delivery. Default in promised delivery or failure to meet specifications authorizes the AHTD to cancel award or any portion of same, to reasonably purchase commodities or services elsewhere and to charge full increase, if any, in cost and handling to defaulting vendor. Applicable bonds may be forfeited.
14. **ETHICS:** *"It shall be a breach of ethical standards for a person to be retained, or to retain a person, to solicit or secure a State contract upon an agreement of understanding for a commission, percentage, brokerage, or contingent fee, except for retention of bona fide employees or bona fide established commercial selling agencies maintained by the contractor for the purpose of securing business."* (Arkansas Code, Annotated, Section 19-11-708).

**ARKANSAS STATE HIGHWAY
AND TRANSPORTATION DEPARTMENT**

NOTICE OF NONDISCRIMINATION

The Arkansas State Highway and Transportation (Department) complies with the Americans with Disabilities Act of 1990, Section 504 of the Rehabilitation Act of 1973, Title VI of the Civil Rights Act of 1964 and other federal equal opportunity laws and therefore does not discriminate on the basis of race, sex, color, age, national origin, religion or disability, in admission or access to and treatment in Department programs and activities, as well as the Department's hiring or employment practices. Complaints of alleged discrimination and inquiries regarding the Department's nondiscrimination policies may be directed to EEO/DBE Section Head (ADA/504/Title VI Coordinator), P. O. Box 2261, Little Rock, AR 72203, (501) 569-2298, (Voice/TTY 711), or the following email address:

[EEO/DBE Section Head@ahtd.ar.gov](mailto:EEO/DBE_Section_Head@ahtd.ar.gov).

This notice is available from the ADA/504/Title VI Coordinator in large print, on audiotape and in Braille.

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

SPECIFICATION 13-179A-064

FOR

BORING AND SUBSURFACE EXPLORATION

DRILL MACHINE MOUNTED ON

FOUR WHEEL DRIVE CAB AND CHASSIS

- A. This equipment shall be used for soil sampling, foundation testing, monitoring well installation and subsurface exploration work. The drill machine shall be capable of performing auger borings in unconsolidated formations with hollow-stem augers. The drill shall have the capability of productively using currently popular geoexploration methods and techniques that include Shelby tube or continuous tube sampling and standard penetration testing. The drill shall be capable of coring pavement or rotary drilling and rock coring applications.
- B. **General:** This specification is intended to cover a combination auger/core/rotary type boring machine completely mounted on a 4 x 4 truck chassis and ready for use. The drill shall be a self-contained unit having a single engine power source. The power shall be appropriately directed to the hydraulic system and mechanically-driven drill head. A fixed position upright drill frame with twin hydraulic feed cylinders shall be supplied. The assembled drill with its complement of auxiliary equipment shall be so arranged that work may be carried on with optimum efficiency and a minimum of manual labor. All parts, materials and workmanship shall be of the highest quality recognized by the trade. The drill unit shall be thoroughly field tested and ready for immediate and continuous operation at time of delivery. The equipment proposed must be a current model under standard production, being produced in quantity for national distribution. The manufacturer must have a minimum of three years production experience designing and manufacturing this type of equipment. The drill shall have been in production for at least two years. Dealer or vendor modifications to a non-conforming model for the express purpose of meeting minimum specification requirements will not be acceptable. Parts and accessories shall be stocked and readily available from the successful vendor. The drill unit shall be furnished with all standard equipment advertised whether or not specifically called for here, except where optional or conflicting equipment is specified. The equipment shall meet the following specifications.
- C. **Carrier:** The cab and chassis furnished shall meet the following minimum requirements:
1. **GVWR:** No less than 19,500 pounds.
 2. **Wheelbase:** Minimum of 150".
 3. **Cab to Axle:** 84", nominal.
 4. **Engine:** Liquid cooled turbocharged diesel with a minimum piston displacement of 6.7 liters developing no less than 300 SAE gross horsepower at rated RPM and no less than 600 lb. ft. SAE gross torque. Shall be equipped with air cleaner, no less than two (2) maintenance free batteries with a minimum rating each of 750 cold cranking amps at 0° F, full flow oil filter, fuel filter and not less than 180 amp alternator. Engine shall be equipped with a block heater which will operate on 120 volts AC.
 5. **Engine Shutdown:** Shall be equipped with five minute idle shutdown timer and clean emissions label.
 6. **Cooling:** Heavy duty cooling system with anti-freeze protection to -20° F, or lower.
 7. **Transmission:** Automatic, with a minimum of six (6) forward speeds.
 8. **Transfer Case:** Minimum of two (2) speed ranges.
 9. **Steering:** Hydraulic actuated power steering as regularly offered by manufacturer.
 10. **Front Axle:** Hypoid type with a ratio of 4.44 or 4.88 to 1. Shall be equipped with automatic or manual locking hubs, or axle disconnect system. Shall have a minimum capacity of 7,000 pounds.
 11. **Front Suspension:** As required to meet axle capacity specified above.
 12. **Rear Axle:** Hypoid type, full floating, with a ratio of 4.44 or 4.88 to 1 with limited slip. Shall have a minimum capacity of 13,500 pounds.
 13. **Rear Suspension:** Rear springs shall consist of both main and auxiliary or overloads. Suspension shall have a minimum capacity rating of 13,500 pounds.
 14. **Brakes:** Power front and rear disc with four wheel anti-lock. Parking brake as regularly furnished by manufacturer.
 15. **Frame:** Shall be equipped with front frame extension to accommodate 15,000 pound winch assembly.
 16. **Cab:** Conventional Cab complete with insulation and all standard interior trim, dual electric intermittent windshield wipers, right and left sun visors, factory installed electronic AM/FM radio, floor covering consisting of manufacturer's standard materials and colors for model and trim level provided, factory installed fresh air heater

