

FALLON COUNTY

P.O. BOX 846
BAKER MONTANA 59313 - 0846

Notice is hereby given; that the Board of County Commissioners of Fallon County, Montana, on the 17th day of May at 1:30 PM, in their office at the county court house will receive sealed bids for one or more new;

Diesel Powered, Articulated Frame AWD Motor Grader

A detailed list of specifications may be obtained by contacting the Fallon County Commissioners Office at the courthouse in Baker, 10 West Fallon Avenue – P.O. Box 846 – Baker, MT 59313 or Phone 406-778-8182.

No bid will be considered unless, accompanied by a bid bond, in the amount of not less than ten (10) percent of the total bid. Bid will be presented in a sealed envelope containing a complete copy of the bid and specifications clearly marked.

2021 Motor Grader Bid Documents

The Board of County Commissioners reserves the right to reject any or all bids, to waive irregularities, or to accept any bid they deem to be in the best interest of Fallon County.

Dated this 26th day of April 2021

**FALLON COUNTY BOARD OF COUNTY COMMISSIONERS
, CHAIRMAN**

CALL FOR BIDS – SPECIFICATIONS

This attachment shall be considered a continuation of the call for bids and by reference made a part thereof.

The intent of the following format is to provide the governing body with the cost data necessary to determine their options for acquiring one new machine. The trade offered can be examined at its present worksite.

Basis of the Award shall be dependent on the most responsible bid submitted. Consideration will be given to cash flow, purchase price, repurchase price, delivery date, equipment service guarantees, parts and service availability, parts and service facilities location, analyses and comparison of equipment specification details and past experience of Fallon County with similar or related equipment.

Bidder shall clearly describe warranty guarantees and extended coverage's of the machine for a period of five (5) years or five thousand (5000) hours.

Pursuant to the call for bids for one new diesel powered, articulated, tandem drive all- wheel drive motor graders the following minimum requirements shall be met:

- A. Motor Grader shall meet OSHA requirements and specifications on the date of the bid opening. All engines shall be Tier IV Final compliant. Machine shall be new with hour meter reading less than thirty five hours.
- B. No bid will be considered unless accompanied by a bid bond, bank draft, money order, certified or cashier's check in the amount of not less than ten (10) percent of the total bid price for the total number of machines bid.
- C. Delivery shall be F.O.B. Fallon County-Road Department Shop, Baker, Montana
- D. **Delivery date must be no later than November 1st, 2021. If unable to meet delivery date, bidder shall supply comparable machine with appropriate attachments (E.G snow wing, front lift group) as per counties request. Loaner machine shall have no hour restrictions. All service or maintenance requirements will be the responsibility of the bidder.**
- E. The bid shall include all operating, service, parts and technical repair manuals in paper copy. Electronic manuals shall be capable of download onto a PC or laptop computer.
- F. All machines shall be current advertised and produced model, with all the latest changes and features offered as standard whether or not called for in the specifications, except where this specification requires a substitution in lieu of the manufacturer's standard equipment.
- G. Bids will not be considered that do not include a copy of the manufacturer's literature/ specification material and an incomplete specification portion of the bid document.
- H. Motor graders shall come with all hydraulics, electronics, controls, etc. to fully operate all functions stated or requested for in bid.

- I. Motor graders shall be compatible with existing county snow equipment, scarifiers, moldboard extensions etc. Any adapting will be done at bidder’s expense and to the satisfaction of Fallon County.
- J. Bids will not be considered that do not include a Guaranteed Repurchase Price – Per Machine Agreement for the years 3 through 5.
- K. For safety considerations, successful bidder shall provide instruction by a manufacturer certified instructor. Individual shall provide instruction for minimum of four (4) hours to county personnel to familiarize themselves with the operational and maintenance characteristics of the machine. Training shall include the following as a minimum:
 - A. Familiarization of the basic chassis, attachments and controls.
 - B. Daily operational checks, start up and shutdown procedures.
 - C. Vehicle operation – Classroom overview and hands on training.
 - D. Safe operating practices and procedures.

Please indicate in the following; If the machine offered can meet the desired configuration. Any “no” must be clarified on a separate sheet if the bidder desires support for an alternate specification.

