

**CHARLEVOIX COUNTY ROAD COMMISSION  
1251 BOYNE AVENUE  
BOYNE CITY, MI 49712**

**PHONE: (231) 582-7330  
FAX: (231) 582-3110**

**“2020 WORK-READY BRUSH CHIPPER” SPECIFICATIONS  
-GASOLINE POWERED, TRAILER MOUNTED 15” BRUSH CHIPPER-**

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**GENERAL:**

The following specifications describe and are intended to purchase a new Brush Chipper to be used in tree clearing operations. The bidder shall include all applicable destination charges and shall deliver the equipment described herein to the Charlevoix County Road Commission’s Boyne City Garage at 1251 Boyne Avenue, Boyne City, MI 49712. A title or manufacturers certificate of origin shall be provided at delivery time.

The Road Commission may consider approved equivalents, but will only consider bids offering a complete work ready unit. Brush chipper shall not require any proprietary fluids or lubricants. All bid prices shall be firm for at least sixty (60) days after bid date. The Charlevoix County Road Commission is tax exempt; therefore, bids shall not include any taxes, (state tax exempt #H ME-0116170). Payment will be a lump sum within forty-five (45) days after delivery and acceptance, provided all specifications are met. Unit shall meet all State and Federal current year safety and emission standards. Manufacturer to supply minimum 12-month full warranty on all components effective on date Charlevoix County Road Commission places unit into service. All specifications advertised must comply with SAE recommended practice or ISO standards.

**The following specifications are considered minimum requirements:**

Item #1: **ENGINE AND ENCLOSURE:**

Four-cycle, electronic controlled, industrial gasoline engine meeting current state and federal emission standards. Engine shall have 5.7 liter displacement and 165 horsepower and 300 ft-lbs of torque at 1600 RPM (all as a minimum). Engine shall have low oil pressure and high coolant temperature shut-down. Air filtering system shall use 2-stage dry-element with filter restriction gauge. Exhaust shall have a spark arresting muffler. Oil filter shall be spin-on type. Engine enclosure shall have lockable large access doors to facilitate maintenance. All fluid levels shall be able to be checked from the ground. Chipper shall have a minimum 25 gallon fuel cell with lockable fill cap and sight gauge.

Item #1A: **ENGINE WARRANTY:**

Engine manufacturer's warranty shall be 3 year/3500 hour full coverage, minimum.

Item #2: **CLUTCH:**

Unit shall be equipped with 13" minimum. Clutch engagement linkage shall be manual lever.

Item #3: **TRAILER, SUSPENSION, AND AXLE:**

Trailer frame shall be constructed heavy channel or tube steel. Suspension shall be rubber torsion-type with a minimum 8000 lb rating. Trailer shall be equipped with 8000# pintle hitch on a telescoping tongue with 3/8" towing safety chains, slip hooks and safety latches. Trailer shall have a 5000 lb tongue jack. Trailer shall have bolt-on fenders with flag holders. Trailer shall include lockable tool box.

Item #4: **BRAKES:**

Unit shall be equipped with electric brakes and emergency breakaway switch.

Item #5: **WHEELS AND TIRES:**

Wheels shall be 8 bolt hole heavy duty. Tires shall be a standard size exceeding trailer weight rating. One spare tire mounted on heavy duty 8-lug wheel shall be included and delivered loose.

Item #6: **FEED SYSTEM:**

Unit shall be equipped with a hydraulic feed system. Infeed system shall have two feed rollers each powered by two hydraulic motors. System shall have an adjustable feed rate. Unit shall be equipped with an automatic engine speed monitoring system that senses engine speed. Feed system shall automatically control feeding of material into cutting system according to engine rpm's. This system shall have the ability to reverse the material automatically and in turn restart feeding process without any operator interface once the engine returns to preset rpm. Feed table shall have a minimum length of 50" from feed roller to end of table, a minimum feed height above ground of 27", a minimum thickness of 0.2" and be made of AR steel. Feed rate system shall sense loss of RPM from engine and automatically stop until engine recovers RPM then reengage feed rollers with no operator interface. Infeed inlet shall include curtains to dampen noise and reduce thrown objects.

