DEKALB COUNTY HIGHWAY DEPARTMENT

AWD MOTOR GRADER

Sealed proposals for the purchase of One to Three (1-3) new and latest type and model manufactured AWD Motor Grader and Attachments will be received by the Highway Committee of the DeKalb County Board until 10:00AM, Tuesday, February 3rd, 2015 at the office of the DeKalb County Engineer, 1826 Barber Greene Road, DeKalb, Illinois, 60115 and at that time publicly opened and read.

The dealer may submit a bid for one or more models that are equal to or exceed the following specifications. A copy of the specifications or literature for each model should be included with each bid. Only bids from authorized dealers will be considered. Each bidder should state warranty coverage and estimated time of model availability. The dealer shall submit a total bid for furnishing an AWD Motor Grader and Attachments as per specifications.

The Board reserves the right to reject any and all bids and to waive any technicalities.

The bids shall not include taxes for which we are exempt.

Must provide a detailed order summary sheet with submitted bid.

Proposal submitted by:	
Name	
_	
Address	
-	
Signature	

One 1995 John Deere 772BH AWD Motor Grader with a 12 ft Viking Snow Benching t will be available for inspection at the DeKalb Highway Department Garage, call (815) 756-	U
Total cost one new AWD Motor Grader w/attachments	
Trade allowance on Dekalb County Hwy. Dept. 1995 John Deere 772BH Motor Grader w/Wing	
Net cost one AWD Motor Grader w/attachments	
One 1990 John Deere 772BH AWD Motor Grader with a 12 ft Henke Snow Benching t will be available for inspection at the Clinton Township Garage, call (815) 739-4703.	Wing.
Total cost one new AWD Motor Grader w/attachments	

One 1995 John Deere 772BH AWD Motor Grader with a 14 ft Viking Snow Benching Wing. It will be available for inspection at the DeKalb Township Garage, call (815) 761-7817.

Total cost one new AWD Motor Grader w/attachments

Trade allowance on Dekalb Township
1995 John Deere 772BH Motor Grader w/Wing

Net cost one AWD Motor Grader w/attachments

1990 John Deere 772BH Motor Grader w/Wing

Net cost one AWD Motor Grader w/attachments _____

Trade allowance on **Clinton Township**

General Specifications Required

A used or demonstrator model will not be considered. Machine modifications to meet the operational and capacity requirements of this specification shall be limited to the manufacturer's published standard and optional equipment. All operating specifications are based on current SAE standards and shall be the basis for determining compliance with specified requirements. Equipment shall meet all OSHA and EPA requirements in effect on the date of bid opening and shall be finished with lead free paint.

Machine Wheel Base (distance from front axle to mid tandem) shall not be less than 241.0 in.	YES_	NO
Machine shall be designed and built by the manufacturer.	YES	NO
Transmission shall be designed and built by the machine manufacturer.	YES	NO
Machine height to top of the cab shall not exceed 135 in.	YES	NO
Turning radius will be no greater than 284 in.	YES_	NO
Base Machine Weight shall not be less than 38,320 lbs. Weight shall include: standard machine configuration, lubricants, coolants, full fuel tank and operator of 175 lbs.	YES	NO
Six Cylinder, turbocharged with air-to-air after cooler diesel engine and shall be designed and built by the manufacturer.	YES_	NO
Hydraulic disconnect (soft start) and transmission valve solenoid guards shall be standard equipment.	YES	NO
Ground level fueling and filling for diesel and diesel exhaust fluid shall be standard equipment.	YES	NO
Standard grey glare-reducing paint shall be used on the front frame, engine enclosure and flat black exhaust stack to decrease glare from other equipment lights and reflection from the sun and snow.	YES	NO
The frame shall be ready for snow wing attachment.	YES_	NO
Engine Required Engine meets EPA Final Tier 4 and European Union Stage IV standards	YES	NO
The engine shall have dual safety air cleaner elements, radial seal, dry type	YES_	NO
Engine shall be a turbo-charged, direct injection, four stroke, 6-cylinder diesel engine with 4 valves per cylinder designed and built by manufacturer	YES	NO
Engine displacement for standard engine shall be no less than 9.0 liters (548 cu. in.)	YES	NO