MOTOR GRADER

BASIC SPECIFICATIONS

- Y___ N___ Machine shall be designed and built by the manufacturer.
- Y___ N___ Base Machine Weight shall not be less than 39,000 lbs. Weight shall include standard machine configuration, lubricants, coolants, full fuel tank and operator of 200 lbs.
- Y___ N___ Machine height to top of the cab shall not exceed 130 in.
- Y___ N___ Machine length from counterweight to ripper shall not exceed 399.4 in.
- Y___ N___ Machine length from the front outside edge tire to end of tow hitch shall not be less than 351 in.
- Y___ N___ Machine Wheel Base (distance from front axle to mid tandem) shall not be greater than 241 in.
- Y___ N___ The rear frame shall have two box section channels.
- Y___ N___ Machine shall have vandal protection standard including locks for cab doors, engine side shields (4), top tank radiator access door, engine coolant surge tank, hydraulic reservoir cap, fuel tank cap and tool box.
- Y___ N___ Machine shall have belly plate articulation guarding.

ENGINE

- Y___ N___ Engine shall be designed and built by the manufacturer.
- Y___ N___ Engine shall be certified EPA Tier 4 Final and European Union Stage IV.
- Y___ N___ Engine shall be electronically controlled for more efficient fuel injection and fuel burn.
- Y___ N___ Engine shall be a turbo-charged, direct injection, four stroke, 6-cylinder diesel engine.
- Y___ N___ Engine shall achieve rated power requirement with engine displacement not less than 9.0L (568 in³) for better performance and fuel economy.
- Y___ N___ Engine shall develop as standard while AWD is ON a rated net flywheel of at least 241 HP in 1st gear, 262 HP in 2nd gear, 267 HP in 3rd gear, 272 HP in 4th gear, and 293 HP in gears 5 through 8.
- Y___ N___ Engine will have a minimum torque rise of 47% from 2000 rpm to peak torque following SAE J1349 (net power with max fan).
- Y___ N___ Peak engine power shall not be achieved at an engine speed greater than 1800 rpm.
- Y___ N___ Rated engine power shall not be achieved at an engine speed greater than 2000 rpm.

- Y___ N___ Engine shall automatically lower engine torque and alert the operator if critical conditions are detected.
- Y___ N___ Altitude deration will not occur at altitudes less than 10,000 ft. The deration rate above 10,000 ft. shall be 1.5% per 1000 ft.
- Y___ N___ Engine enclosure and daily service points shall be accessible from ground level and grouped on the left side of the machine.
- Y___ N___ Engine shall be isolation/resilient mounted to minimize sound and vibration.
- Y___ N___ Engine shall allow for at least 500 hours of operation between oil changes.
- Y___ N___ Engine compartment doors shall be lockable.
- Y___ N___ Engine fan shall automatically adjust fan speed via a variable hydraulic fan pump to meet engine cooling requirements thus reducing demand on the engine, putting more horsepower to the ground, reducing noise, improving fuel economy, and reducing heat.
- Y___ N___ Shall have engine oil cooler.
- Y___ N___ The cooling package air intake shall have 2.8 mm perforated inlet screen.
- Y___ N___ Engine shall have an air-to-air after cooler with 6 fins per inch for superior engine performance.
- Y___ N___ Machine shall have a 12,000 hour coolant interval from factory.
- Y___ N___ Engine will increase its low idle speed to 1,000 rpm when the battery voltage is below 24.5 volts for more than 5 minutes to ensure adequate system voltage and battery reliability.
- Y___ N___ Economy mode shall be available directly from factory to increase net efficiency.
- Y___ N___ Economy mode shall be able to be enabled and disabled by the operator through the onboard Message Display.
- Y___ N___ DEF tank reservoir shall have a heater to thaw DEF fluid.
- Y___ N___ DEF lines shall be heated to prevent freezing during extremely cold ambient conditions.
- Y___ N___ An engine coolant heater 120V 1500 watt shall be included to assist in cold weather starting.
- Y___ N___ Ether starting aid shall be included and must automatically meter ether injection to prevent engine damage.
- Y___ N___ Engine shall have reversing fan to remove debris.

