

STANDARD BID CONDITIONS

H-15-249R

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) 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@arkansashighways.com.

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
LITTLE ROCK, ARKANSAS
EQUIPMENT AND PROCUREMENT DIVISION
BID SHEET**

Contract No.: H-15-249R

BIDDER: _____

Page 1 of 4

1. **8** – Wheel Tractor, 65 PTO Horsepower, Standard Profile, 2 WD, to meet AHTD Spec. **15-250-162**

FOB: **AHTD – District 7 Headquarters, 2245 California Avenue, Camden, AR 71701**

Bid Price (Do not include any Local, State or Federal Taxes) Each \$ _____

Total for **8 Wheel Tractors** \$ _____

Wheel Tractor proposed to furnish:

Make: _____ Model _____ Warranty _____

Guaranteed Delivery Date _____

Additional Units may be purchased at the same pricing and conditions through _____
(Date)

2. **1** – Wheel Tractor, 65 PTO Horsepower, 4 WD, to meet AHTD Spec. **15-252-162**

FOB: **AHTD – District 10 Headquarters, 2510 West Kingshighway, Paragould, AR 72450**

Bid Price (Do not include any Local, State or Federal Taxes) Each \$ _____

Total for **1 Wheel Tractor** \$ _____

Wheel Tractor proposed to furnish:

Make: _____ Model _____ Warranty _____

Guaranteed Delivery Date _____

Additional Units may be purchased at the same pricing and conditions through _____
(Date)

3. **6** – Wheel Tractor, 75 PTO Horsepower, 2 WD, to meet AHTD Spec. **15-253-155**

FOB: **AHTD – District 6 Headquarters, 8900 Mabelvale Pike, Little Rock, AR 72209**

Bid Price (Do not include any Local, State or Federal Taxes) Each \$ _____

Total for **6 Wheel Tractors** \$ _____

Wheel Tractor proposed to furnish:

Make: _____ Model _____ Warranty _____

Guaranteed Delivery Date _____

Additional Units may be purchased at the same pricing and conditions through _____
(Date)

4. **1** - Wheel Tractor, 75 PTO Horsepower, 4 WD, to meet AHTD Spec. **15-254-155**

FOB: **AHTD – District 4 Headquarters, 808 Frontier Road, Barling, AR 72923**

Bid Price (Do not include any Local, State or Federal Taxes) Each \$ _____

Total for **1 Wheel Tractor** \$ _____

Wheel Tractor proposed to furnish:

Make: _____ Model _____ Warranty _____

Guaranteed Delivery Date _____

Additional Units may be purchased at the same pricing and conditions through _____
(Date)

5. **3** – Wheel Tractor, 85 PTO Horsepower, 4 WD, to meet AHTD Spec. **15-255-155**

FOB: **AHTD – District 10 Headquarters, 2510 West Kingshighway, Paragould, AR 72450**

Bid Price (Do not include any Local, State or Federal Taxes) Each \$ _____

Total for **3 Wheel Tractors** \$ _____

Wheel Tractor proposed to furnish:

Make: _____ Model _____ Warranty _____

Guaranteed Delivery Date _____

Additional Units may be purchased at the same pricing and conditions through _____
(Date)

6. **1** – Wheel Tractor, 55 PTO Horsepower, w/6 foot Sickle, to meet AHTD Spec. **15-287-164**

FOB: **AHTD – District 4 Headquarters, 808 Frontier Road, Barling, AR 72923**

Bid Price (Do not include any Local, State or Federal Taxes) Each \$ _____

Total for **1 Wheel Tractor** \$ _____

Wheel Tractor proposed to furnish:

Make: _____ Model _____ Warranty _____

Guaranteed Delivery Date _____

Additional Units may be purchased at the same pricing and conditions through _____
(Date)

7. **1** – Wheel Tractor, 95 PTO Horsepower, 4 WD, w/Articulated Boom Mower and Ditching Attachment, to meet AHTD Spec. **15-274-166**

FOB: **AHTD – District 7 Headquarters, 2245 California Avenue, Camden, AR 71701**

Bid Price (Do not include any Local, State or Federal Taxes) Each \$ _____

Total for **1 Wheel Tractor** \$ _____

Wheel Tractor proposed to furnish:

Make: _____ Model _____ Warranty _____

Guaranteed Delivery Date _____

Additional Units may be purchased at the same pricing and conditions through _____
(Date)

BID TOTAL \$ _____

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

SPECIFICATION 15-250-162

FOR

WHEEL TRACTOR
65 PTO HORSEPOWER

General Specifications:

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. 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.
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. **Manuals:** The successful bidder shall furnish one (1) Operator's Instruction Manual with each unit delivered and one (1) copy each of Shop Repair Manual and Parts Book to each FOB point. The successful bidder may provide Shop Repair Manuals and Parts Manuals on computer media (CD ROM, Floppy Disks, etc.) in lieu of printed manuals.
5. **Training:** The successful bidder shall furnish qualified personnel to instruct AHTD personnel on operation and maintenance of units purchased under this specification.

In addition, the successful bidder shall furnish information on any factory service schools, which would be available for AHTD service technicians.

6. Units 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 this 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. **Parts Inventory & Service Facilities:** The successful bidder shall maintain a representative inventory of replacement parts and service facilities for servicing equipment bid on.
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. **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.