"Engine shall reach no less than SAE net horsepower in the gears 1-8: 1st 206hp, 2nd 208hp, 3rd 230hp, 4th 230hp, 5th 247hp, 6th 260hp, 7th 266hp, 8th 262hp; 6WD is active in gears 1–7"	YES	NO
Engine will have a minimum torque rise of 50% in all gears	YES	NO
Unit shall be equipped with Engine Power Management System for variable horsepower for up to 236 SAE net and shall meet FT4 standards	YES	NO
Ether starting aid shall be available and must automatically meter ether injection to prevent engine damage.	YES	NO
Machine shall be equipped with electronic over-speed protection to prevent the engine and transmission from over speeding, as a standard feature.	YES	NO
Electronic Throttle Control (cruise control) shall be available, and shall be controlled by a switch, located on the right-hand console for resuming and decreasing throttle set.	YES	NO
Unit shall be equipped with engine stall prevention (ESP) as standard equipment	YES	NO
Engine will offer on-the-fly exhaust filter cleaning	YES	NO
Engine will offer automatic de-rating	YES	NO
Engine shall be rubber isolation mounted to reduce noise and vibration	YES	NO
Engine Intake with rotary ejector pre-cleaner	YES	NO
Engine shall have a 110V plug in block heater	YES	NO
Unit shall be equipped with severe duty fuel and water filtration system and fuel heater in filter base	YES	NO
Cooling Required Coolant levels should be easily checked by an overflow tank	YES	NO
Engine coolant shall be effective for temperatures to -34 F	YES	NO
The engine shall have an air-to-air after cooling for low engine speed lugging	YES	NO
Unit shall have charged air cooler with restriction sensor and in-cab restriction warning light	YES	_NO
Engine fan shall automatically adjust fan speed via a variable displacement hydraulic fan pump to meet engine cooling requirements to minimize power demand from the engine, reduce vehicle noise levels, improve fuel economy, and improve vehicle performance.	YES	NO

Engine power shall automatically compensate for power draw of the fan system to maintain a constant horsepower available to maintain vehicle performance independent of cooling system power draw.	YESNO
Engine fan shall be able to automatically reverse and allow the operator to choose the time interval for the reversal to occur through the vehicle monitor.	YESNO
Cooling system shall be isolated from the engine compartment	YESNO
Coolers provide access for quick cleanout of dust and debris	YESNO
A rear access fan door shall be provided to provide quick air cleanout of dust and debris for the engine radiator, charge air cooler, transmission cooler, axle cooler, hydraulic oil cooler and fuel cooler	YESNO
Power Train Required Auto-shift Transmission for gears four through eight	YESNO
Machine shall have no drive shafts that cross over the articulation hitch.	YESNO
The transmission shall have eight forward and eight reverse speeds with built-in diagnostics	YESNO
Transmission shall have 5 working gears between 0-10.2 mph, for dirt applications.	YESNO
Machine shall be equipped with an electronic inching pedal for improved modulation and machine control.	YESNO
The transmission system shall have an independent oil reservoir, filtration and cooling system with 31 GPM hydraulic gear pump	YESNO
The shift pattern will be the industry standard U-shape	YESNO
The transmission shift handle shall have a neutral park brake locking position. It shall include a park start safety switch	YESNO
Transmission shall be event based shifting (EBS) or use load sensing electronic shift modulation with over speed protection	YESNO
Transmission shall have clutch overheating protection to prevent clutch failures due to excessive and overuse of the inching pedal.	YESNO
The transmission shall have rubber isolation mounting to reduce noise and vibration	YESNO
Transmission shall be equipped with built-in self-diagnostic capability.	YESNO
Transmission shall be a direct drive, power shift, countershaft type.	YESNO