POWERTRAIN/TRANSMISSION

- Y___ N___ Transmission shall be designed and built by the machine manufacturer.
- Y___ N___ Transmission shall be a direct drive, power shift, countershaft type.
- Y___ N___ Transmission shall have no less than 8 forward speeds and 6 reverse speeds.
- Y___ N___ Transmission shall have 5 working gears between 0-10.8 mph for dirt applications.
- Y___ N___ An auto-shift transmission shall be included with capabilities on all forward and reverse gears.
- Y___ N___ Transmission shall be equipped with built-in self-diagnostic capability.
- Y___ N___ Transmission direction and gear shifting shall be electronically and proportionally controlled from forward to reverse and from gear to gear for smoother shifts and better blade control as a standard feature.
- Y___ N___ A controlled throttle shifting system shall be standard to smooth directional gear changes without use of the inching pedal.
- Y___ N___ A load compensating system shall be standard to ensure consistent shift quality in all applications.
- Y___ N___ The total surface area of all the transmission clutch packs shall not be less than 1831 in².
- Y___ N___ Automatic Differential Lock/Unlock feature shall be included and shall not have speed, shuttle shifting or tandem spinning restrictions for engaging/disengaging. System must be load-sensing for optimal performance.
- Y___ N___ Automatic mode shall not be overridden via manual intervention for optimal performance and to prevent unintended differential engagement

- Y___ N___ Differential Lock/Unlock shall be a multi-disc design.
- Y___ N___ Differential Lock/Unlock shall be electro-hydraulically controlled, as a standard feature.
- Y___ N___ Differential Lock/Unlock shall not have speed, shuttle shifting or tandem spinning restrictions for engaging/disengaging.
- Y___ N___ Final drive shall be a planetary design.
- Y___ N___ Machine shall be equipped with an electronic inching pedal for improved modulation and machine control.
- Y___ N___ Machine shall be equipped with electronic over-speed protection to prevent the engine and transmission from over speeding, as a standard feature.
- Y___ N___ Machine shall have no drive shafts that cross over the articulation hitch.
- Y___ N___ The rear axle shall be a bolt-on modular design offering easy access to differential components, improving serviceability and contamination control.

ALL WHEEL DRIVE SYSTEM

- Y___ N___ Steering Compensation System enables a “powered turn” by adjusting the outside front tire speed up to 50% faster than the inside tire.
- Y___ N___ The AWD arrangement utilizes dedicated left and right pumps for precise hydraulic control.
- Y___ N___ When AWD is engaged, flywheel horsepower is automatically increased by a minimum of 20 HP.

JOYSTICK STEERING

- Y___ N___ Machine shall have steering integrated in dual- joystick.
- Y___ N___ Steering wheel shall not be required to operate machine.
- Y___ N___ Steering capabilities shall be ISO 5010:1992. Joystick Steering capabilities shall not be speed limited.
- Y___ N___ Secondary steering shall be included as a standard feature.
- Y___ N___ Machine shall employ a friction pack style steering mechanism, utilizing the follow steer concept.
- Y___ N___ Hydraulic oil temperature sensors shall be required for electro-hydraulic steering control.
- Y___ N___ Three redundant sensors shall be provided in the steering joystick for additional safety.
- Y___ N___ Two redundant sensors shall be standard in the steering cylinders (one in each).
- Y___ N___ The machine shall have two redundant articulation sensors.
- Y___ N___ Machine shall have return to center articulation control.

BRAKES

- Y___ N___ Machine shall have primary and secondary service brakes.
- Y___ N___ Entire braking system shall meet all requirements of ISO 3450: 1996.
- Y___ N___ Brakes shall be continuously pressurized, filtered, oil cooled.
- Y___ N___ Service brakes shall be hydraulically actuated, multi disk oil cooled and sealed design, utilizing dual independent brake circuits that contain a left and right hydraulic brake accumulator.
- Y___ N___ Service brakes shall provide a minimum of 3,565 in² of total friction material surface area used at each of the four tandem wheels to eliminate braking loads on the power train.
- Y___ N___ Machine shall have individual brake pods for each rear wheel, located at each rear wheel inside the tandem box, independent of tandem chains.
- Y___ N___ Compensation components shall be required at all four tandem brake pods in addition to the brake wear indicator.

- Y ___ N ___ Parking brake shall be multi-disc, oil-cooled, spring-applied, hydraulically released, sealed, adjustment-free and integrated into the transmission. Parking brake shall not be externally located.
- Y ___ N ___ Parking brake shall be serviceable without removing the transmission.
- Y ___ N ___ Brake line protection, including tandem walkways and hydraulic brake line guarding, shall be required to prevent line damage.