defroster unit, key lock on doors, inside rear view mirror, and right and left side trailer tow type exterior mirrors with extended or extendible arms. Mirror heads to measure no less than 6" x 9".

17. Seating: May consist of a split bench seat with three (3) person seating or a driver's high back bucket seat and two (2) person passenger seat. Upholstery to consist of manufacturer's standard materials and colors for model and trim level provided. Seat belts shall be provided for all seating positions.
18. Air Conditioning: Shall be equipped with factory installed air conditioning and include tinted glass.
19. Tilt Steering Column: Factory installed.
20. Speed Control: Automatic speed control (may be dealer installed, but of same manufacturer as vehicle).
21. Wheels: Seven (7) 19.5" steel disc with no less than 6.0" rim section. Rear wheels to be dual.
22. Tires: Seven (7) On/Off-Road or All Terrain tubeless radials no less than LT235/70R19.5 or LT235/80R19.5, F load range (duals on rear).
23. Fuel Tank(s): Minimum fuel capacity of 50 gallons. Fuel fill hose assembly furnished with fuel tank(s) shall be a minimum of 36" in length to allow attachment to an aftermarket body.
24. Front Tow Hooks: Two (2), minimum
25. Lights: Dual beam headlights, parking lights, self canceling directional turn signals with hazard flasher switch, back up lights, front side marker lights and front cab clearance and identification lamps. Rear lights to consist of stop and tail lights in addition to directional signals.
26. Equipment: Bumper, front and rear shock absorbers, jack and lug wrench, emergency triangle and fire extinguisher.
27. Keys: Minimum of three (3) ignition/door keys per vehicle.
28. Backup Alarm: Shall be equipped with an electric backup alarm meeting the requirements of SAE J994 with a minimum sound level output of 97 decibels.
29. Winch: The carrier shall be equipped with a front-mounted hydraulic winch assembly with a minimum working capacity of 15,000 pounds. The winch shall be operated by the drill's hydraulic system. Winch shall be equipped with an oil bath type gear or transmission for transmitting power from the drive to the winch drum. Winch shall be equipped with a clutch for engaging and disengaging the drum, and a brake which will automatically engage when the clutch is disengaged. Winch controls shall be located inside truck cab. The winch shall be complete with two (2) vertical and two (2) horizontal guide rollers, a minimum of 100' of no less than 9/16" steel wire rope and a tail chain no less than 18" long with safety hook.
30. Color: Cab & Chassis shall be Sherwin Williams F8W2030 Frost White Acrylic Enamel, or equal. Front bumper, grill, mirrors and wheels as regularly furnished by manufacturer.