Unit Specifications:

1. General: Industrial or utility type wheel tractor with liquid cooled diesel engine, PTO, swinging drawbar, hydraulic lift system and 3 point hitch. Tractor must be capable of front mounted hydraulic pump. The wheel tractor this specification is intended to cover will be used in highway maintenance mowing applications which include side slope or hillside operations and must be suitable for such use.
2. PTO Power: Minimum of 65 horsepower at rated RPM.
3. Engine: Liquid cooled diesel equipped with 12 volt electrical system including battery, starter and alternator. Shall have oil and fuel filters with replaceable elements and approved dry type air cleaner. Shall have vertical exhaust muffler with rain cap or curved exhaust pipe. Engine cooling system shall have anti-freeze protection to -20° F, or lower. All other equipment necessary for efficient operation shall be furnished.
4. Instruments: Shall be equipped with ammeter or charge indicator light, tachometer, electric hour meter (showing actual engine run time independent of engine RPM) and all necessary gauges, including temperature gauge, oil pressure gauge or warning light, and fuel gauge.
5. Transmission: Shall have a minimum of eight (8) forward speeds and three (3) reverse speeds with synchronized forward/reverse shuttle control and synchronized shifts between speeds for on-the-go shifting. Travel speed, in high range at governed RPM, shall be no less than 14 mph.
6. Steering: Hydrostatic or hydraulic power assist.
7. Brakes: Wet disc type.
8. Differential: Equipped with differential lock.
9. Power Take Off: Independent type providing a speed of 540 RPM. PTO engagement shall have feathering capability. Control shall be separate from transmission and easily reached from operator's seat. Power-take-off shaft shall be protected by a safety shield.
10. Hydraulics: Hydraulic pump/s shall provide a minimum implement flow of 10 gpm.
11. 3-Point Lift Capacity: Minimum of 3,300 pounds at 24" behind lift arms.
12. Tread Width: Adjustable front and rear tread widths.
13. Front Wheels and Tires: Shall have 15" or 16" diameter front wheels. Front tires to be no less than 7.50 x 15 or 7.50 x 16 – minimum 6 ply rating, Type F2 or F3 Tread. (Note: If the award is made under the Alternate 2 Repurchase Agreement, the manufacturer's standard size tires and wheels may be provided, however all units furnished for each bid must have the same size tires and wheels.)
14. Rear Wheels and Tires: Shall have 28" or 30" diameter rear wheels. Rear tires to be no less than 14.9 x 28 or more than 16.9 x 30 – minimum 6 ply rating, Type R1 or R4 tread. (Note: If the award is made under the Alternate 2 Repurchase Agreement, the manufacturer's standard size tires and wheels may be provided, however all units furnished for each bid must have the same size tires and wheels.) Wheels furnished shall be suitable for highway mowing applications which include side slope or hillside operations.
15. Front Mounted Weights: Shall have a set of removable front mounted weights with a total weight of approximately 600 pounds.
16. Seat: Adjustable suspension seat equipped with arm rests.
17. ROPS: Tractor shall be equipped with ROPS with steel or aluminum canopy and seat belts per SAE J1194.
18. Weight: No less than 5,000 pounds without front weights or liquid ballast.

19. Color: Manufacturer's standard color is acceptable.
20. Warranty: Units purchased under this specification shall be warranted against defects in material and workmanship for a minimum period of twelve (12) months (365 days) from date unit is placed in operation by AHTD.
 - 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. Warranty repairs are to be performed by any authorized dealership of the manufacturer, however, the successful bidder will be ultimately responsible for coordinating repairs and insuring that warranty repairs are completed in a timely manner.
 - D. Warranty repair action shall begin within five (5) working days after notification for the need of warranty repairs; and repairs should be completed and the unit returned to AHTD within fifteen (15) working days after notification (unless prior arrangements have been made with AHTD personnel).
 - E. 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.
 - F. 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.

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

SPECIFICATION 15-252-162

FOR

WHEEL TRACTOR
65 PTO HORSEPOWER
FOUR WHEEL DRIVE

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. 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.
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. **Manuals:** The successful bidder shall furnish one (1) Operator's Instruction Manual with each unit delivered and one (1) copy each of Shop Repair Manual and Parts Book to each FOB point. The successful bidder may provide Shop Repair Manuals and Parts Manuals on computer media (CD ROM, Floppy Disks, etc.) in lieu of printed manuals.
5. **Training:** The successful bidder shall furnish qualified personnel to instruct AHTD personnel on operation and maintenance of units purchased under this specification.

In addition, the successful bidder shall furnish information on any factory service schools which would be available for AHTD service technicians.

6. Units 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 these units shall be furnished whether or not they are specifically mentioned in these specifications (including standard equipment as regularly furnished by manufacturer as shown on printed literature and specifications - unless specifically excluded by this specification).
8. **Parts Inventory & Service Facilities:** The successful bidder shall maintain a representative inventory of replacement parts and service facilities for servicing equipment bid on.
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. **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.

Unit Specifications:

1. General: Industrial or utility type wheel tractor with liquid cooled diesel engine, mechanical front wheel drive axle, independent Power-Take-Off, swinging drawbar, hydraulic lift system and three-point hitch. The wheel tractor this specification is intended to cover will be used in highway maintenance mowing applications which include side slope or hillside operations and must be suitable for such use.
2. PTO Power: Minimum of 65 horsepower at rated RPM.
3. Engine: Liquid cooled diesel equipped with 12 volt electrical system including battery, starter and alternator. Shall have oil and fuel filters with replaceable elements and approved dry type air cleaner. Shall have vertical exhaust muffler with rain cap or curved exhaust pipe. Engine cooling system shall have anti-freeze protection to -20° F, or lower. All other equipment necessary for efficient operation shall be furnished.
4. Instruments: Shall be equipped with ammeter or charge indicator light, tachometer, electric hour meter (showing actual engine run time independent of engine RPM) and all necessary gauges, including temperature gauge, oil pressure gauge or warning light, and fuel gauge.
5. Transmission: Shall have a minimum of eight (8) forward speeds and three (3) reverse speeds with synchronized forward/reverse shuttle control and synchronized shifts between speeds for on-the-go shifting. Travel speed, in high range at governed RPM, shall be no less than 14 mph.
6. Front Axle: Mechanical front wheel drive axle providing all wheel drive capability. Shall be equipped with differential lock or limited slip differential.
7. Steering: Hydrostatic or hydraulic power assist.
8. Brakes: Wet disc type.
9. Differential: Equipped with differential lock.
10. Power Take Off: Independent type providing a speed of 540 RPM. PTO engagement shall have feathering capability. Control shall be separate from transmission and easily reached from operator's seat. Power-take-off shaft shall be protected by a safety shield.
11. Hydraulics: Hydraulic pump/s shall provide a minimum implement flow of 10 gpm.
12. 3-Point Lift Capacity: Minimum of 3,300 pounds at 24" behind lift arms.
13. Tread Width: Adjustable front and rear tread widths.
14. Rear Wheels and Tires: Shall have 30" diameter rear wheels. Wheels furnished shall be suitable for highway mowing applications which include side slope or hillside operations. Rear tires shall be no less than 16.9 x 30, minimum 8 ply rating, R1 or R4 tread. (Note: If the award is made under the Repurchase Agreement, the manufacturer's standard size tires and wheels may be provided, however all units furnished for each bid must have the same size tires and wheels.)
15. Front Wheels and Tires: Size of front wheels and tires shall be as recommended to provide the proper speed match between the front drive axle and the rear axle equipped with rear wheels and tires specified above. Tires shall have R1 or R4 tread and no less than 8 ply rating. (Note: If the award is made under the Repurchase Agreement, tires provided may be the manufacturer's standard ply and tread, however all units furnished for each bid must have the same size tires and wheels.)
16. Front Mounted Weights: Shall have a set of removable front mounted weights with a total weight of approximately 600 pounds.

17. Seat: Adjustable suspension seat equipped with arm rests.
18. ROPS: Tractor shall be equipped with ROPS with steel or aluminum canopy and seat belts per SAE J1194.
19. Weight: No less than 5,400 pounds without front weights or liquid ballast.
20. Color: Manufacturer's standard color is acceptable.
21. Warranty: Units purchased under this specification shall be warranted against defects in material and workmanship for a minimum period of twelve (12) months (365 days) from date unit is placed in operation by AHTD.
 - 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. Warranty repairs are to be performed by any authorized dealership of the manufacturer, however, the successful bidder will be ultimately responsible for coordinating repairs and insuring that warranty repairs are completed in a timely manner.
 - D. Warranty repair action shall begin within five (5) working days after notification for the need of warranty repairs; and repairs should be completed and the unit returned to AHTD within fifteen (15) working days after notification (unless prior arrangements have been made with AHTD personnel).
 - E. 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.
 - F. 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.

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

SPECIFICATION 15-253-155

FOR

WHEEL TRACTOR
75 PTO HORSEPOWER

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. 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.
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. **Manuals:** The successful bidder shall furnish one (1) Operator's Instruction Manual with each unit delivered and one (1) copy each of Shop Repair Manual and Parts Book to each FOB point. The successful bidder may provide Shop Repair Manuals and Parts Manuals on computer media (CD ROM, Floppy Disks, etc.) in lieu of printed manuals.
5. **Training:** The successful bidder shall furnish qualified personnel to instruct AHTD personnel on operation and maintenance of units purchased under this specification.

In addition, the successful bidder shall furnish information on any factory service schools, which would be available for AHTD service technicians.

6. Units 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 this 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. **Parts Inventory & Service Facilities:** The successful bidder shall maintain a representative inventory of replacement parts and service facilities for servicing equipment bid on.
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. **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.

Unit Specifications:

1. **General:** Industrial or utility type wheel tractor with liquid cooled diesel engine, independent Power-Take-Off, swinging drawbar, hydraulic lift system and three-point hitch. The wheel tractor this specification is intended to cover will be used in highway maintenance mowing applications which include side slope or hillside operations and must be suitable for such use.
2. **PTO Power:** Manufacturer's advertised PTO power of no less than 75 horsepower at rated RPM.
3. **Engine:** Liquid cooled diesel equipped with 12 volt electrical system including battery, starter and alternator. Shall have oil and fuel filters with replaceable elements and approved dry type air cleaner. Shall have vertical exhaust muffler with rain cap or curved exhaust pipe. Engine cooling system shall have anti-freeze protection to -20° F, or lower. All other equipment necessary for efficient operation shall be furnished.
4. **Instruments:** Shall be equipped with ammeter or charge indicator light, tachometer, electric hour meter (showing actual engine run time independent of engine RPM) and all necessary gauges, including temperature gauge, oil pressure gauge or warning light, and fuel gauge.
5. **Transmission:** Shall have a minimum of eight (8) forward speeds and three (3) reverse speeds with synchronized shifts between speeds for on-the-go shifting. Travel speed, in high range at governed RPM, shall be no less than 14 mph.
6. **Steering:** Hydrostatic or hydraulic power assist.
7. **Brakes:** Wet disc type.
8. **Differential:** Equipped with differential lock.
9. **Power Take Off:** Independent type providing a speed of 540 RPM. PTO engagement shall have feathering capability. Control shall be separate from transmission and easily reached from operator's seat. Power-take-off shaft shall be protected by a safety shield.
10. **Hydraulics:** Hydraulic pump/s shall provide a minimum implement flow of 12 gpm.
11. **Control Valve:** Shall have a three (3) spool, three (3) handle hydraulic remote control valve mounted on the right fender. Mounting shall be such that the operator can easily reach the control handles. (Manufacturer's standard three spool control valve may be acceptable, however, because of the requirements of highway mowing operations, location of valve and configuration of control handles as well as location of handles must be approved by AHTD prior to delivery.) Control valve will be used to operate three single acting cylinders on a pull-type wing mower. Each of the two outer spools shall have a float position to allow proper operation of the mower wings. Shall be complete with necessary hoses to rear of tractor for making hookup to mower.
12. **3-Point Lift Capacity:** Minimum of 3,500 pounds at 24" behind lift arms.
13. **Tread Width:** Adjustable front and rear tread widths.
14. **Front Wheels and Tires:** Shall have 15" or 16" diameter front wheels. Tires shall be no less than 11L x 15 or 11L x 16, 8 PR - Type F3 tread. (Note: If the award is made under the Alternate 2 Repurchase Agreement, the manufacturer's standard size tires and wheels may be provided, however all units furnished for each bid must have the same size tires and wheels.)
15. **Rear Wheels and Tires:** Shall have 30" diameter rear wheels. Wheels furnished shall be suitable for highway mowing applications which include side slope or hillside operations. Rear tires shall be no less than 16.9 x 30, minimum 8 ply rating, R1 or R4 tread. (Note: If the award is made under the Repurchase Agreement, the manufacturer's standard size tires and wheels may be provided, however all units furnished for each bid must have the same size tires and wheels.)
16. **ROPS:** Tractor shall be equipped with ROPS with steel or aluminum canopy and seat belt per SAE J1194.
17. **Weight:** No less than 6,500 pounds without attachments or liquid ballast.
18. **Seat:** Adjustable suspension seat equipped with arm rests.
19. **Color:** Manufacturer's standard color is acceptable.