HYDRAULIC SYSTEM

- Y ___ N ___ Hydraulics system shall be a closed center, load sensing type with a variable displacement, axial piston-type pump.
- Y ___ N ___ Hydraulic implement pump shall produce between 0 and 55.7 gallon/min of oil flow at high idle.
- Y ___ N ___ A standard triple-redundant hydraulic relief system shall protect machine hydraulic components.
- Y ___ N ___ All implement hydraulic connections shall have O-ring face seals for leak prevention.
- Y ___ N ___ Implement pump shall not be mounted under cab floor, minimizing sound and vibration.
- Y ___ N ___ Hydraulic system shall have a separate oil tank solely dedicated to the implement pump.
- Y ___ N ___ Hydraulic valves shall be mounted to a fixed structure and not to an implement or under the cab floor, to prevent damage and minimize sound and vibration.
- Y ___ N ___ The maximum hydraulic system pressure shall be no less than 2,750 psi.
- Y ___ N ___ The hydraulic stand-by pressure shall be no more than 609 psi.
- Y ___ N ___ Implement pump shall be solely dedicated to implement controls and not shared with any other components.
- Y ___ N ___ The hydraulic tank shall have a baffling system to reduce potential pump cavitation.
- Y ___ N ___ A sight gauge will be provided for checking hydraulic reservoir fluid.
- Y ___ N ___ Implement valves shall be electro-hydraulic, designed and built by the machine manufacturer.
- Y ___ N ___ Implement valves shall be proportional priority pressure compensating for consistent response when multi-functioning any combination of implement controls and independent of engine speed.
- Y ___ N ___ Left and right blade lift cylinders shall have independent float capability.
- Y ___ N ___ Lock valves shall be integrated into the main implement valve to prevent cylinder drift.
- Y ___ N ___ There shall be a provision to install up to 15 modulating hydraulic valves.
- Y ___ N ___ Machine shall be equipped with auxiliary hydraulic circuits to fully operate front lift group and snow wing and also contain additional set of hydraulic lines to the rear.
- Y ___ N ___ Hydraulic oil change service interval shall be no less than 4000 hours with Scheduled Oil Sample.
- Y ___ N ___ Machine shall have auxiliary hydraulic circuit to front lift group for reversible snow plow.
- Y ___ N ___ Machine shall have float capability on ripper circuit.

FRONT AXLE AND TANDEMS

- Y ___ N ___ Front axle shall be an arched design for maximum ground clearance.
- Y ___ N ___ Front axle oscillation shall be no less than 32 degrees total, per side 16 degrees up and 16 degrees down.
- Y ___ N ___ Front wheel steering angle shall be no less than 47.5 degrees left or right.
- Y ___ N ___ Maximum front wheel lean shall be no less than 18 degrees left or right.
- Y ___ N ___ Machine shall provide 2 steering cylinders for maximum steering force.
- Y ___ N ___ Electronic and mechanical steering stops located at each wheel and steering cylinder relief valves shall be present to prevent steering system damage during normal operation.

- Y ___ N ___ Front wheel spindle shall be induction hardened and bearings shall be a double-tapered design with the larger diameter bearing mounted closest to the centerline of the front tire.
- Y ___ N ___ Front wheel spindle maintenance intervals shall be no less than 2000 hrs.
- Y ___ N ___ Distance between center of tandem wheels shall be no greater than 60 in. for optimum clearance and mobility.
- Y ___ N ___ Machine minimum turning radius shall not exceed 25 ft. 7 in. using front steering, full articulation, full wheel lean and unlocked differential.
- Y ___ N ___ Tandem chain pitch shall not be less than 2.0 in.
- Y ___ N ___ Tandems shall be capable of oscillating 15 degrees front tandem up and 25 degrees front tandem down, with full machine articulation and having no interference between tandem wheel and machine structure.
- Y ___ N ___ When equipped with a ripper, the machine shall have a minimum ramp angle of 15 degrees.

TIRES AND RIMS

- Y ___ N ___ A 14 in by 25 in size 3-piece tire rim shall be available to provide mounting for 17.5-25 tires and 17.5R25 wide based tires.
- Y ___ N ___ 17.5 X R25 Michelin X-Sno-Plus Tires shall be included.