Item #7: **SAFETY FEED STOP BAR AND DIRECTIONAL CONTROL BAR:**

The chipper shall be equipped with a bottom stop feed bar located on the leading edge of the feed table and restart buttons on both sides of the machine to restart feed operation. The bottom feed stop bar shall be strategically located to make it possible for the operator's leg to strike the bar and shut off the feed either intentionally or automatically in an emergency situation. The upper feed control bar shall have two neutral/stop positions when fully pushed or pulled as well as forward and reverse feed roller rotation positions. The bottom bar shall have a minimum of two sensitivity settings.

Item #8: **CUTTING SYSTEM:**

Cutting system shall be drum-style with a minimum drum size of 22" in diameter and 18" in width. Drum shall have two safety lock positions for changing drum knives. Drum shall have two knives minimum, bolted in place with a minimum of three bolts per knife. Knife attachment sections of drum shall be replaceable without having to replace entire drum. Knives shall be double-edged and constructed of A8 chipper steel.

Item #9: **HYDRAULIC SYSTEM:**

Unit shall be equipped with live-type hydraulics. System shall be open with return type filtration system and incorporate an in tank suction strainer. Pump shall have a minimum capacity of 5.5 gal/min at maximum rpm and a relief pressure of 2800 psi. Unit shall have a 12 gallon capacity hydraulic tank with sight gauge.

Item #10: **ELECTRICAL:**

12-volt system shall have a self-regulated, brushless, 70-amp alternator and a 12-volt battery with a minimum of 650 CCA each. System shall incorporate a battery disconnect switch in negative cable close to battery.

Item #11: **LIGHTS AND WIRING:**

Lights and wiring shall consist of 7-pin trailer connector, junction box at front of trailer, LED stop/tail/turn light assemblies, and well supported wiring harness. One pedestal mounted amber/green overhead warning light shall be located at left rear of chipper at a height of 6' and wired into taillights.

Item #12: **DISCHARGE SYSTEM:**

Chute shall have an adjustable deflector to control discharge. Rotation must be limited to 270 degrees rotation and controlled with rotating handle. Chute rotation must be self locking in all positions.

Item #13: **ENGINE CONTROL SYSTEM:**

Unit shall be equipped with an engine control system which automatically lowers engine speed if material has not been chipped for 1 to 5 minutes dependant on operator selection. Engine speed is increased either by changing the throttle setting or resetting Hold-to-Run button on either side of the unit.

Item #14: **INSTRUMENTATION:**

Chipper shall have an oil pressure gauge, a coolant temperature gauge and an hour meter as a minimum or a multifunction display to take the place of individual gauges. Chipper shall have a monitor to display engine codes or OBDII connector that can be connected to standard diagnostic tools or code readers.

Item #15: **PAINT:**

The entire chipper shall be painted manufacturer's standard color.

Item #16: **SPECIAL PROVISIONS:**

Three complete sets of knives with bolts and nuts shall be included in the bid and delivered with the chipper. A complete spare set of belts, filters, and formed coolant hoses, with identification numbers intact, shall be included in the bid and delivered with the chipper. If the bid unit requires any proprietary fluids they must be included in the bid and delivered with the unit, the quantity of this fluid supplied must exceed twice the total capacity. Unit shall be thoroughly vandalism protected, including lockable engine compartment, tool box, and fluid reservoirs all keyed alike.

Item #17: **MANUALS:**

Two complete sets of parts, operator, and service manuals (covering all aspects of maintenance, testing, and adjusting of chipper and engine) shall be provided at delivery time. CDs shall be substituted for parts and service manuals if available.

Item #18: **WARRANTY:**

Unit shall have a full 12 month 3500 hour warranty covering all parts, labor, service calls and equipment transport needed to complete repairs. All warranties shall become effective on date Charlevoix County Road Commission places unit into service.

**ANY SPECIFICATION RELATED QUESTIONS SHOULD BE DIRECTED TO MICK LUCHENBILL, SHOP FOREMAN 231-582-7330(EXT. 16).**