A guard shall be available to protect the machine's transmission and valve body for cold weather protection	YES	_NO
Unit shall be equipped with cold weather control valve covers	YES	_NO
6WD: Automatic dual-path hydrostatic drive with separate left and right systems	YES	_NO
6WD: Operator-selectable 15-position rotary aggressiveness control	YES	_NO
6WD: Inching capability down to 0 mph and precision mode (propelled by front wheels only)	YES	_NO
6WD: With working speeds up to a minimum of 20 MPH through 7th gear	YES	_NO
6WD: Effective Gears 1 - 7 forward and reverse	YES	_NO
Axles/Brakes/Tandems Required The brakes shall be continuously pressurized, filtered, oil cooled	YES	_NO
The brakes shall be internal self-adjusting maintenance free, wet multi-disk, inboard of tandem pivot	YES	_NO
The park brake shall have an independent oil reservoir, filtration and cooling system.	YES	_NO
The unit shall have primary and secondary service brakes	YES	_NO
Service brakes shall be multi-disc, oil-cooled and completely sealed.	YES	_NO
Service brakes shall be hydraulically actuated, utilizing dual independent brake circuits.	YES	_NO
Entire braking system shall meet all requirements of ISO 3450.	YES	_NO
Differential Lock/Unlock shall be electro-hydraulically controlled, as a standard feature.	YES	_NO
Differential Lock/Unlock shall be capable of being engaged or disengaged at any time during vehicle operation without incurring damage to the differential and differential lock system. Engagement shall not be restricted or determined by vehicle speed, vehicle shifts,	VEC	NO
or tandem tractive conditions (tandems slipping).	YES	_NO
Differential Lock/Unlock shall be a multi-disc design.	YES	_NO

Unit shall be equipped with system capable of automatically engaging and disengaging differential lock to optimize tractive capability, while at the same time providing the operator with the ability to manually	VEC	NO
engage differential lock during any vehicle operation	YES	_NO
Parking brake shall be multi-disc, oil-cooled, spring-applied, hydraulically released, sealed, adjustment-free, and integrated into the transmission.	YES	_NO
Parking brake shall be serviceable without removing the transmission.	YES	_NO
The axles shall be planetary single reduction final drive	YES	_NO
The rear axle shall have clutch style hydraulic differential lock that can be engaged on the go to achieve maximum traction instantly when required	YES	_NO
Final drive shall be a planetary design.	YES	NO
Front axle shall be an arched design for maximum ground clearance while maintaining performance	YES	_NO
Front axle oscillation shall be no less than 32 degrees total, per side 16 degrees up, 16 degrees down.	YES	_NO
Front wheel steering angle shall be no less than 48.5 degrees left or right.	YES	_NO
Tandems shall be capable of oscillating 15 degrees front tandem up and 15 degrees front tandem down, with full machine articulation and having no interference between tandem wheel and machine structure.	YES	_NO
Tandem chain pitch shall not be less than 2.0"	YES	_NO
Distance between center of tandem wheels shall be no less than 60.8"	YES	_NO
Maximum front wheel lean shall be no less than 20 degrees left or right.	YES	_NO
Hydraulic System Required Motor grader shall have an option of up to six auxiliary control valves and control levers integrated into the main control rack and valve stack, 14 possible control levers on main control rack.	YES_	NO
Left and right blade lifts shall have hydraulic float control.	YES	NO
One hand blade lift kit shall be installed for RH and LH operation	YES	NO
A sight gauge will be provided for checking hydraulic reservoir fluid	YES	_NO
Hydraulics system shall be a closed center, load sensing type, with a variable displacement, axial piston-type pump.	YES	_NO