OPERATORS STATION

- Y ___ N ___ An enclosed cab with ROPS (Rollover Protective Structure) according to ISO 3471: 1986-1997 shall be provided.
- Y ___ N ___ FOPS (Falling Object Protective Structure) shall be provided according to ISO 3449.
- Y ___ N ___ A 42,075 BTU/h heater with integral pressurizer and four-speed fan along with A/C shall be standard
- Y ___ N ___ A real-time information system shall monitor all system data and alert the operator of any faults through a digital text display. This performance and diagnostic information system shall be programmable for multiple languages.
- Y ___ N ___ A rear defroster fan shall be included.
- Y ___ N ___ A rear sun shade shall be included.
- Y ___ N ___ An auxiliary, pod shall be included for control of a snow wing.
- Y ___ N ___ An instrument cluster shall be provided that includes a speedometer, tachometer, coolant temperature, fuel, DEF and articulation angle gauge.
- Y ___ N ___ Auxiliary controls shall be a finger-tip control type and located on or beside the right-hand joystick control pod.
- Y ___ N ___ Auxiliary controls shall be included for control of attachment implements and/or work tools and shall be programmable via computer software.
- Y ___ N ___ Cab doors shall have a hold-open clasp with a ground-level release in addition to a release in the cab.
- Y ___ N ___ Cab shall be isolation-mounted to the front frame section of the machine.
- Y ___ N ___ Cab shall have front window of laminated glass with intermittent wipers.
- Y ___ N ___ Digital machine hour meter shall be provided.
- Y ___ N ___ Left and right side cab doors shall be standard.
- Y ___ N ___ All Moldboard functions shall be controlled by two joysticks.
- Y ___ N ___ Machine shall have no less than 17 adjustable vents, positioned to direct air to front windows and operator.
- Y ___ N ___ Operator cab fresh air-filter shall be accessible for clean out and replacement, from outside of the cab at ground level.

- Y ___ N ___ Radio ready arrangement including 24V to 12V converter, two speakers, antenna, wiring and an AM/FM, Weatherband, Bluetooth, USB type radio shall be included.
- Y ___ N ___ Seat shall be a cloth-covered, heated and air conditioned. Air suspension seat with 3 in retractable seat belts, with adjustments for fore-aft position, seat height, seat back angle, thigh support, and lumbar support.
- Y ___ N ___ Wipers shall be included on rear windows.
- Y ___ N ___ Access to cab shall be three anti-skid steps.
- Y ___ N ___ Cab shall have cup holder, personal cooler holder/storage compartment for operator's manual, with a molded floor mat.
- Y ___ N ___ Machine shall have windshield washing system for windshield and rear window.
- Y ___ N ___ Integrated display and wiring for a rear vision camera shall be included with capability to view at all times without interfering with the gauge and diagnostic display.
- Y ___ N ___ Cab shall have upper and lower windshield wipers with intermittent function and washing function.
- Y ___ N ___ Machine shall have heated windows.

**DRAWBAR,
CIRCLE &
MOLDBOARD**

- Y ___ N ___ A 16 ft. long, 27 in. high and no less than 1 in. thick moldboard shall be included.
- Y ___ N ___ The standard mounting hardware for cutting edges and end bits shall be 3/4 in.
- Y ___ N ___ Moldboard shall have no less than 16.3 in. arc radius (blade curvature) for optimum productivity.
- Y ___ N ___ Moldboard shall have a bank slope angle capability of at least 90 degrees to both sides.
- Y ___ N ___ Moldboard shall have a hydraulic tip control through a range of 40 degrees fore and 5 degrees aft.
- Y ___ N ___ Throat clearance with standard moldboard shall be at least 6.5 in.
- Y ___ N ___ The moldboard retention system shall have two retention points located on the left and right side of the moldboard. The surface area shall not be less than 78.13 in².
- Y ___ N ___ Moldboard side-shift cylinder shall be installed on the left-hand side to prevent snow wing interference with the cylinder rod.
- Y ___ N ___ Optional side-shift anchor positions on the moldboard shall be included for extended reach capability, as standard.
- Y ___ N ___ Moldboard slide rails shall be constructed of a heat-treated, continuously welded high, carbon steel.
- Y ___ N ___ Moldboard wear strips shall be adjusted with lock screws, providing shim-less adjustment capability both vertical & horizontal.
- Y ___ N ___ Blade lift and center shift cylinders shall have replaceable bronze-alloy wear inserts in the ball sockets with removable shims to insure the ability to remove free play throughout the useful wear insert life.
- Y ___ N ___ Blade lift accumulators shall be included, protecting cutting edge and other components from damage from shock loads.
- Y ___ N ___ The lift cylinder casting shall be welded to the front frame for added strength and structural integrity.
- Y ___ N ___ Drawbar vertical adjustment points shall be accessible from the top of the drawbar for ease of maintenance.
- Y ___ N ___ The drawbar shall feature welded protective wear plates to prevent lift group contact with the primary drawbar structure.

- Y___ N___ Circle outside diameter shall be no less than 60 in.
- Y___ N___ Circle shall be rotated by a hydraulically driven motor (pinion gear) with a minimum circle pinion torque capability of 44,253 ft-lb. Please provide best drive available from manufacturer.
- Y___ N___ Circle shall be a single piece, rolled-ring forging with raised wear surfaces on the top and bottom.
- Y___ N___ Circle teeth contact surfaces shall be induction-hardened on the front 240 degrees of the circle.
- Y___ N___ Drawbar wear strips shall be replaceable drop-in inserts made from nylon composite material, replaceable from the top of the drawbar plate via removable cover plates.
- Y___ N___ Link bar shall have 7 positions for increased versatility.
- Y___ N___ There will be no more than 6 replaceable wear inserts between the circle and drawbar providing at least 163 in² of wear surface area.
- Y___ N___ DCM shall have quick change circle wear and side shift wear inserts; shall be able to change in approximately 1 hour.
- Y___ N___ The draft frame pivot connection shall have a single ball stud with grease zerk. Ball stud shall be bolt-on design to allow for quick and easy serviceability.

ELECTRICAL

- Y___ N___ Starting system shall be a 24V direct electric type.
- Y___ N___ Machine shall have 200 amp-hour, 1400 CCA extra heavy-duty batteries included.
- Y___ N___ Machine shall have a 130-amp alternator at 24 volts which is brushless for increased life and durability.
- Y___ N___ Machine lighting package for snow removal applications shall be included providing coverage for heel, mid-frame toe, front cab, ripper and snow wing. Please provide best lighting package available from the manufacturer.
- Y___ N___ A 24V to 12V converter with 25-amp capacity shall be included.
- Y___ N___ All core machine systems shall be electronically connected, optimizing performance and preventing machine damage.
- Y___ N___ An amber LED high-speed strobe beacon shall be included.
- Y___ N___ Electrical system shall have a master disconnect switch (in addition to the ignition switch), accessible from the ground level.
- Y___ N___ High bar headlights with front turn signals shall be included.
- Y___ N___ LED white reversing lamps and LED stop lamps shall be provided.
- Y___ N___ Power must remain available upon key off to purge DEF system lines and protect components.
- Y___ N___ All wiring shall be arranged and located so as to facilitate regular visual inspections, not be in contact with hot surfaces and not routed with other services lines (e.g. fuel, oil, etc.).
- Y___ N___ All harnesses/cabling are secured with Stauff or equivalent clamps, providing a gap between the conduit/harness and the mounting surface preventing material build-up.

SERVICEABILITY

- Y___ N___ A two-way communication tool shall give service technicians easy access to stored diagnostic data and allow configuration of machine parameters.
- Y___ N___ Access to engine will be open from both sides with hinged engine side shields and full access service doors.
- Y___ N___ Left and right side tandem case assemblies shall be covered with punched steel plate to provide an adequate platform for standing and walking.
- Y___ N___ Engine oil filter shall be a 500 hour, vertical spin-on
- Y___ N___ Engine primary and final fuel filters shall have 500 hour service replacement interval.

- Y ___ N ___ Engine shall have primary fuel filter with fuel water separator and electronic sensor, quick release dual stage filter and primer pump.
- Y ___ N ___ Sampling ports shall be accessible from the tandem level and provide access to the engine, hydraulic, coolant, and fuel ports.
- Y ___ N ___ The articulation joint shall have mechanical locking device to prevent frame articulation while servicing or transporting machine.
- Y ___ N ___ The centralized lube bank shall be at the articulation joint to give access to difficult zerks.
- Y ___ N ___ Transmission filter restriction indicator shall be displayed in the cab.
- Y ___ N ___ The dip stick for checking transmission fluid shall be at ground level.
- Y ___ N ___ Ground level fueling shall be standard.
- Y ___ N ___ Hydraulic tank site gauge shall be readable from the ground.
- Y ___ N ___ Machine shall have a swing-out cooling fan housing allowing easy access to cores.

**MINIMUM
SERVICE FILL
CAPACITIES**

- Y ___ N ___ Standard fuel tank capacity shall not be less than 104 gallons.
- Y ___ N ___ Standard cooling system capacity shall not be less than 14.5 gallons.
- Y ___ N ___ Standard hydraulic tank capacity shall not be less than 16 gallons.
- Y ___ N ___ Standard engine oil capacity shall not be less than 7.5 gallons.
- Y ___ N ___ Standard tandem housing capacity shall not be less than 19.5 gallons each.
- Y ___ N ___ Standard front wheel spindle bearing housing capacity shall not be less than 0.13 gallons.
- Y ___ N ___ Standard circle drive housing capacity shall not be less than 1.5 gallons.
- Y ___ N ___ Standard DEF tank capacity shall not be less than 5.8 gallons.

**SAFETY AND
ENVIRONMENT
AL**

- Y ___ N ___ A circle drive slip clutch shall be provided as standard, to reduce horizontal moldboard impact damage.
- Y ___ N ___ Blade lift accumulators shall be included, to reduce vertical impact damage.
- Y ___ N ___ An external emergency kill switch shall be available for ground level engine shut down.
- Y ___ N ___ Drop down rear lights (stop/turn signal lights) shall be available to span the profile of the machine for increased safety.
- Y ___ N ___ Electrical system shall have a master disconnect switch with a removable key or be secured with lock.
- Y ___ N ___ Hydraulic implement lockout shall be achieved by actuating a single electrical switch within the operator station.
- Y ___ N ___ Machine shall have back-up lights and sounding alarm as standard when reverse gears are selected.
- Y ___ N ___ Machine shall have laminated glass for the front windows and doors, to protect the operator from shattered glass.
- Y ___ N ___ Machine shall provide 3 points of contact on all areas of the machine, for mounting and dismounting.
- Y ___ N ___ Machine shall provide dual exits allowing for emergency egress should one side become obstructed.
- Y ___ N ___ Operator presence system will lockout implements, shall not allow gear shift out of neutral and lock parking brake if system detects operator not present.
- Y ___ N ___ Standard black 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.

- Y ___ N ___ Steering software system shall automatically reduce steering sensitivity as the ground speed increases.
- Y ___ N ___ Two outside mounted mirrors (heated) shall be included.
- Y ___ N ___ Environmentally friendly drain valves shall be provided for the hydraulic oil, engine oil, engine coolant, transmission, differential and fuel tank.
- Y ___ N ___ Cooling fan shall have both a shroud and rear grill for protection during service.

ADDITIONAL FEATURES

- Y ___ N ___ Rear ripper shall have 5 ripper shank holders and 9 scarifire shank holder shall be included.
- Y ___ N ___ Rear ripper shall have a working penetration of maximum 16.8 in. and a penetration force of at least 20,768 lb.
- Y ___ N ___ Ripper shall have control with float function installed before delivery.
- Y ___ N ___ Machine shall be compatible with existing Balderson style front lift groups.
- Y ___ N ___ A snow wing frame ready option shall be included.
- Y ___ N ___ Front fenders shall be included.
- Y ___ N ___ Rear fenders shall meet ISO-3457 requirements and shall not interfere with the ability to fully open any cab/engine enclosure or service access doors shall be included.
- Y ___ N ___ An integrated communication tool providing flow of vital machine data and location shall be available. This system shall give automatic updates on machine parameters such as machine hours, machine condition, location, fault codes and alarms.
- Y ___ N ___ Integrated Cross Slope System shall be included from the factory in order to ensure proper calibration and installation for improved accuracy and performance.
- Y ___ N ___ System shall provide cross slope control so the operator may manually control one end of the blade while the other end of the blade is automatically controlled.
- Y ___ N ___ System shall provide the ability to control cross slope up to 100 percent.
- Y ___ N ___ A system that provides for Auto Articulation which allows the motor grader to automatically articulate in conjunction with its front tires, in gears 1-4F and 1-3R. The system shall be controlled by the operator with an on and off switch with three simple positions: "Off," "Forward," and "Forward/Reverse."
- Y ___ N ___ Machine shall be equipped with technology that detects bounce through an accelerometer and will reduce engine rpm at 15% intervals as needed to stabilize machine bounce.
- Y ___ N ___ Anti-bounce system shall only be active when throttle lock is utilized in gears 1F-5F. When the system detects bounce it will reduce engine rpm at 15% intervals as needed to stabilize machine bounce. Once the machine has stabilized, the Stable Grade system will modulate increased speed back to the set level.
- Y ___ N ___ Successful bidder shall provide instruction by a manufacturer certified instructor. Individual shall provide instruction on familiarization of the basic chassis, attachments and controls. Individual shall provide instruction on daily operational checks along with start-up and shutdown procedures. Individual shall provide instruction including hands on and classroom training on machine operations along with safe operating practices and procedures. Instruction to be performed in a timely manner from date of delivery.
- Y ___ N ___ A toolbox shall be provided.
- Y ___ N ___ Machine shall have "snow" engine air pre-cleaner unit for plowing operation to prevent engine air cleaner freeze up.

OPTIONAL EQUIPMENT: Priced Separately in Optional Equipment Section: It will be the commissioner's discretion on the optional items that may be selected as well as quantities of those items.

Y___ N___ V-snow plow 117" minimum width and 82" in height with quick coupler hooks compatible with counties existing lift groups.

Y___ N___ Snow wing 144" tall post mount type with ripper height adjustment and brace compatible with counties existing mount system.

Y___ N___ Balderson style front lift group.

List explanations for any "NO" answers below if consideration is desired.

MACHINE WARRANTY & AVAILABILITY GUARANTEE

The intent of this clause is to guarantee the cost of repairs and downtime to Fallon County. Therefore, all bidders shall include with their bid:

Machines bid must have a 12 month, full standard warranty. An extended full machine warranty for five (5) years or five thousand (5000) hours of operation, whichever occurs first from date of delivery shall also be included. This warranty is to include (by the dealer) travel time, mileage, deductibles and machine replacement costs.

The only exclusions are to be wear items such as tires, cutting edges, wear slides, glass, etc.

Owner to provide oil sampling at scheduled intervals at owner's expense.

Annual machine inspection and adjustments as prescribed in the maintenance guides shall be performed in the field, unless convenient prior arrangements are made.

The dealer shall have the capability to provide transportation for the disabled unit to repair facility if necessary. Warranty related machine transport costs to the repair facility or travel time and mileage will be provided by the dealer for (5) years or (5000) hours.

Ninety-five (95) percent guaranteed machine availability (computed on a 2000 hour work year). After any continuous downtime greater than 40 work week hours, a replacement comparable machine shall be provided or an hourly assessment of \$60.00 per hour shall be charged to the dealer to cover a replacement rental machine. \$200.00 per day shall be charged the dealer at the anniversary date for downtime in excess of 5%.

Fallon County will make the machine available for repairs and inspections as requested by the successful dealer.

BID PROPOSAL

Manufacturer _____

Model _____

PURCHASE ONLY

Purchase Price Per Unit; No Trade (Including Warranty Costs), \$ _____
F.O.B. Fallon County As Per Spec

Optional Equipment Per Unit; Snow Wing \$ _____
F.O.B. Fallon County As Per Spec

Optional Equipment Per Unit; V-Plow \$ _____
F.O.B. Fallon County As Per Spec

Optional Equipment Per Unit; Front Lift Group \$ _____
F.O.B Fallon County as Per Spec

Trade In Value

<u>Make</u>	<u>Model</u>	<u>Year</u>	<u>Serial #</u>	<u>Value</u>
Caterpillar	160M3 AWD	2016	N9T00217	\$ _____
Caterpillar	160M3 AWD	2016	N9T00218	\$ _____

GUARANTEED REPURCHASE PRICE PER MACHINE

Year # 3 \$ _____

Year # 4 \$ _____

Year # 5 \$ _____

Proposed Delivery Date: _____

BIDDERS CERTIFICATION

It is hereby understood that Fallon County (owner) has the right to evaluate this bid upon many bases of criteria and the trade-in machine is available for appraisal at its present work site.

Bids will not be accepted without a guaranteed repurchase price. Repurchase values are based on 1,000 hours of use per year with scheduled oil sampling as required by the manufacturer. No structural damage to frame and ROPS. ROPS is not to be altered in any way. Machine shall be in good mechanical condition with all components in normal working order. Sheet metal will be straight with no cracks or holes with paint in good condition. Tires are to be in a safe operable condition with a minimum of 50% tread life remaining. Cab glass including mirrors will not be broken, cracked or badly scratched.

We hereby certify that the foregoing is a responsible bid. Any variations from the specifications are noted or attached. Copies of machine warranty guarantees are attached along with the required bid bond.

Dated this ____ day of _____ 20__.

Dealer Name _____
Dealer Address _____

Dealer Phone No. _____
Dealer Mobile No. _____
Dealer Fax _____

Representative Signature