D. Drill Unit:

1. Drill Platform: The drill platform shall be constructed from structural steel members and 12 gauge safety tread deck plate. A watertight tool box shall be provided on the passenger and driver side below the platform deck ahead of the rear wheels. Drill rod and auger racks shall be furnished on drill deck. Clearance lights with guards shall be included. The platform width shall not exceed 96 inches. The platform shall be for an 84 inch CA truck. It shall include a rack constructed of structural steel tubing and expanded metal placed in a position that will protect the rear window and cab of the truck.
 - a. Driller's Step: Shall have a driller's heavy duty one piece fold-up step at the left rear corner of the platform.
 - b. Tow Hitch: A removable tow hitch with electric trailer connection shall be furnished at the rear of the platform.
2. Hydraulic Leveling Jacks: Heavy-duty hydraulic leveling jacks shall be furnished that are individually operated from the control panel at the left rear of the drill. The jacks shall provide adequate leveling capability and shall be strong and rigid enough to easily support the total weight of the machine plus the loads generated when retracting drilling tools. Check valves shall be furnished in the hydraulic lines to prevent leakage or slippage of the jacks while the drill is set up on a site. The chrome-plated jack piston rods shall be completely enclosed to safeguard them from damage. The jack foot pads shall be minimum 14 inch diameter.
 - a. Rear Jacks: Two jacks shall be mounted at the rear of the platform, one on each corner. The maximum cylinder travel shall not be less than 36 inches. The minimum outside diameter of the jack cylinders shall be 4.5 inches with a 4 inch bore and 2.5 inch diameter piston rod.
 - b. Front Jack: One jack shall be mounted at the front of the carrier. The maximum cylinder travel shall not be less than 36 inches. The minimum outside diameter of the jack cylinders shall be 4.5 inches with a 4 inch bore and 2.5 inch diameter piston rod.