The maximum hydraulic system pressure shall be no less than 2,750 psi and the hydraulic system shall have a 56.0 gpm main hydraulic axial piston pump.	YES	_NO
Implement valves shall be proportional priority pressure compensating for consistent response, when multi-functioning any combination of implement controls and independent of engine speed.	YES	_NO
Hydraulic cold weather valve covers shall be included	YES	_NO
Lock valves shall be integrated into the main implement valve to prevent cylinder drift.	YES	_NO
Steering capabilities shall be ISO 5010	YES	NO
Secondary steering is available besides steering wheel	YES	_NO
Electrical Required The electrical system shall be 24 volt with 200 amp alternator minimum.	YES	_NO
Machine shall have 1400 CCA extra heavy-duty batteries with 440 minute reserve capacity	YES	_NO
A 24V to 12V converter with 25-amp continuous, 30-amp peak capacity shall be equipped	YES	_NO
LED turn signal, marker and brake lights shall be provided.	YES	_NO
Unit shall be equipped with driving lights, two high and two low beam halogen headlights with front and rear turn signals, front and rear marker lights, brake lights and hazard warning lights.	YES	_NO
Light grading package - includes (in addition to those listed above) 14 additional work lights all halogen (2 - bottom cab, 2 - mid-frame, 2 - reversing lights on rear grill), 4 - corner cab, 2 front cab and 2 - right side cab roof)	YES	_NO
Unit shall have indicator or warning for: high beams, seat belt, turn signals, cruise control, low alternator voltage, engine air filter restriction, engine oil pressure, engine coolant temperature, wait to start (glow plugs), hydraulic filter restriction	YES	_NO
Machine shall have back-up lights and sounding alarm as standard when reverse gears are selected.	YES	_NO

Unit shall be equipped with a single LCD monitor displaying gauges for: DPF cleanliness level, engine coolant temperature, transmission oil temperature, hydraulic oil temperature, rear steer articulation angle and fuel level with low level visual warning. The LCD monitor should also be capable of displaying vehicle performance data, diagnostic information, and diagnostic trouble codes.	YESNO
Unit shall have digital readout displayed on a single LCD monitor for: engine rpm, odometer, transmission gear indicator, speedometer, hour meter	YESNO
Starting system shall be a 24V direct electric type.	YESNO
All light and wiper switches will be solid-state distribution	YESNO
The in-cab switch module shall be sealed to keep out dirt, dust and airborne debris	YESNO
The unit shall have an electric key fuel shut-off switch	YESNO
Electrical system shall have a master disconnect switch with a padlock provision (in addition to ignition switch), accessible from the ground level.	YESNO
Cab will be wired for beacon, radio and auxiliary circuit	YESNO
The unit shall have a LH engine compartment light as standard equipment	YESNO
Operator Station Required Steering wheel and control console shall be tilt able	YESNO
Steering wheel included as standard equipment	YESNO
Left and right side cab doors are standard	YESNO
Cab doors shall have a hold-open clasp with a ground-level release and in addition to, a release in the cab.	YESNO
Machine shall provide dual exits allowing for emergency egress should one side become obstructed	YESNO
Cab shall have cup holder, personal cooler holder/storage compartment for operator's manual, with a molded floor mat	YESNO
Air vents shall be provided for all front and side tinted windows	YESNO
Three rearview mirrors shall be provided, one interior and two breakaway exterior mounted. Exterior mirrors shall be heated	YESNO
AM/FM/WB Radio/XM Satellite Radio and Bluetooth, two speakers, antenna and wiring shall be available.	YESNO