20. **Warranty:** Units purchased under this specification shall be warranted against defects in material and workmanship for a minimum period of twelve (12) months (365 days) from date unit is placed in operation by AHTD.
- 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. Warranty repairs are to be performed by any authorized dealership of the manufacturer, however, the successful bidder will be ultimately responsible for coordinating repairs and insuring that warranty repairs are completed in a timely manner.
 - D. Warranty repair action shall begin within five (5) working days after notification for the need of warranty repairs; and repairs should be completed and the unit returned to AHTD within fifteen (15) working days after notification (unless prior arrangements have been made with AHTD personnel).
 - E. 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.
 - F. 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.

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

SPECIFICATION 15-254-155

FOR

WHEEL TRACTOR
75 PTO HORSEPOWER
FOUR WHEEL DRIVE

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. 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.
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. **Manuals:** The successful bidder shall furnish one (1) Operator's Instruction Manual with each unit delivered and one (1) copy each of Shop Repair Manual and Parts Book to each FOB point. The successful bidder may provide Shop Repair Manuals and Parts Manuals on computer media (CD ROM, Floppy Disks, etc.) in lieu of printed manuals.
5. **Training:** The successful bidder shall furnish qualified personnel to instruct AHTD personnel on operation and maintenance of units purchased under this specification.

In addition, the successful bidder shall furnish information on any factory service schools, which would be available for AHTD service technicians.

6. Units 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 this 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. **Parts Inventory & Service Facilities:** The successful bidder shall maintain a representative inventory of replacement parts and service facilities for servicing equipment bid on.
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. **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.

Unit Specifications:

1. General: Industrial or utility type wheel tractor with liquid cooled diesel engine, mechanical front wheel drive axle, independent Power-Take-Off, swinging drawbar, hydraulic lift system and three-point hitch. The wheel tractor this specification is intended to cover will be used in highway maintenance mowing applications which include side slope or hillside operations and must be suitable for such use.
2. PTO Power: Manufacturer's advertised PTO power of no less than 75 horsepower at rated RPM.
3. Engine: Liquid cooled diesel equipped with 12 volt electrical system including battery, starter and alternator. Shall have oil and fuel filters with replaceable elements and approved dry type air cleaner. Shall have vertical exhaust muffler with rain cap or curved exhaust pipe. Engine cooling system shall have anti-freeze protection to -20° F, or lower. All other equipment necessary for efficient operation shall be furnished.
4. Instruments: Shall be equipped with ammeter or charge indicator light, tachometer, electric hour meter (showing actual engine run time independent of engine RPM) and all necessary gauges, including temperature gauge, oil pressure gauge or warning light, and fuel gauge.
5. Transmission: Shall have a minimum of eight (8) forward speeds and three (3) reverse speeds with synchronized shifts between speeds for on-the-go shifting. Travel speed, in high range at governed RPM, shall be no less than 14 mph.
6. Front Axle: Mechanical front wheel drive axle providing all wheel drive capability. Shall be equipped with differential lock or limited slip differential.
7. Steering: Hydrostatic or hydraulic power assist.
8. Brakes: Wet disc type.
9. Differential: Equipped with differential lock.
10. Power Take Off: Independent type providing a speed of 540 RPM. PTO engagement shall have feathering capability. Control shall be separate from transmission and easily reached from operator's seat. Power-take-off shaft shall be protected by a safety shield.
11. Hydraulics: Hydraulic pump/s shall provide a minimum implement flow of 12 gpm.
12. Control Valve: Shall have a three (3) spool, three (3) handle hydraulic remote control valve mounted on the right fender. Mounting shall be such that the operator can easily reach the control handles. (Manufacturer's standard control valve may be acceptable, however location of valve and configuration of control handles as well as location of handles must be approved by AHTD prior to delivery.) Control valve will be used to operate three single acting cylinders on a pull-type wing mower. Each of the two outer spools shall have a float position to allow proper operation of the mower wings. Shall be complete with necessary hoses to rear of tractor for making hookup to mower.
13. 3-Point Lift Capacity: Minimum of 3,500 pounds at 24" behind lift arms.
14. Tread Width: Adjustable front and rear tread widths.
15. Rear Wheels and Tires: Shall have 30" diameter rear wheels. Wheels furnished shall be suitable for highway mowing applications which include side slope or hillside operations. Rear tires shall be no less than 16.9 x 30, minimum 8 ply rating, R1 or R4 tread. (Note: If the award is made under the Repurchase Agreement, the manufacturer's standard size tires and wheels may be provided, however all units furnished for each bid must have the same size tires and wheels.)
16. Front Wheels and Tires: Size of front wheels and tires shall be as recommended to provide the proper speed match between the front drive axle and the rear axle equipped with rear wheels and tires specified above. Tires shall have R1 or R4 tread and no less than 8 ply rating. (Note: If the award is made under the Repurchase Agreement, tires provided may be the manufacturer's standard ply and tread, however all units furnished for each bid must have the same size tires and wheels.)
17. Seat: Adjustable suspension seat equipped with arm rests.

18. ROPS: Tractor shall be equipped with ROPS with steel or aluminum canopy and seat belt per SAE J1194.
19. Weight: No less than 6,500 pounds without attachments or liquid ballast.
20. Color: Manufacturer's standard color is acceptable.
21. Warranty: Units purchased under this specification shall be warranted against defects in material and workmanship for a minimum period of twelve (12) months (365 days) from date unit is placed in operation by AHTD.
 - 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. Warranty repairs are to be performed by any authorized dealership of the manufacturer, however, the successful bidder will be ultimately responsible for coordinating repairs and insuring that warranty repairs are completed in a timely manner.
 - D. Warranty repair action shall begin within five (5) working days after notification for the need of warranty repairs; and repairs should be completed and the unit returned to AHTD within fifteen (15) working days after notification (unless prior arrangements have been made with AHTD personnel).
 - E. 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.
 - F. 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.

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

SPECIFICATION 15-255-155

FOR

WHEEL TRACTOR
85 PTO HORSEPOWER
FOUR WHEEL DRIVE

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. 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.
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. **Manuals:** The successful bidder shall furnish one (1) Operator's Instruction Manual with each unit delivered and one (1) copy each of Shop Repair Manual and Parts Book to each FOB point. The successful bidder may provide Shop Repair Manuals and Parts Manuals on computer media (CD ROM, Floppy Disks, etc.) in lieu of printed manuals.
5. **Training:** The successful bidder shall furnish qualified personnel to instruct AHTD personnel on operation and maintenance of units purchased under this specification.

In addition, the successful bidder shall furnish information on any factory service schools, which would be available for AHTD service technicians.
6. Units 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 this 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. **Parts Inventory & Service Facilities:** The successful bidder shall maintain a representative inventory of replacement parts and service facilities for servicing equipment bid on.
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. **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.

Unit Specifications:

1. **General:** Industrial or Utility Type Wheel Tractor with liquid cooled diesel engine, mechanical front wheel drive axle, independent Power-Take-Off, swinging drawbar, hydraulic lift system and three-point hitch. The wheel tractor this specification is intended to cover will be used in highway maintenance mowing applications which include side slope or hillside operations and must be suitable for such use.
2. **PTO Power:** Manufacturer's advertised PTO power of no less than 85 horsepower at rated RPM.
3. **Engine:** Liquid cooled diesel equipped with 12 volt electrical system including battery, starter and alternator. Shall have oil and fuel filters with replaceable elements and approved dry type air cleaner. Shall have vertical exhaust muffler with rain cap or curved exhaust pipe. Engine cooling system shall have anti-freeze protection to -20° F, or lower. All other equipment necessary for efficient operation shall be furnished.
4. **Instruments:** Shall be equipped with ammeter or charge indicator light, tachometer, electric hour meter (showing actual engine run time independent of engine RPM) and all necessary gauges, including temperature gauge, oil pressure gauge or warning light, and fuel gauge.
5. **Transmission:** Shall have a minimum of nine (9) forward speeds and three (3) reverse speeds with synchronized shifts between speeds for on-the-go shifting. Travel speed, in high range at governed RPM, shall be no less than 14 mph.
6. **Front Axle:** Mechanical front wheel drive axle providing all wheel drive capability. Shall be equipped with differential lock or limited slip differential.
7. **Steering:** Hydrostatic or hydraulic power assist.
8. **Brakes:** Wet disc type.
9. **Rear Differential:** Equipped with differential lock.
10. **Power-Take-Off:** Independent type providing a speed of 540 RPM. PTO engagement shall have feathering capability. Control shall be separate from transmission and easily reached from operator's seat. Power-take-off shaft shall be protected by a safety shield.
11. **Hydraulics:** Hydraulic pump/s shall provide a minimum implement flow of 14 gpm.
12. **Control Valve:** Shall have a three (3) spool, three (3) handle hydraulic remote control valve mounted on the right fender. Mounting shall be such that the operator can easily reach the control handles. (Manufacturer's standard three spool control valve may be acceptable, however, because of the requirements of highway mowing operations, location of valve and configuration of control handles as well as location of handles must be approved by AHTD prior to delivery.) Control valve will be used to operate three single acting cylinders on a pull-type wing mower. Each of the two outer spools shall have a float position to allow proper operation of the mower wings. Shall be complete with necessary hoses to rear of tractor for making hookup to mower.
13. **3-Point Lift Capacity:** Minimum of 4,400 pounds at 24" behind lift arms.
14. **Tread Width:** Adjustable front and rear tread widths.
15. **Rear Wheels and Tires:** Shall have 30" or 34" diameter rear wheels. Wheels furnished shall be suitable for highway mowing applications which include side slope or hillside operations. Rear tires shall be no less than 16.9 x 30 or no less than 18.4 x 34. Tires shall be 8 ply rating, minimum, and have R1 or R4 tread. (Note: If the award is made under the Repurchase Agreement, the manufacturer's standard size tires and wheels may be provided, however all units furnished for each bid must have the same size tires and wheels.)
16. **Front Wheels and Tires:** Size of front wheels and tires shall be as recommended to provide the proper speed match between the front drive axle and the rear axle equipped with rear wheels and tires specified above. Tires shall have R1 or R4 tread and no less than 8 ply rating. (Note: If the award is made under the Repurchase Agreement, tires provided may be the manufacturer's standard ply and tread, however all units furnished for each bid must have the same size tires and wheels.)
17. **Seat:** Adjustable suspension seat equipped with arm rests.