3. Water Tank: The water tank shall have a 100 gallon capacity. The tank shall be all stainless steel construction and shall have internal baffles. The tank shall include inlet, discharge and drain ports, as well as plumbing to the mud pump.
4. Drill Power Unit: The power unit shall be a self-contained electric starting, air-cooled, heavy-duty 3-cylinder industrial type diesel engine, having not less than 197 cubic inch displacement and a minimum 57 gross intermittent horsepower. The engine shall meet U.S. EPA Tier 4 interim (4i) emission certification. The unit shall be equipped with a heavy-duty air cleaner, a governor and a replaceable full flow oil filter. The unit shall have a 12-volt electric starting system consisting of a starter, alternator, and regulator. The unit shall have a keyed ignition switch on the drill control panel and an electrically controlled engine throttle.
 - a. Clutch: Shall be equipped with a dry disc clutch not less than 13" in diameter.
 - b. Transmission: Minimum of four (4) forward speeds and one (1) reverse speed.When coupled with the drill unit, the engine shall have sufficient power to meet all requirements listed elsewhere in this specification. Fuel for the drill shall come from the truck fuel tank.
5. Upright Drill Frame: The upright drill frame shall be in a fixed vertical drilling position.
6. Mast: The mast shall pivot on the upright drill frame and shall hydraulically fold from a vertical drilling to a horizontal travel position. The mast shall be practical to remove when not needed. With the mast in vertical position, the sheaves shall not be less than 18 feet from the base of the drill main frame. The mast shall be constructed of four cross-braced steel tubes designed to distribute the working loads equally. The mast shall easily support the pull of the hoists. Pairs of 8 inch diameter sheaves shall be used to nearly as possible align the rope or wireline with the drill hole and drum served.
7. Rotary Drive: This assembly shall have the following features:
 - a. The drill transmission shall have at least four speeds forward and one speed reverse.
 - b. The transmission shall be mounted stationary on the drill main base frame with a heavy-duty clutch immediately adjacent to the transmission power input.
 - c. The maximum drilling torque at the drill spindle shall be no less than 3,390 foot-pounds in first gear.
 - d. The spindle rotation speed at 2,300 engine RPM shall range from a minimum of 100 RPM in first gear to no less than 640 RPM in fourth gear.
 - e. The output of the transmission shall power a single speed right angle drive.
 - f. The right angle drive output shall turn a drive shaft connected to the rotary box.
 - g. The rotary box shall be stationary with respect to the drive head travel.
 - h. The rotary box shall be grease packed.
 - i. The minimum rotary box chain size shall be double 80 series.
 - j. The rotary box shall turn a rotary drive bar that has a square cross section of at least 1.75 inches a side and shall be made of heat-treated alloy steel.
 - k. The drill shall be equipped with a heavy-duty auger drive universal joint and 1-5/8 inch hexagon drive socket.
 - l. Provision against shock overload to the rotary drive shall be accomplished through an easily adjustable torque-limiting clutch.
8. Vertical Drive: This assembly shall have the following features:
 - a. The vertical drive shall be operated by two (2) double-acting hydraulic cylinders having a point of thrust centered upon the axis of the drill spindle.
 - b. The vertical drive shall have an overall stroke or travel of no less than 68".
 - c. The vertical drive shall have a maximum downward force of no less than 13,650 pounds and a maximum upward or retract force of no less than 19,600 pounds.
 - d. The feed cylinders shall have a minimum piston rod diameter of 1.375 inches to withstand compressive forces when retracting augers from the ground without rotation.
 - e. The feed cylinder slide bushings shall be split type for easy removal and replacement.
 - f. Two (2) feed levers shall be provided. One feed lever shall be of the spring return type permitting standard rates of feed and retract. The first feed lever shall not be affected by the dial control settings used with the second feed lever. The second feed lever shall have a detent position and be used for drilling when a controlled rate of feed is required. Feed rate, once set, shall not be affected by changes in engine RPM nor by changes in

formation resistance unless the adjusted down pressure setting is reached. A feed rate control shall be furnished for changing the rate of feed. Separate pressure control shall be furnished for changing the maximum bit pressure and hold-back pressure. The feed rate and pressure controls shall be operated by dials located on the front of the control panel within easy reach of the operator.

- g. Hydraulic gauges shall be provided on the control panel at the left rear of the drill to indicate in pounds per square inch the hydraulic feed pressure, system pressure and hydraulic hold-back pressure.
 - h. Hydraulic controls shall be furnished for varying the feed rate, down pressure and hold-back pressure. The maximum rate of feed shall not be less than 79 feet per minute down and 55 feet per minute up.
9. Hydraulic System: This system shall have a heavy-duty engine driven hydraulic pump run independently of the gear train with a capacity of not less than 24.9 GPM at 2,000 PSI. The system shall be equipped with a full-flow replaceable element hydraulic oil filter in the low pressure return line. A hydraulic oil cooler shall be furnished. The hydraulic oil reservoir shall have adequate capacity and shall be equipped with a vented filler cap, magnetic drain plug, and level indicator sights. The hydraulic pump shall be driven from a point in the line of power transmission so that hydraulic power will be available whenever the engine is running.
10. Driller's Control Panel: All controls and gauges needed for the various drilling operations shall be placed in such a manner as to be easily accessible and convenient for the drill operator while permitting a view of the drilling operation at all times. The driller's control panel shall be mounted on the left rear of the drill and shall include the following instrumentation and controls:
- a. Keyed ignition switch and starter switch.
 - b. Push-button emergency engine shut-off switch.
 - c. Electric engine throttle switch.
 - d. Transmission gear selector and lock-out clutch handle and auxiliary spindle brake set valve.
 - e. Gauges: Hour meter, tachometer, engine oil pressure, engine oil temperature and volt meter in a locking box.
 - f. Hydraulic gauges for systems pressure, pull-down pressure and hold-back pressure.
 - g. Feed rate, feed pull-down and feed hold-back pressure controls.
 - h. Feed and detented feed levers.
 - i. Hydraulic controls for all standard and provided optional components.

The drill controls shall be arranged in groups and situated for convenience according to frequency of use. For safety and convenience, the hydraulic levers shall have directional control that corresponds with cylinder movement. For example, moving the feed lever up shall extend the feed cylinders.

11. Safety And Emergency Shut-Down System: Push-button emergency shut-off switches shall be located on the control panel and on the right side of the main drill frame. Two emergency multi-directional wobble shut-off switches with extended levers shall be located near the bottom of and parallel to the feed cylinders. When any emergency shut-off switch is activated, a drive line brake is engaged to stop the spindle rotation in less than one revolution, the clutch is released, and the engine is shut down. The system shall also include a lock-out type clutch handle that positively locks the clutch handle in the down or disengaged position and an auxiliary spindle brake set valve. A neutral start switch is to be included that only allows the engine to start when the clutch is disengaged. A mast-raising alarm shall be included to alert the drill crew to look for overhead obstructions.
12. Sliding Base (In-Out): A sliding base shall be furnished for moving the drill in and out so that the drill spindle can be positioned to facilitate alignment of augers and drill rods and to provide clearance from the hole for handling augers and other down-hole tools. With the slide base extended, the center of the auger drive shall be at least 15 inches from the rear of the truck to provide ample working room. The in-out slide base shall have at least 15 inches of travel and shall be hydraulically operated. The in-out slide base shall have a replaceable nylatron (or approved equal) wear plate between the metal slide surfaces.
13. Sliding Base (Sideways): A sliding base shall be furnished for moving the drill to either side so that the drill spindle can be positioned to facilitate alignment of augers and drill rods when starting or drilling a hole. The sideways slide base shall have at least 8 inches of travel and shall be hydraulically operated. The sideways slide base shall have nylatron (or approved equal) wear plate between the metal slide surface.
14. Draw Works: The draw works shall include two hydraulic hoists.
- a. The first hydraulic hoist shall have a maximum pulling capacity of not less than 3,200 pounds. Maximum line speed shall be not less than 100 feet per minute. One hydraulic lever shall be furnished for controlling hoisting or lowering and rotation speed. The hoist shall include at least 60 feet of 3/8 inch diameter wire rope and a safety Shur-Lok hook.

- b. The second hydraulic hoist shall have a maximum pulling capacity of not less than 1,800 pounds. Maximum line speed shall be not less than 200 feet per minute. One hydraulic lever shall be furnished for controlling hoisting or lowering and rotation speed. The hoist shall include at least 60 feet of 3/8 inch diameter wire rope and a safety Shur-Lok hook.
15. Mud Pump Assembly: The mud or water pump shall be a progressing cavity type pump (3L6 or equal) and shall have an infinitely adjustable output of 0 to 36 gallons per minute and a maximum pressure of 225 PSI. Pump output shall not be affected by changes in engine RPM. Power for the mud pump shall be supplied by a hydraulic motor operated from the drill hydraulic system. The assembly shall include a pressure gauge, a 1-1/2 inch pressure port with sufficient 1-1/2 inch high pressure hose to connect to the control panel, service tee with 1 inch bypass at the operator's panel and a 2 inch suction port with 2 inch suction hose to the water tank. Provisions shall be made for drainage of the mud pump and lines.
16. Standpipe With Hose To Control Panel: A 1-1/2 inch diameter standpipe shall be mounted on the right hand side upright drill frame and connected by a 1-1/2 inch high pressure hose to the mud pump output at the control panel. A 1-1/2 inch high pressure hose shall connect the standpipe to a stabilized side feed water swivel.
17. Hydraulic Rod Holder And Breakout Wrench: A rod holder that hydraulically clamps drill rod or pipe shall be furnished. The device shall swing on and off the hole from a pivot point near the right rear leveling jack and shall have in and out adjustment. The rod holder shall store flush with the rear of the platform and out of the way when drilling with auger tools. A hydraulic breakout wrench shall be furnished.
18. Hydraulic Hammer System: A hydraulic hammer system shall be furnished that will lift a 140 pound drive weight 30 inches and completely release the weight for a 30 inch free fall. No rope or cable shall be attached to the weight that might impede free fall. The system shall have a minimum rate of at least 50 blows per minute. The hammer shall be preset at the factory for a consistent weight fall height through the use of adjustable priority hydraulic control valves. Once the valves are set, the fall height of the hammer weight shall not be affected by engine throttle adjustments. The fall height shall have a tolerance of plus or minus 1/2 inch. A method for visual verification of the fall height of the weight while the hammer is in operation shall be provided. The hammer shall be mounted on one single-acting hydraulic cylinder which is dedicated to the operation of the hammer device and shall be attached to the upright drill frame opposite of the control panel. The hammer device shall be hydraulically raised or lowered by this hydraulic cylinder through 60 inches of vertical travel. A 140 pound drive weight shall be furnished. A safety feature shall be furnished that will prevent the hammer from operating if the anvil is not in place.
19. Drill Tools: All drill tools and accessories shall be of the highest quality according to the standards of the Drill tool industry. All couplings for the hollow augers, hollow drill stems and adaptor caps shall be of the Slip-fit dual key (HD type) with "O" ring seals and shall be capable of withstanding the full rotary torque of the drill rig rotated either forward or reverse. Auger couplings and keys shall be of heat treated alloy steel. the hollow-stem auger flight edges shall be hard surfaced over the complete length. Hollow auger heads shall be cast and machined to fit the lead auger sections and shall have replaceable bits. The bits shall be drop-forged alloy steel and heat treated. Each bit shall have a carbide bullet or spade combination cutting surface.

Shall be complete with:

- a. 10 ea. 3.25-inch ID x 6.25-inch ODX 5ft length hollow stem auger with HD type keyed coupling complete with "O" ring seal and two (2) auger connectors. The flighting shall be hard surfaced over the complete length.
- b. 2 ea. 3.25-inch ID X 6.25 OD hollow auger head with HD type keyed coupling, including Bullet and spade combination cutting teeth.
- c. 1 ea. Slide connector and drive cap 3.25-inch HD pin-3.25 box, (length will be determined after rig is mounted on truck).
- d. 10 ea. 1.625-inch hex x 5 ft. drill stem with drive pin.
- e. 1 ea. Lead center stem- 3.25 inch LH, 1.625- inch hex.
- f. 2 ea. 3.25- ID X 6.25-inch OD X 2 ft. length HD hollow stem auger with HD type keyed coupling. Complete with "O" ring seal and two (2) auger connectors. The flighting shall be hard surfaced over the complete length.
- g. 1 ea. Hollow auger retriever, 3.25 – inch ID, with HD type coupling.
- h. 2 ea. Center head for lead center stem.
- i. Drive cap 3.25" HD 1.625"
- j. 1 ea. Water tee, 3.25 HD- HSA.

- k. 1 ea. Auger fork, 3.25-inch HAS.
 - l. 1 ea. Auger connector wrench HD.
 - m. 1 ea. Auger hoisting hook.
 - n. 1 ea. Insert tap HD
 - o. 1 ea. Pointed bitting-up hammer
 - p. 1 ea. Auger hoisting socket, 1.625 inch hex
 - q. 5 ea. Drill rod AWJ, 10' ft. length
 - r. Drill rod AWJ, 5' ft. length
 - s. 2 ea. Drill rod AWJ, 2' ft. length
 - t. 1 ea. Drill rod AWJ, 3' ft. length
 - u. 1 ea. Drill rod AWJ, 1' ft. length
 - v. 5 ea. Drill rod NWJ, 10' ft. length
 - w. 2 ea. Drill rod NWJ, 5'ft. length
 - x. 1 ea. Hoisting swivel, NWJ.
 - y. King water swivel (side feed type) with NWJ pin on bottom and 1.625-inch hex Pin on top.
 - z. Outside recovery tap, NWJ.
 - aa. Outside recovery tap AWJ.
20. Color: The drill unit, drill platform and all parts normally painted shall be primed and painted Arkansas State Highway & Transportation Department Omaha Orange (equivalent to Sherwin Williams F1E 4143 Kem Transport Synthetic Enamel). All exposed hydraulic cylinder piston rods shall be covered to prevent over spray during painting.

Complete Unit:

E. Warranty:

1. Cab and chassis shall have truck manufacturer's regular warranty. Warranty data shall be furnished with each unit. The Warranty Data shall contain all necessary information such as motor and/or serial numbers and shall be signed by the selling dealer at the time vehicle is delivered to the Highway Department.
2. The drill unit and other incidental equipment purchased under this specification shall be warranted against defective material and workmanship for a minimum period of twelve (12) months (365 Days) from date unit is placed in operation by AHTD. In addition, manufacturer's standard warranty period on components that exceeds the 12 months warranty shall remain in effect.
 - a. Warranty shall include all parts, labor and transportation costs to the location of equipment.
 - b. If equipment cannot be repaired on location, warranty shall include cost of transport to the facility where the repair work will be done.
 - c. It will be the responsibility of the successful bidder to insure that repairs are completed in a timely manner.
3. If any warranty literature submitted with the bid conflicts with AHTD warranty requirements, the conflict(s) shall be specifically noted, corrected and included with the bid or the conflict(s) will be considered an exception to warranty specifications and the bid rejected.
4. Recent prior failure to provide warranty-work, parts, replacement parts or service, in a timely manner, for equipment from the same manufacturer or dealer shall be grounds for the rejection of any submitted bid, or for the denial of any otherwise qualified low bidder, whether such failure is attributable to the manufacturer or the dealer of the equipment. For the purposes of this paragraph "timely manner" means a period of time not exceeding thirty (30) calendar days to provide requested warranty-work, parts, replacement parts, or service. For the purposes of this paragraph "manufacturer" means the original manufacturer of the equipment and its successor or successors, regardless of number, and whether acquired by sale, merger, or otherwise. For the purposes of this paragraph "replacement part" means a part redesigned by a manufacturer to correct a design or engineering defect and which replacement part is capable of providing dependable performance in normal operation conditions for its normal service life without failure. Such bid or bids may be rejected by the Department until such failure or failures have been remedied to the satisfaction of the Department and until such manufacturer or dealer is providing such warranty-work, parts, replacement parts, and service in a timely manner.

- F. Current Model: Units furnished under this specification shall be the latest improved model in current production, as offered to commercial trade, built for the U.S. market, and shall be of quality workmanship and material. Machines manufactured for foreign markets will not be accepted. All equipment offered under this specification shall be new. Used, reconditioned, shopworn, demonstrator, prototype or discontinued models are not acceptable. Manufacturers of the units supplied must have been in the business of producing operational units for at least two years and must have recently sold similar units to domestic governmental agencies. The model furnished must have been in production for a minimum of one year, or be the latest version of a previous model. Bidder/s may be required to submit documentation substantiating the aforementioned requirements. A list of user references may also be required.
- G. Manuals, Certificate of Origin and Invoice:
1. The successful bidder shall furnish an Operator's Instruction Manual for the drill unit and for the truck with each unit delivered. Two (2) copies each of Shop Repair Manual and Parts Book for drill unit (including engine and related components) and one (1) copy of Shop Repair Manual for the truck shall be furnished to each FOB point. In addition, one (1) copy each of Operator's Instruction Manual, Shop Repair Manual, and Parts Book for the drill unit (including engine and related components) and one (1) copy of Shop Repair Manual for the truck shall be furnished to Equipment & Procurement Division, P.O. Box 2261, Little Rock, AR 72203 (11302 W. Baseline Road, Little Rock, AR 72209, if shipping UPS, FedEx, etc.).
 2. Certificate of Origin, Federal Excise Tax Exemption Certificate, Odometer Disclosure Statement and Five (5) copies of the Invoice to be furnished to Equipment & Procurement Division, P.O. Box 2261, Little Rock, AR 72203 (11302 W. Baseline Road, Little Rock, AR 72209, if shipping UPS, FedEx, etc.).
 3. The successful bidder may provide Shop Repair Manuals and Parts Manuals on computer media (CD ROM, Floppy Disks, etc.) in lieu of printed manuals.
- H. Training: The successful bidder shall provide two days of training by qualified personnel to instruct AHTD operators and service technicians on operation and maintenance of units purchased under this specification.
- I. Unit shall be assembled, adjusted and made ready for continuous operation at time of delivery.
All tools and accessories necessary for the efficient operation of the unit shall be furnished whether or not they are specifically mentioned in this specification. Truck shall be the latest current model of proven performance and under standard production by manufacturer at time of delivery.
- J. The component parts of the unit shall be of proper size and design to safely withstand maximum stresses imposed by a capacity load, and the manufacturer's rated loads for chains, bearings and universal joints shall not be exceeded when the unit is loaded with such loads.
- K. The torque capacity of each driven part shall be equal to or exceed the torque capacity of its driving member.
- L. All items, which require periodic lubrication, shall be provided with a suitable lubrication fitting.
- M. All pressure systems shall be provided with suitable pressure relief valves. With the exception of the drill rotary box, spindle and drilling tools, all moving parts, which are so located as to be a hazard to operating or maintenance personnel shall be fully enclosed or properly guarded. Protective devices shall not impair the operating functions.
- N. Parts Inventory & Service Facilities: The successful bidder shall maintain a representative inventory of replacement parts and service facilities for servicing equipment bid on.
- O. Demonstration: The Arkansas State Highway & Transportation Department reserves the right to require a demonstration, under actual working conditions, of equipment bid under this specification before award is made. The demonstration would be performed (free of any charge) by the bidder or an authorized representative at a mutually acceptable location. If requested, the bidder should be prepared to demonstrate the equipment within thirty (30) days after notification. Failure of the bidder to perform a satisfactory demonstration within the specified time may be grounds for rejection of the bid.
- P. Any deviations from specifications and requirements herein must be clearly pointed out by bidder. Otherwise it will be considered that equipment offered is in strict compliance with these specifications and requirements, and successful bidder will be held responsible therefor. Deviations must be explained in detail on an attached sheet. However, no implication is made by the Arkansas State Highway and Transportation Department that deviations will be acceptable.
- Q. Cooperative Purchasing: Other tax-supported entities* in Arkansas (cities, counties, state agencies, school districts, etc.) may purchase from this Contract on an individual basis under the same specifications and conditions, and at the pricing set forth by each vendor, all at the discretion of each vendor in each case. Prices could be reduced by a vendor for minor alterations in conditions (changing order quantities, deleting options, etc.) as agreed by both parties, but could not be raised above the contract bid price except for any additional freight charges. Vendors would not be required to sell to any such entity under this contract, and those entities would not be obligated to purchase from the contract.

Each entity wishing to purchase from the contract must make contact directly with the appropriate vendor(s). The Highway Department shall remain “out of the loop” for such transactions: all contact, orders, invoices, payments, etc. regarding such transactions must take place exclusively between the tax-supported entity and the vendor. The Department shall be held harmless of any and all liability arising from such transactions.

* Tax-supported entities are defined as those receiving more than half of total funding from appropriated tax funds.