

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

Bid Number: M-16-031P

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: March 8, 2016 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 Under Bridge Inspection Unit, 38' Working Reach

2 ea. Unit Price _____ Total Price _____

To meet the requirements of Arkansas State Highway and Transportation Department Specifications **16-89-069** attached to and made a part of this bid.

FOB: **AHTD – Equipment and Procurement, 11302 Baseline Road, Little Rock, AR 72209**

Truck proposed to furnish:

Make _____ Model _____ Warranty _____

Inspection Unit proposed to furnish:

Make _____ Model _____ Warranty _____

Auxiliary Diesel Engine proposed to furnish:

Make _____ Model _____ Warranty _____

Generator proposed to furnish:

Make _____ Model _____ Warranty _____

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.

The successful bidder will be required to complete delivery within **270** days after award.

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 after award of bid/contract. If you have any questions, call this office at 501-569-2667.

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STANDARD BID CONDITIONS

M-16-031P

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. When a bidder claims and can show clear and convincing evidence that a material mistake was made in the bid and was not the bid intended, the bidder may be permitted to withdraw their bid prior to award without forfeiture of bid bond. 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). These bonds shall not only serve to guarantee the completion of the work, but also to guarantee the excellence of both workmanship and material until the work is finally accepted and the provisions of the Plans, Specifications, and Special Provisions fulfilled. 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 (Department) complies with all civil rights provisions of federal statutes and related authorities that prohibit discrimination in programs and activities receiving federal financial assistance. Therefore, the Department does not discriminate on the basis of race, sex, color, age, national origin, religion or disability, in the admission, access to and treatment in the Department's 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 Joanna P. McFadden, Section Head - EEO/DBE (ADA/504/Title VI Coordinator), P. O. Box 2261, Little Rock, AR 72203, (501) 569-2298, (Voice/TTY 711), or the following email address:

Joanna.Mcfadden@ahtd.ar.gov

Free language assistance for Limited English Proficient individuals is available upon request.

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 16-89-069

FOR

TRUCK MOUNTED UNDER BRIDGE INSPECTION UNIT
38' WORKING REACH

A. General Conditions:

1. **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. Units 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) will be required to submit documentation substantiating the aforementioned requirements. A list of user references may also be required.
2. **Literature:** Manufacturers literature, verifying adherence of proposed unit to each line item addressed in this specification, shall be submitted with the bid. 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.
3. 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.
4. **Drawings:** Professional quality drawings which depict the layout of the chassis will be provided with the bid.
5. **Manuals:** The successful bidder shall furnish two (2) copies each of the following literature for each unit delivered: Operator's Instruction Manual, Shop Repair Manual and Parts Book for Under Bridge Inspection Unit and all components. The successful bidder may provide Shop Repair Manuals and Parts Manuals on computer media (CD, DVD, USB Drive, etc.) in lieu of printed manuals
6. Unit shall be assembled, adjusted and made ready for continuous operation at time of delivery.
7. All parts, accessories and tools necessary for satisfactory operation of unit shall be furnished whether or not they are specifically mentioned in this specification (including standard equipment as regularly furnished by manufacturer as shown on printed literature and specifications - unless specifically excluded by this specification).
8. **Training:** The successful bidder shall furnish qualified personnel to instruct AHTD operators and service technicians on operation and maintenance of machine.
9. **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.
10. **Delivery Requirements:** It will be the responsibility of the Successful Bidder to guarantee delivery of the cab & chassis as specified, including items or equipment installed by a third party contractor, within the quoted time.
11. **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.

B. Underbridge Inspection Unit:

1. General: This specification is intended to cover the purchase of a completely self-contained Under Bridge Inspection Unit (cab & chassis, flat bed and aerial device including all necessary booms and components required to accomplish the functions specified herein) which makes it possible to position workmen and their equipment no less than 38' horizontally under a bridge, or extend down approximately 19' below the bridge surface, to inspect and repair under bridge areas. The unit will be able to cover a work area of approximately 3,200 square feet without moving the truck, with all movements controlled by the personnel in the work platform. An aluminum work platform with a hydraulically telescoping section shall be provided which, when completely extended and while the truck is driven slowly forward or back, will provide continuous or overlapping areas of coverage. All booms shall be steel.
2. Under Bridge Inspection Unit: The equipment shall consist of a truck mounted aerial lift device, hydraulically operated, for under bridge inspection and maintenance work. It shall consist of a turret mounted on a truck behind the cab and two (2) booms with pivoted joints. A second turret shall be mounted at the outboard end of the first boom section. The second boom shall be attached to the second turret. The third section shall be a hydraulically operated telescoping work platform no less than 30" wide and no less than 30' in length when fully extended
3. Pedestal and Sub-frame: The pedestal and sub-frame shall be constructed of high strength steel capable of withstanding the torsional stress applied by the boom while at full extension and with maximum rated load in the work platform. The pedestal shall be mounted behind the cab and welded to a tubular sub-frame that extends the full length of the chassis frame. The sub-frame shall be fastened to the chassis frame with grade 8 bolts.
4. Turrets and Booms: For clarity, the turrets and booms are designated herein as Turrets number 1 and 2, and Boom numbers 1 and 2. The aerial device shall be designed to be operated from either curbside or roadside of the truck with the truck's longitudinal axis parallel to the curb line. It shall be possible to move the truck forward or backward at slow speed with booms extended in working position.
 - a) Turret 1: Shall be mounted on top of the pedestal and allow operation from both sides of the truck. Turret shall provide a minimum of 180 degrees of rotation.
 - b) Boom 1: Shall be hinged to Turret 1 and provide a minimum of 9' 6" of horizontal reach. Shall be capable of 30° minimum elevation and 20° minimum depression from horizontal.
 - c) Turret 2: Shall be mounted at the outboard end of Boom 1 and be capable of at least 180° rotation. With the work platform fully extended in an under bridge position the turret shall have a minimum of 110° rotation.
 - d) Boom 2: Shall be attached to Turret 2 and to the pivot at the work platform.
 - e) Work Platform: The third section shall be a hydraulically operated telescoping work platform attached to Boom 2 with a minimum operating pivot range of 100° in relation to Boom 2. The work platform shall be constructed of aluminum and be no less than 40" in width and no less than 33' long when fully extended. Shall be designed so that, when fully extended, the platform will safely support a minimum load of 1,500 pounds. The telescoping section shall be an integral part of the platform design. Shall have capability for crew to board the platform at edge of bridge and ride below bridge with platform staying level. Work platform shall be equipped with a self-leveling system.
5. Working Reach: The overall under bridge horizontal working reach shall be no less than 38' from the outside edge of the bridge. The overall vertical reach shall be approximately 19' from the road surface to the work platform railing.
6. Hydraulics: All aerial device movements are to be hydraulically powered. Hydraulic system shall be sufficient to properly operate the unit. All valves, pumps, filter, hoses, fittings and required PTO accessories shall be furnished whether specifically mentioned or not.
 - a) Power Take Off: Shall be transmission mounted power shift type with cab controls. PTO gear ratio shall provide optimum performance of the hydraulic pump for operation of hydraulic components. Shall be equipped in a PTO indicator light in the cab.
 - b) Hydraulic Pump: Shall maintain constant flow and pressure regardless of engine speeds. The pump shall be driven from transmission mounted PTO.
 - c) Hydraulic Cylinders: All articulating functions of the booms are to be done with double acting cylinders with automatic safety check valves mounted directly to the cylinders so that in the event of a cylinder failure the booms will not collapse. All cylinder bores are to be pressure tested and serialized. Certification is to be provided.
 - d) Hydraulic Lines: Hydraulic hoses shall be wire braid reinforced with a bursting pressure rating of no less than 200 % of system operating pressure.

- e) Filters: Hydraulic system shall be equipped with replaceable 10 micron return and pressure filters and a 200 mesh suction strainer.
- f) Hydraulic Tank: Shall be of welded steel construction with a minimum storage capacity of 50 gallons. Tank shall be complete with baffles, clean out, sight glass and magnetic drain plug.
- g) Hydraulic Oil Cooler: Shall be oil to air type.
- h) Backup Hydraulic Pump: The unit shall be equipped with an emergency backup hydraulic system. The pump shall be driven by an auxiliary, liquid cooled, diesel engine. Auxiliary engine is to be installed in a lockable compartment and draw fuel from the chassis fuel tank. This system is to be used in the event of truck engine, PTO, or truck mounted pump fails and shall have the capability to stow the unit from any operating position.

7. Controls: Unit shall be equipped with one (1) complete set of radio controls, including one (1) spare radio control transmitter. One (1) set of manual controls shall also be provided for operation of the aerial device. The radio operated controls shall have sufficient range to perform all functions from the work basket regardless of its relationship to the chassis and the manually operated controls are to be located near Turret 1 in case of an electrical failure. Controls are to be proportional flow control, two-way, return to neutral, lever type. The truck level controls shall have the capability at any time to override the work platform controls. As a third control feature, all hydraulic valves shall be manually operated at the valve itself. All controls are to be of the dead man type and will control all movements of the booms either separately or in combination without loss of speed of any of the operating functions. All controls are to be labeled as to their function.

A master power control switch shall be provided at the work platform, to render the controls inoperable when the unit is in its work position, to prevent the accidental activation of any boom controls.

8. Stabilization: Shall be accomplished by a minimum of six (6) hydraulically operated suspension lockouts. Lockouts shall be mounted on the front steer axle and rear drive axle. Other axles may be equipped with lockouts as deemed necessary by the manufacturer. System shall include warning lights to notify the operator whether the lockouts are engaged or disengaged. Lights shall be mounted in the cab and at the pedestal.

A safety interlock system shall be provided that will not allow the operation of the aerial device unless the spring lockouts are engaged.

9. Counterweights: A counterweight shall be attached to the pedestal assembly on the opposite side from the boom. Counterweight shall rotate with the bridge inspection unit staying within the width of the body when the boom is deployed.

10. Design Considerations: The equipment shall be built to meet all current applicable State and Federal requirements and regulations. In particular, the unit shall be tested for stability in accordance with current ANSI A.92.8 statutes, as applicable.

11. Safety Harness: Successful bidder shall provide three (3) safety harnesses and lanyards. Platform shall be equipped with attachment points for safety harnesses.

12. Dimensions: When the unit is in the stowed for over-the-road travel conditions, the overall nominal dimensions shall not exceed 102" in width and 13' 6" in height.

When the unit is in its working configuration under the bridge, it shall not occupy more than 102" of traffic lane.

13. Communications: A three (3) station, 12 volt intercommunication circuit providing both listen and transmit from the cab of the truck, the main control station located on the frame and on the work platform shall be provided. The station on the work platform shall be an open system allowing workers under the bridge to talk and listen without operating switches. The two (2) remaining stations shall require a push to talk switch. Unit in the cab shall be conveniently located for the driver. The intercommunication circuit shall be powered by the truck batteries.

14. Generator: Unit shall be equipped with a 120 Volt, 5 KW, 60 Hz, single phase, AC generator. Generator shall be driven by the auxiliary diesel engine which powers the emergency backup hydraulic system. Four (4) 120 volt, three (3) contact, waterproof, grounding receptacles with ground fault interruption protection shall be installed on the unit. Two (2) receptacles shall be mounted at the work platform and two (2) on the truck flatbed body.

15. Color: Unit shall be painted Sherwin Williams F8W2030 Frost White Acrylic Enamel, or equal.

C. Truck Body:

1. Construction: An all steel platform type body shall be provided. Body length shall be as required to suit truck frame. Deck shall be constructed of diamond plate steel no less than ¼" thick treated with a non-skid material. The deck shall

be welded to heavy-duty structural steel crossmembers and longitudinals with side and end rails. Deck surface shall be finished with non-skid paint. A minimum of two (2) sets of access steps shall be provided one (1) on the street side and one (1) at the rear of the deck. Shall have anti-sail mud flaps no less than 24" wide and 1/4" thick, without advertising, mounted behind rear wheels.

2. Lights and Reflectors: Side marker and clearance lights shall be grommet mounted LED type. Reflectors shall be bolt on type. Lights and reflectors shall comply with Federal Motor Vehicle Safety Standard FMVSS108.
3. Storage Boxes: A minimum of two (2) under-deck tool boxes with swing down doors shall be provided (one on each side of the body). Each box shall have a minimum nominal capacity of 9 cubic feet. Boxes shall be lockable and are to be keyed alike.
4. Strobe Lights: Two (2) LED strobe lights are to be mounted on the back rail of the flat bed body. Suitable make and model is Whelen 5V3A, or approved equivalent. Ground effect portion of light shall be wired to auxiliary switch in the instrument panel.
5. Color: Unit shall be painted Sherwin Williams F8W2030 Frost White Acrylic Enamel, or equal.

D. Cab & Chassis:

1. General: Shall be a conventional cab type cab and chassis with tandem rear drive axles. If the manufacturer of the Under Bridge Inspection Unit requires a tag axle located behind the tandem drive axles, it shall be provided.
2. GVWR: 66,000 pounds, minimum.
3. Cab to Axle: No less than 156" to center of tandem drive axles.
4. Wheelbase: Per truck manufacturer to meet CA requirements. Front axle configuration (i.e. – set-forward or set-back) to be as required by manufacturer of the Under Bridge Inspection Unit.
5. Engine: Turbocharged four cycle diesel with a minimum piston displacement of 10.5 liters developing no less than 350 SAE gross horsepower at rated RPM with SAE gross torque rating of no less than 1,350 lb/ft. Shall have a minimum governed speed of 2,000 RPM. (Engine provided will be acceptable if it is manufactured by and branded as a product of Caterpillar, Cummins, Detroit Diesel, International, Mack or Mercedes. If an engine from another manufacturer is proposed, it must be approved by AHTD prior to bid opening.) Shall have full flow oil filter(s), fuel filters, dry type air filter, 12 volt electrical equipment with no less than 130 amp alternator and maintenance free batteries as regularly furnished with engine specified.
 - a) Engine Brake: Engine to be equipped with compression brake system (Jacobs, or equal) designed to use engine compression to retard engine speed. Shall be capable of utilizing all engine cylinders for braking effect.
 - b) Engine Speed Control: Electronic speed control for use with PTO provision specified above.
 - c) Engine Shutdown: Engine safety shutdown system with manual or automatic override to include the following features: low oil pressure - warning bell/buzzer plus shutdown, high coolant temperature - warning bell/buzzer plus shutdown and low coolant level - warning bell/buzzer plus light or shutdown.
 - d) Cooling System: Heavy duty cooling system recommended by the manufacturer for use with the engine size specified above. Shall have anti-freeze protection to -20° F, or lower.
 - e) Block Heater: Engine shall be equipped with a block heater rated at no less than 1,000 watts which will operate on 120 volts AC.
6. Exhaust System: Vertical exhaust stack with rain cap or curved outlet. Exhaust stack to be equipped with a heat shield. Exhaust system shall not interfere with the operation of the underbridge inspection unit.
7. Transmission: Allison 4500 RDS automatic with six (6) speed programming. Shall include PTO provision and all necessary items required for providing transmission-mounted PTO. Transmission shall have synthetic lubricant and be equipped with a transmission oil cooler.
8. Steering: Hydraulic actuated power steering as regularly offered by manufacturer for front axle specified herein.
9. Front Axle: I Beam Type with wet seals, outboard mounted drums and a minimum capacity of 20,000 pounds.
10. Front Suspension: As required to meet axle capacity specified above and shall include heavy duty shock absorbers.
11. Front Tires And Wheels: Two (2) 425/65R22.5 steel belted tubeless radials - load range "J" minimum. Shall be mounted on 22.5" diameter ten (10) hole, hub piloted steel disc wheels with a rim section of no less than 12.25".

12. Rear Drive Axles: Tandem with power divider and inter-axle differential lock out control. Shall be full floating with wet seals, outboard mounted drums and have a minimum capacity of 46,000 pounds. Axle ratio shall provide a maximum theoretical geared speed of no less than 65 MPH and still provide acceptable startability.
13. Rear Suspension: Hendrickson air ride suspension with a minimum capacity of 46,000 pounds. Shall include an air suspension dump valve with switch and indicator light located in the cab. The Hendrickson air ride suspension series provided shall be approved by the Under Bridge Inspection Unit manufacturer and by the suspension manufacturer for the intended application.
14. Rear Tires And Wheels: Eight (8) no less than 11R22.5 - load range "H" steel belted tubeless radials. Wheels shall be 22.5" diameter ten (10) hole, hub piloted steel disc with a rim section of no less than 8.25".
15. Spare Wheel: One (1) spare rear wheel (less tire) shall be furnished.
16. Air System: Shall be equipped with an air compressor with a minimum capacity of 13.2 cfm. Air compressor shall draw air through the engine air cleaner. Air system shall be equipped with a heated air dryer.
17. Brakes: Factory installed full air operated two-shoe type with dust shields and automatic slack adjusters. Rear brakes shall have spring set parking brakes.
18. Frame: Section modulus and yield strength of frame material shall provide a minimum RBM of 3,600,000. Axle to end of frame measurement shall be as required by the manufacturer of the Under Bridge Inspection Unit. If the manufacturer of the Under Bridge Inspection Unit requires additional frame reinforcement, it shall be provided. It shall be the responsibility of the successful bidder to insure that any additional frame requirements that may be needed for proper installation of the unit are provided (i.e. - clean CA or clear frame rails).
19. Cab: Conventional cab as regularly furnished by manufacturer, complete with insulation and all interior trim. Cab glass shall include windshield, roll-up windows in doors and rear cab glass as a minimum. Shall have key type lock on right and left doors, factory installed fresh air heater-defroster unit, grab handle on each side, right and left sun shades and fitted rubber floor mats.
20. Cab Mounts: Air suspension type rear cab mounts.
21. Instruments: Shall include the following as a minimum:
 - a) Speedometer/odometer
 - b) Electric tachometer
 - c) Electric engine hour meter
 - d) Ammeter or volt meter
 - e) Oil pressure gauge
 - f) Coolant temperature gauge
 - g) Transmission oil temperature gauge
 - h) Air brake pressure gauge
22. Air Conditioning: Shall be equipped with factory-installed air conditioning and include tinted glass all around.
23. Tilt Steering Column: Factory Installed
24. Windshield Wipers: Dual electric intermittent windshield wipers with washers.
25. Auxiliary Switches: Shall be equipped with a minimum of six (6) rocker switches in the instrument panel for use by bodybuilder or end user to supply power to work lights, warning lights and other auxiliary electrical devices.
26. Seats: Driver's air suspension seat and passenger's non-suspension seat. Shall include driver's and passenger's seat belts
27. Radio: Factory installed electronic AM/FM/WB radio.
28. Heated Mirrors: Dual Heated West Coast Sr. type mirrors no less than 7" x 16" with adjustable brackets and auxiliary convex mirrors.
29. Air Horn: Single base-dual trumpet air horn.
30. Hood: Tilting fiberglass or composite hood and fenders with stationary grill.
31. Front Bumper: Swept back or similar type front bumper compatible with front frame extension.

32. Lights: Shall be equipped with dual beam headlights, parking lights, clearance lights, automatic backup lights, directional turn signals with column mounted switch and hazard flasher switch. Rear signals to be wired for stop and tail lights in addition to directional signals.
33. Strobe Lights: Two (2) LED strobe lights are to be mounted on the front bumper. Suitable make and model is Whelen 5V3A, or approved equivalent. Ground effect portion of light shall be wired to auxiliary switch in the instrument panel.
34. Bar light: An amber, LED, bar light, 70" minimum length, is to be mounted on the top of the cab using manufacturers mounting kit. Suitable make and model is Whelen Freedom, FX2AAAA with QTY6 of FLDA or approved equivalent. Bar light shall be wired to auxiliary switch in the instrument panel.
35. 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.
36. Fuel Tank: Step type with a minimum fuel capacity of 100 gallons. Shall have an instrument panel fuel gauge.
37. Tools: Lug Wrench with handle.
38. Color: Cab, Hood, Fenders & Wheels shall be Sherwin Williams F8W2030 Frost White Acrylic Enamel, or equal. Grill, bumper and mirrors shall be as regularly furnished by manufacturer.

E. Complete Unit:

1. Performance Test: A performance test shall be made to determine the capability of the machine and to see that it meets all requirements set forth in these specifications such as Underbridge Horizontal Reach, Stability, Vertical Reach (down), Load Capacities, Road Travel Clearance, Communications, Travel with Platform in Underbridge Position, and all other functions.
2. Warranty:
 - a) Cab and chassis shall have truck manufacturer's standard warranty as regularly furnished on new vehicles sold to the public. 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.
 - b) The Under Bridge Inspection 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 certain machine components that exceeds the 12 months warranty shall remain in effect.
 - (1) Warranty shall include all parts, labor and transportation costs to the location of equipment.
 - (2) If equipment cannot be repaired on location, warranty shall include cost of transport to the facility where the repair work will be done.
 - (3) It will be the responsibility of the successful bidder to insure that repairs are completed in a timely manner.
 - c) 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.
 - d) 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.

3. Certificate of Origin and Invoice:

- a) Certificate of Origin, Federal Excise Tax Exemption Certificate, Odometer Disclosure Statement and one (1) 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.).