18. ROPS: Tractor shall be equipped with ROPS with steel or aluminum canopy and seat belt per SAE J1194.
19. Weight: No less than 6,800 pounds without attachments or liquid ballast.
20. Color: Manufacturer's standard color is acceptable.
21. Warranty: Units purchased under this specification shall be warranted against defects in material and workmanship for a minimum period of twelve (12) months (365 days) from date unit is placed in operation by AHTD.
 - 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. Warranty repairs are to be performed by any authorized dealership of the manufacturer, however, the successful bidder will be ultimately responsible for coordinating repairs and insuring that warranty repairs are completed in a timely manner.
 - D. Warranty repair action shall begin within five (5) working days after notification for the need of warranty repairs; and repairs should be completed and the unit returned to AHTD within fifteen (15) working days after notification (unless prior arrangements have been made with AHTD personnel).
 - E. 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.
 - F. 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.

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

SPECIFICATION 15-287-164

FOR

WHEEL TRACTOR
55 PTO HORSEPOWER
WITH HYDRAULIC MOWING ATTACHMENT

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. 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.
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. **Manuals:** The successful bidder shall furnish one (1) Operator's Instruction Manual with each unit delivered and one (1) copy each of Shop Repair Manual and Parts Book to each FOB point. The successful bidder may provide Shop Repair Manuals and Parts Manuals on computer media (CD ROM, Floppy Disks, etc.) in lieu of printed manuals.
5. **Training:** The successful bidder shall furnish qualified personnel to instruct AHTD personnel on operation and maintenance of tractor and mowing attachment purchased under this specification.

In addition, the successful bidder shall furnish information on any factory service schools which would be available for AHTD service technicians.
6. Units 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 these units shall be furnished whether or not they are specifically mentioned in these specifications (including standard equipment as regularly furnished by manufacturer as shown on printed literature and specifications - unless specifically excluded by this specification).
8. **Parts Inventory & Service Facilities:** The successful bidder shall maintain a representative inventory of replacement parts and service facilities for servicing equipment bid on.
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. **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.

Unit Specification:

1. **General:** This specification is intended to cover the purchase of an industrial or utility type wheel tractor equipped with a hydraulic sickle bar mowing device mounted on the right side between front and rear wheels. The mowing attachment shall be completely installed on the tractor and ready for use.
2. **Tractor:** Industrial or utility type wheel tractor with liquid cooled diesel engine, Independent PTO, swinging drawbar, hydraulic lift system and 3 point hitch. Tractor must be capable of front mounted hydraulic pump. The wheel tractor this specification is intended to cover will be used in highway maintenance mowing applications which include side slope or hillside operations and must be suitable for such use.
 - B. **PTO Power:** Manufacturer's advertised PTO power of no less than 55 horsepower at rated RPM.
 - C. **Engine:** Liquid cooled diesel equipped with 12 volt electrical system including battery, starter and alternator. Shall have oil and fuel filters with replaceable elements and approved dry type air cleaner. Shall have vertical exhaust muffler with rain cap or curved exhaust pipe. Engine cooling system shall have anti-freeze protection to -20° F, or lower. All other equipment necessary for efficient operation shall be furnished.
 - D. **Instruments:** Shall be equipped with ammeter or charge indicator light, tachometer, electric hour meter (showing actual engine run time independent of engine RPM) and all necessary gauges, including temperature gauge, oil pressure gauge or warning light, and fuel gauge.
 - E. **Transmission:** Shall have a minimum of eight (8) forward speeds and three (3) reverse speeds with synchronized forward/reverse shuttle control and synchronized shifts between speeds for on-the-go shifting. Travel speed, in high range at governed RPM, shall be no less than 14 mph.
 - F. **Steering:** Hydrostatic or hydraulic power assist.
 - G. **Brakes:** Wet disc type.
 - H. **Differential:** Equipped with differential lock.
 - I. **Power Take Off:** Independent type providing a speed of 540 RPM. PTO engagement shall have feathering capability. Control shall be separate from transmission and easily reached from operator's seat. Power-take-off shaft shall be protected by a safety shield.
 - J. **Hydraulics:** Hydraulic pump/s for operating three point hitch and/or hydraulic remotes shall provide a minimum oil flow of 10 gpm. In addition, the tractor shall be equipped with an open center hydraulic pump driven from front of engine crankshaft for operating the hydraulic driven sickle mower. Pump furnished shall have a minimum capacity of 15 gpm. Shall be complete with reservoir, pump, pump drive, control valve, hoses, fittings, etc.
 - K. **3-Point Lift Capacity:** Minimum of 3,300 pounds at 24" behind lift arms.
 - L. **Tread Width:** Adjustable front and rear tread widths.
 - M. **Front Wheels and Tires:** Shall have 15" or 16" diameter front wheels. Front tires to be no less than 7.50 x 15 or 7.50 x 16 – minimum 6 ply rating, Type F2 or F3 Tread.
 - N. **Rear Wheels and Tires:** Shall have 28" or 30" diameter rear wheels. Rear tires to be no less than 14.9 x 28 or more than 16.9 x 30 – minimum 6 ply rating, Type R1 or R4 tread. Wheels furnished shall be suitable for highway mowing applications which include side slope or hillside operations.
 - O. **ROPS:** Tractor shall be equipped with ROPS with steel or aluminum canopy and seat belts per SAE J1194.
 - P. **Weight:** No less than 4,650 pounds without mowing attachment or liquid ballast.
 - Q. **Seat:** Adjustable suspension seat equipped with arm rests.

3. Hydraulic Mowing Attachment: Shall be a tractor mounted sickle bar mowing device. The unit shall be hydraulically powered and positioned. Hydraulic power shall be supplied by pump and hydraulic system specified in Paragraph 2-I. Mower attachment shall be heavy duty industrial type of rugged construction suitable for cutting small brush and heavy weeds. Mower shall be completely installed on tractor specified above.
 - A. Cutter Bar and Knife: The cutter bar shall be 6' in length and equipped with a series of 3" wide heavy duty rock guards. The cutter bar shall be full floating permitting the inner shoe to follow the terrain contour. The sickle knife shall be equipped with heavy duty sections. Three (3) complete sickle knives (with heavy duty sections) shall be furnished with each mowing attachment.
 - B. Hydraulic Motor: Shall be mounted on the cutter bar and directly coupled to a gear-drive planetary type cutter drive unit. There shall be no belt drive on the unit. The hydraulic motor shall be operated from a control near the operator and shall be reversible, in any cutter bar position, to clear the knife if plugged.
 - C. Hydraulic Controls: The cutter bar hydraulic controls shall be located near the operator. The controls shall be capable of operating two cylinders which position the cutter bar at angles ranging from no less than 75° below to no less than 90° above horizontal and from no less than 2" below grade to no less than 10" above grade while in horizontal cutting position. The hydraulic circuit shall be capable of supplying full system pressure to the cutter bar motor while the position controls are operated.
 - D. Sickle Knife Relief: A relief valve shall be provided in the hydraulic circuit to protect the sickle knife and other mower components from damage if the knife jams.
 - E. Safety Breakaway: The cutter bar shall be equipped with a safety release allowing bar to swing back when striking an obstruction. Bar shall automatically return to normal position without the need of operator attention. Shall include a shock absorber or similar device to allow for soft return to position.
 - F. Transport Lock: Shall be equipped with a mechanical safety transport lock, which removes the load from the hydraulic cylinders.
 - G. Mounting: The mower shall be mounted on the right side of tractor between front and rear wheels to provide maximum visibility for operator.
4. Color: Manufacturer's standard color is acceptable.
5. Warranty: The tractor, hydraulic mowing attachment and all associated components purchased under this specification shall be warranted against defective parts and workmanship for a minimum period of twelve (12) months (365 days) from date unit is placed in operation by AHTD.
 - 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. Warranty repairs are to be performed by any authorized dealership of the manufacturer, however, the successful bidder will be ultimately responsible for coordinating repairs and insuring that warranty repairs are completed in a timely manner.
 - D. Warranty repair action shall begin within five (5) working days after notification for the need of warranty repairs; and repairs should be completed and the unit returned to AHTD within fifteen (15) working days after notification (unless prior arrangements have been made with AHTD personnel).
 - E. 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.
 - F. 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.

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

SPECIFICATION 15-274-166

FOR

**ARTICULATED HYDRAULIC BOOM MOWER
WITH ROTARY DITCHING ATTACHMENT
MOUNTED ON FOUR WHEEL DRIVE TRACTOR**

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. 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.
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. **Manuals:** The successful bidder shall furnish one (1) Operator's Instruction Manual with each unit delivered and one (1) copy each of Shop Repair Manual and Parts Book to each FOB point. The successful bidder may provide Shop Repair Manuals and Parts Manuals on computer media (CD ROM, Floppy Disks, etc.) in lieu of printed manuals.
5. **Training:** The successful bidder shall furnish qualified personnel to instruct AHTD personnel on operation and maintenance of units purchased under this specification.

In addition, the successful bidder shall furnish information on any factory service schools, which would be available for AHTD service technicians.
6. Units 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 this 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. **Parts Inventory & Service Facilities:** The successful bidder shall maintain a representative inventory of replacement parts and service facilities for servicing equipment bid on.
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. **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.

Unit Specifications:

1. **General:** This specification is intended to cover a mid-mounted, hydraulic powered, articulated, boom mounted mowing attachment completely installed on an industrial, utility or row crop type four wheel drive tractor.
2. **Tractor:** Industrial, utility or row crop type wheel tractor with liquid cooled diesel engine, mechanical front wheel drive axle, independent Power Take-Off, hydraulic system, three point hitch and fully enclosed ROPS type cab complete with heat and air conditioning.
 - A. **PTO Power:** Minimum of 95 horsepower at rated RPM.
 - B. **Engine:** Liquid cooled diesel equipped with 12 volt electrical system including starter, battery, alternator and ammeter or charge indicator light. Shall be equipped with approved dry type air cleaner, oil and fuel filters with replaceable elements, tachometer, electric hour meter and all necessary gauges including temperature gauge, oil pressure gauge or warning light and fuel gauge. Shall have vertical exhaust muffler with rain cap or curved exhaust pipe. Cooling system shall have anti-freeze protection to -20° F, or lower. All other equipment necessary for efficient operation shall be furnished.
 - C. **Transmission:** Synchronized power shift transmission with forward and reverse shuttle. Transmission shall be equipped with an additional creeper gear set. Normal configuration shall provide a minimum of sixteen (16) forward speeds and sixteen (16) reverse speeds with the creeper gear set providing additional speeds as slow as 0.25 mph. The forward/reverse shuttle control shall allow the operator to change directions without using the foot-operated clutch pedal.
 - D. **Front Axle:** Mechanical front wheel drive axle providing all wheel drive capability. Shall be equipped with differential lock or limited slip differential.
 - E. **Rear Final Drive:** Double reduction with planetary gears mounted inboard on axles.
 - F. **Rear Differential Lock:** Mechanical or electro-hydraulic engagement.
 - G. **Steering:** Hydrostatic power steering.
 - H. **Brakes:** Wet disc type.
 - I. **Power Take Off:** Independent type providing a speed of 540 RPM. PTO engagement shall have feathering capability. Control shall be separate from transmission and easily reached from operator's seat. Power-take-off shaft shall be protected by a safety shield
 - J. **Hydraulics:** Hydraulic pump for tractor hydraulics shall have a minimum capacity of 21 gpm at approximately 2,500 psi. Hydraulic pump for operating hydraulic driven cutter shall be front mounted, driven from front of engine crankshaft, with a minimum capacity of 38 gpm at approximately 2,500 psi. Hydraulic oil reservoir for cutter shall have a minimum capacity of 25 gallons.
 - K. **3-Point Lift Capacity:** Minimum of 6,000 pounds at 24" behind lift arms.
 - L. **Tread Width:** Adjustable front and rear tread width.
 - M. **Rear Wheels and Tires:** Shall have no less than 38" diameter rear wheels. Rear tires shall be no less than 18.4 R 38. Tires shall be 8 ply rating, minimum, and have R1 or R4 tread. Valve shall be the type to allow liquid ballast to be added. The left rear tire and wheel shall have sufficient ballast to create a stable operating platform that is not prone to tipping when the boom and attachments are fully extended. The left rear tire shall be filled to 90% capacity with a solution of CaCl₂. Left rear wheel shall be equipped with a minimum 1,300 pound steel wheel weight.
 - N. **Front Wheels and Tires:** Size of front wheels and tires shall be as recommended to provide the proper speed match between the front drive axle and the rear axle equipped with rear wheels and tires specified above. Tires shall have R1 or R4 tread and no less than 6 ply rating.

- O. Cab: Fully enclosed ROPS cab equipped with air conditioning, heater-defroster unit, front and rear windshield wipers, inside rear view mirror, floor mat, adjustable air suspension seat equipped with arm rests, and seat belt. Cab shall have either a hardened polycarbonate right hand window or a polycarbonate screen designed to protect the existing cab window. (If a protective polycarbonate screen is used, a method shall be provided to clean the cab glass.) Windshield and all other cab windows shall be tinted safety glass.
 - P. 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.
 - Q. Weight: No less than 11,000 pounds without attachments, wheel weight or liquid ballast.
3. Mower:
- A. General: Shall be a boom mounted, hydraulically powered, rotary mower mounted on tractor specified above. Shall have a minimum reach of 20' from centerline of tractor to outer edge of rotary mower in horizontal position. Shall mow forward and to the right of the right rear tire. Shall permit reaching over highway guard rail and trimming from the inside position with mower able to move freely in and out to trim close to post. This unit shall be designed to receive, in lieu of the rotary boom mower, a ditch cleaning machine.
 - B. Main Frame: The main frame shall mount between the front and rear axles of the tractor. It shall be braced to the rear axle housing.
 - C. Boom: A two section articulated boom shall be mounted to the main frame on the right side of the tractor. The boom shall support the rotary mower attachment and provide vertical and horizontal movements. The cutter deck shall be attached to the boom arm in such a manner to allow angular movement between the head and the boom with the cutter head capable of a minimum 100° rotation in relation to the boom. Shall have a maneuvering cylinder for controlling movement of cutter head, lift cylinder for main boom, secondary boom cylinder and cutter head angle cylinder.
 - D. Boom Rest: Shall be equipped with either a rear or front mounted boom rest to cradle the boom when in the transport position. Boom rest must take the pressure off of the cylinders while in transport.
 - E. Cutter Deck: Shall provide no less than 50" of cut. Shall be constructed of no less than 10 gauge material with reinforcement and be fitted with replaceable skid shoes. Shall have the capability of cutting brush up to a maximum of no less than 3". Blades shall be heat treated alloy steel no less than 5/8" thick and no less than 5" wide. Blades shall be mounted on bar or flywheel in such manner to permit folding back when striking an obstruction. Blade spindle shall be driven by a hydraulic motor. Front of cutter deck shall be equipped with a retractable safety shield. Safety shield may be spring loaded or hydraulically operated.
 - F. Controls: All cylinders shall be actuated by means of electro-hydraulic control valves with single lever joystick control within easy reach of the operator seated in the operator position. The cutter control valve shall be a solenoid operated remote control valve. Shall be equipped with a safety switch which will prevent the engine from starting if the blades are engaged.
 - G. Extra Blades: Two (2) extra sets of blades shall be furnished with each mower. These are in addition to the set provided on the mower.
4. Rotary Ditcher: One (1) hydraulically driven rotary ditcher attachment shall be furnished with tractor/mower specified above. Ditcher shall have a minimum diameter of 56 cm (22") and be designed to mount on end of the secondary boom in lieu of the rotary cutter deck. Hydraulic drive motor shall be gear or geo-rotor type. Rotation of blades and design of dirt deflector shall throw material away from tractor. Dirt deflector chute angle shall be hydraulically controlled. Quick connectors shall be used on hydraulic hoses to aide in changing out the rotary cutting deck and ditching attachment. All hoses, fittings, connectors, pins, etc. required for installation of ditcher attachment on secondary boom shall be furnished. Two (2) extra sets of cutter blades shall be furnished in addition to the set provided with the unit.
5. Color: Manufacturer's standard color is acceptable.
6. Warranty: Units purchased under this specification shall be warranted against defects in material and workmanship for a minimum period of twelve (12) months (365 days) from date unit is placed in operation by AHTD.
- 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. Warranty repairs are to be performed by any authorized dealership of the manufacturer; however, the successful bidder will be ultimately responsible for coordinating repairs and insuring that warranty repairs are completed in a timely manner.
- D. Warranty repair action shall begin within five (5) working days after notification for the need of warranty repairs; and repairs should be completed and the unit returned to AHTD within fifteen (15) working days after notification (unless prior arrangements have been made with AHTD personnel).
- E. 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.
- F. 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.