A front window sun visor and a rear sun shade shall be included	YES	NO
The motor grader shall be equipped with low ROPS/FOPS air conditioned cab, isolation frame mounted for noise and vibration reduction	YES	_NO
Side opening windows	YES	NO
The motor grader shall be equipped with low ROPS/FOPS enclosed air conditioned cab, isolation frame mounted for noise and vibration reduction	YES	_NO
Unit shall have a heated, leather/fabric, high wide back, air-suspension seat with armrests.	YES	_NO
A machine security system shall be available to electronically code keys selected by the user to limit usage by individuals or by time parameters.	YES	_NO
Left and right side tandem case assemblies shall be covered with punched steel plate to provide an adequate platform for standing and walking.	YES	_NO
The front glass shall be continuous and unobstructed glass from roofline to floor for visibility of the blade, heel and toe, back of the cutting edge and front tires.	YES	_NO
The unit will come standard with front window defrost	YES	NO
The unit will come with a rear window electric defroster	YES_	NO
The unit will come with a rear window electric defroster Machine shall have laminated glass for the front upper window to protect the operator from shattered glass.	YES	NO
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Machine shall have laminated glass for the front upper window to protect the operator from shattered glass. Optional decelerator pedal shall be installed	YES	_NO
Machine shall have laminated glass for the front upper window to protect the operator from shattered glass. Optional decelerator pedal shall be installed Upper front and rear windshield washers with intermittent wipers shall be standard	YES YES YES	_NO _NO _NO
Machine shall have laminated glass for the front upper window to protect the operator from shattered glass. Optional decelerator pedal shall be installed Upper front and rear windshield washers with intermittent wipers shall be standard Rear Camera in monitor shall be included	YES YES YES YES	_NO _NO _NO
Machine shall have laminated glass for the front upper window to protect the operator from shattered glass. Optional decelerator pedal shall be installed Upper front and rear windshield washers with intermittent wipers shall be standard Rear Camera in monitor shall be included Lower front window wiper and washer shall be included	YES YES YES YES	_NO _NO _NO _NO
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<u>Circle and Mold Board Required</u> Circle shall be a fabricated rolled-ring, with machined wear surfaces on the top and bottom.	YES	_NO
Circle teeth contact surfaces shall be induction-hardened on the front 120 degrees of the circle. There will be no less than 6 replaceable wear inserts between the circle and drawbar providing at least 163 in ² of wear surface area.	YES	_NO
The standard mounting hardware for cutting edges and end bits shall be 5/8"	YES	_NO
The draft frame pivot connection shall have a double Ball-in-Socket design with a minimum ball diameter of 6.0" and minimum stem diameter of 2.88"	YES	_NO
Unit shall be equipped with a dual input gearbox in place of single input gearbox	YES	_NO
The standard moldboard shall be at least 12 'long, 27" high and no less than 1" thick with 5/8 in hardware	YES	_NO
Shall have 13' long, 27" high by 1" thick moldboard "available if desired" with 5/8" hardware at no extra cost	YES	_NO
The mold board will have quick change circle wear and side shift wear inserts, capable of being replaced in approximately 2 hours.	YES	_NO
Moldboard shall have a bank slope angle capability of at least 90 degrees to both sides.	YES	_NO
Slide rails shall be hardened, continuously welded, and have replaceable bronze-alloy wear inserts top and bottom.	YES	_NO
Moldboard slide rails shall be constructed of heat-treated, high carbon steel.	YES	_NO
Moldboard shall have a hydraulic tip control through a range of 42 degrees fore and 5 degrees aft.	YES	_NO
Throat clearance with standard moldboard shall be at least 4.8"	YES	_NO
The motor grader shall have five permanent and usable tie downs for transport	YES	_NO
Circle wear strips shall be replaceable drop-in inserts, made from nylon composite material.	YES	_NO
Circle and drawbar vertical adjustment points shall be accessible from the bottom of the drawbar, for ease of maintenance.	YES	_NO
Circle radial wear insert shall be replaced without removing the circle support castings for quick easy maintenance.	YES	NO

YES___NO___

Moldboard wear strips shall be adjusted with lock screws, providing

shim-less adjustment capability both vertical & horizontal.

Serviceability Required Daily check points shall be accessible from the left side of the engine behind one service door and shall be done from ground level	YES	NO
Access to engine will be open from both sides with hinged engine side shields and full access service doors	YES	_NO
Engine enclosure and daily service points shall be accessible from ground level, and grouped on the left side of the machine.	YES	_NO
The dip stick for checking transmission fluid shall be at ground-level	YES	NO
Engine shall have environmentally friendly fuel drain valves	YES	NO
Optional quick service fluid ports for engine oil, transmission oil, hydraulic oil, axle oil and coolant with ground level quick connect access.	YES	NO
Fuel tank capacity shall not be less than 110 gallons.	YES	NO
Diesel exhaust fluid (DEF) tank capacity shall not be less than 6 gallons.	YES	NO
Engine primary and final fuel filters shall have 500-hour service replacement interval.	YES	NO
Engine shall have primary fuel filter with fuel water separator and electronic sensor; quick release dual stage filter and primer pump	YES	NO
Hydraulic, transmission, and differential filters shall be banked and easily assessable through the engine compartment doors.	YES	_NO
Transmission, hydraulic, fuel and axle filter restriction indicator shall be displayed in the cab	YES	NO
The centralized lube bank shall be at the articulation joint to give access too difficult to reach zerks	YES	_NO
Sampling ports shall be accessible from the tandem level and provide access to the engine, hydraulic, coolant, and fuel ports.	YES	_NO
A two-way communication tool shall give service technicians easy access to stored diagnostic data and allow configuration of machine parameters.	YES	NO

Unit shall be equipped with OEM provided wireless communication system capable of monitoring and communicating machine location, fuel burn, as well as multiple other vehicle performance data. In addition, the system shall be capable of updating system control software wirelessly.

YES___NO___

Diesel particulate filter (DPF) ash service interval as needed (can go up to 15,000 hours between diesel particulate filter ash removal)

YES___NO___

<u>Tires / Rims Required</u> 17.5R25 G2/L2 Single Star Radial Tires w/ 3 piece rims Michelin Sno Plus Radials	YES	_NO
<u>Safety Required</u> Machine shall provide 3 points of contact on all areas of the machine, for mounting and dismounting.	YES	_NO
Standard grey glare-reducing paint shall be used on the front frame and engine enclosure to decrease glare from other equipment lights and reflection from the sun and snow.	YES	_NO
The unit shall have a fan finger guard	YES	_NO
A toolbox shall be provided	YES	NO
Additional Equipment Required High resolution rear view camera with dedicated display and wiring shall be factory installed	YES	NO
A front lift group shall be installed to pick up existing customers attachments	YES	NO
Shut off valves shall be installed at front lift group for attachment mount/dismount	YES	NO
A factory installed rear hitch will be installed	YES	NO
Unit will be equipped with a factory front scarifier with plumbing and hoses, and 9 pocket for shanks	YES	_NO
Unit shall be equipped with front fenders	YES	NO
Unit shall be equipped with a tall front snow plow light bar	YES	NO
Unit shall be equipped with a fold down beacon bracket on RH side of Cab	YES	NO
Unit shall be equipped with a strobe light on beacon bracket	YES	NO
Unit shall be equipped with a 5.0 lb. (ABC) multi- purpose fire extinguisher	YES	NO
Unit shall have reversible overlay end bits on moldboard	YES	NO
A factory installed slope meter bracket for future use will be installed	YES	NO
48 Month or 1500 hr Comprehensive Warranty	YES	NO
Unit shall come with operator's manual, safety manual, parts manual, and complete set of filters.	YES	_NO

Optional Equipment - snow equipment and tire options (add or deduct)
12' Henke Snow Wing with disconnect valves \$
14' Henke Snow Wing with disconnect valves \$
RH Moldboard Extension 2' \$
Factory Installed Rear Fenders \$
Matching spare tire and 3 Piece Rim Combo \$
17.5R25 Michelin XTA Tires on 3 Piece Rim - deduct/addlt \$
48 Month service requirement \$
<u>INSPECTION</u>
Materials or equipment purchased are subject to inspection and approval at the county's and/or respective township's destination. The county and/or townships reserve the right to reject and refuse acceptance of items which are not in accordance with the instructions, specifications, drawings or date of seller's warranty (expressed or implied). Rejected materials or equipment shall be removed by, or at the expense of the seller promptly after rejection.
List any exceptions to specifications below:
DELIVERY DATE: 90 days OR ANTICIPATED DATE of DELIVERY: