

PUBLIC WORKS DEPARTMENT
REQUEST FOR PROPOSALS (RFP)
FOR
**NEW TRACTOR WITH BOOM FLAIL CUTTING HEAD AND
REAR SWING FLAIL MOWER**

Public Works Contract #: **PW- 2017-06**

Issued on: December 13, 2017

RFP Submission Deadline: 2:00 pm Local Time on December 21, 2017

RFP Submission Location: Township of Drummond/North Elmsley
Public Works Department
310 Port Elmsley Road
Perth, Ontario K7H 3C7

SECTION 1 – INFORMATION TO BIDDERS

1.1 Timetable

The following is the schedule for this RFP:

Issue date of RFP:	December 13, 2017
Bidder's Deadline for Questions:	2:00 pm on December 18, 2017
Deadline for Issuing Addenda:	December 19, 2017
RFP Submission Deadline:	2:00 pm on December 21, 2017
Delivery Date and Location:	On or before April 30th 2018 Drummond North Elmsley Public Works Facility, 1920 Drummond Conc 7, Perth, ON

The period for which RFPs are irrevocable after the RFP Submission Deadline is set out in section 1.21 of this RFP.

The RFP timetable is tentative only and may be changed by the Township, in its sole discretion, at any time prior to the RFP Submission Deadline.

1.2 Description and Location of the Work

Supply and delivery of one (1) new 2017 or newer model year tractor with new boom flail cutting head and new rear swing flail mower, meeting the Specifications outlined in this document, to the Drummond North Elmsley Public Works Facility, 1920 Drummond Conc 7, Perth, ON on or before April 30th 2018.

1.3 Inquiries / Clarification

It will be the Bidder's responsibility to clarify with the Township, any details in question not mentioned in the RFP documents or shown on the accompanying plans / drawings, before submitting a bid. Any such questions shall be answered by the issue of an addendum to all RFP Takers.

All questions related to the RFP should be directed to the Public Works Manager at 613-267-6500 or emailed to scameron@dnetownship.ca. Inquiries must be received no later than the Bidder's Deadline for Questions, as noted in Section 1.1.

No oral explanation or interpretation shall modify any of the documents or provisions of this RFP.

Wherever the words "Township", "Corporation", or "Owner" appears in this Contract, it shall be interpreted as meaning The Corporation of the Township of Drummond/North Elmsley.

1.4 Pricing

RFPs submitted must quote prices in Canadian Dollars. Invoicing and payment will also be made in Canadian Dollars.

1.5 RFPs in English

All communication, correspondence, enquiries and RFP submissions must be in English. Non-compliance will result in disqualification.

1.6 Regulation Compliance and Legislation

The Bidder shall obey all Federal, Provincial and Municipal Laws, Acts, Ordinances, Regulations, Orders-In-Council and By-laws, which could in any way pertain to the Work outlined in the Contract or to the Employees of the Bidder.

1.7 Governing Law

This RFP and subsequent Contract will be interpreted and governed by the laws of the Province of Ontario.

1.8 RFP Submission

All RFP's must be submitted in paper form, duly completed and signed (where applicable), placed in a **sealed envelope, clearly marked:**

“REQUEST FOR PROPOSAL – 2017 TRACTOR”

- RFP Form
- Schedule of Items and Prices
- Warranty and Service (Section 2)
- Vehicle Specifications (Section 3)
- Additional Documentation / photos relating to the unit bid may be included

RFP submissions must be received by Township of Drummond/North Elmsley, Public Works Department, 310 Port Elmsley Road, Perth, Ontario, K7H 3C7, Attn: Scott Cameron, Public Works Manager on or before the RFP Submission Deadline.

The Township is not responsible for submissions which are not properly marked and / or delivered to any other location, than that specified herein. RFPs received by any other method will be rejected.

The RFP Form must be signed and witnessed, in the space(s) provided on the Form, with the signature of the Bidder or of a responsible official of the organization bidding. If a joint bid is submitted, it must be signed and witnessed on behalf of each of the Bidders, and if the signing is vested in one individual, that person shall sign, separately, on behalf of each Bidder. In the case of an incorporated company, the corporate seal must be affixed to the RFP Form.

The RFP must be legible, written in a permanent ink and all items within a Schedule must be bid, with the unit price for every item and other entries clearly shown.

The Bid must not be restricted by a statement added to the RFP Form, or alterations to the Forms provided by the Township.

Erasures, overwriting or strike-outs must be initialed by the person signing on behalf of the organization bidding.

1.9 Freedom of Information

Any personal information required on the RFP Form is received under the authority of the *Municipal Freedom of Information and Protection of Privacy Act*, RSO, 1990, CM.56, as amended. This information will be an integral component of the RFP submission.

All written RFPs received by the Township become a public record, once a RFP is accepted by the Township all information contained in them is available to the public, including personal information.

Questions about collection of personal information and the *Municipal Freedom of Information and Protection of Privacy Act*, RSO, 1990, CM.56, as amended, should be directed to:

Deputy Clerk, Township of Drummond/North Elmsley
310 Port Elmsley Road, Perth, Ontario, K7H 3C7
Telephone 613-267-6500 Ext. 251

The Deputy Clerk has been designated by The Corporation of the Township of Drummond/North Elmsley to carry out the responsibilities of the *Act*.

1.10 Retrieval of Official Document and Addenda

Only documents obtained from the Township directly are to be considered the "official" documents. The Township accepts no responsibility for the accuracy of information obtained from other sources.

1.11 All New Information to Bidders by way of Addenda

This RFP may only be amended by an addendum, in accordance with this subsection. Such addenda may contain important information including significant changes to this RFP. If the Township for any reason, determines that it is necessary to provide additional information relating to this RFP, such information will be communicated to all Bidders by addenda. Each addendum shall form an integral part of this RFP.

Although the Township will attempt to email registered Bidders, to notify them when addenda are available, the Township does not guarantee that emails will be sent to all Bidders or received by all Bidders. It is the Bidder's sole responsibility to check to inform themselves of any addenda.

1.12 Withdraw or Substitution Submission

A Bidder who has submitted an RFP may submit a further RFP at any time up to the RFP Submission Deadline. See Section 1.13 below for details regarding two (2) bids submitted by same Bidder.

A Bidder may withdraw their RFP at any time up to the RFP Submission Deadline by submitting a letter bearing the Bidder's signature, to an authorized representative of the Township, who will mark thereon the time and date of receipt and will place the letter in the RFP box. The Bidder's name and the contract number shall be shown on the envelope containing such letter.

Telegrams, facsimiles, emails, texts or telephone calls will not be accepted. RFP's withdrawn under this procedure cannot be reinstated.

1.13 Two Bids Submitted by Same Bidder

If two (2) bids for the same RFP are received in different envelopes the envelope with the latest date and time received shall be considered the intended bid and invalidate all RFP's previously submitted by that Bidder.

If two (2) bids for the same RFP are received in the same envelope and are properly executed and prices differ, the lower price RFP shall be considered the intended bid.

1.14 RFP Opening

There will be no Public opening for this RFP.

1.15 Release of RFP Results

No information will be released until a contract is awarded. Following the award of the contract, the successful bidder's name and total bid price will be released.

1.16 RFP Procedures

RFPs will be called, received, evaluated, accepted and processed in accordance with The Corporation of the Township of Drummond/North Elmsley's Policy for the Procurement of Goods and Services.

1.17 Evaluation and Bid Acceptance

The Bidder acknowledges that Request for Proposals (RFPs) will be evaluated on the following basis:

(a) **Proposal Evaluations** will be evaluated based on the following criteria:

Evaluation Criteria	Weighted Points
Cost Factor	40
Equipment Specifications	30
Warranty and Service	20
Integration with Fleet	10
TOTAL	100

(b) The Township shall have the right to reject any or all Request for RFPs for any reason, or to accept any RFP, which the Township in its sole unfettered discretion deems most advantageous to itself. The lowest or any RFPs will not necessarily be accepted and the Township shall have the unfettered right to:

- i. accept a non-compliant Request for RFP;
- ii. accept a Request for RFP which is not the lowest Request for RFP; and
- iii. reject a Request for RFP that is the lowest bid even if it is the only Request for RFP received.

(c) The Township reserves the right to consider during the evaluation of Requests for RFPs all or some of the following criteria in assessing a Request for RFP, none of which shall be binding on the Township:

- i. information provided in the Request for RFP document itself, including but not limited to, information relating to the Bidder's understanding of the project, quality

of submission, cost savings, process improvements for the Township, project schedule and cost;

- ii. information provided in response to enquiries of credit and industry references set out in the Request for RFP;
- iii. past performance in the provision of services to the Township or local Municipalities within the local region;
- iv. information received in response to enquiries made by the Township of third parties apart from those disclosed in the Request for RFP in relation to the reputation, reliability, experience and capabilities of the Bidder;
- v. the manner in which the Bidder provides services to others;
- vi. the experience and qualification of the Bidder's senior management and project management;
- vii. the compliance of the Bidder with the Township's requirements and specifications;
- viii. innovative approaches proposed by the Bidder in the Request for RFP; and,
- ix. The Township's policies relating to RFP's and issuing Contracts to Third Parties.

- (d) The Township may rely upon the criteria which the Township deems relevant, even though such criteria may not have been disclosed to the Bidder. By submitting a bid, the Bidder acknowledges the Township's rights under this Section and absolutely waives any right, or cause of action against the Township and its consultants, by reason of the Township's failure to accept the bid submitted by the Bidder, whether such right or cause of action arises in Contract, negligence, or otherwise.
- e) The Bidder acknowledges and agrees that the Township will not be responsible for any costs, expenses, losses, damages, or liability incurred by the Bidder as a result, or arising out of submitting a Request for RFP for the proposed Contract or due to the Township's acceptance or non-acceptance of their Request for RFP.
- (f) Requests for RFPs which are incomplete, conditional or obscure, or which contract additions not called for, alterations, or irregularities of any kind, may be rejected as informal.
- (g) Each item in the Request for RFP shall be a reasonable price for such item. Under no circumstances will an unbalanced Request for RFP be considered. The Township will be the sole judge of such matters and should any Request for RFP be considered to be unbalanced, then it will be rejected by the Township.
- (h) The lump sum price or prices quoted in the RFP shall include the furnishing of all materials, supplies and equipment and providing of all labour, construction tools and equipment, utility and transportation services necessary to perform and complete all the Work required under the Contract, including all miscellaneous Work, whether specifically included in the Contract Documents or not.

- (i) The acceptance of any Submission is subject to appropriate funding acceptable to the Township.
- (j) The placing in the mail or delivery of a notice of award to the Bidder address, given in the Submission, shall constitute notice of acceptance of the Contract.
- (k) The Township reserves the right to reject the Request for RFP of any Bidder who does not furnish satisfactory evidence of sufficient capital, plant and experience to successfully prosecute and complete the Work in the specified time.

1.18 Discrepancies in Schedule of Unit Prices

Wherever the total amount bid for an item does not agree with the extension of the RFP quantity and the unit price, the unit price shall govern and the total amount bid shall be corrected accordingly.

The Township will correct mathematical discrepancies by appropriate means to arrive at the correct Total RFP Price. Where an error has been made in transferring an amount from one part of the RFP to another, the amount shown before transfer shall, subject to any corrections as provided for above, be taken to be correct, and the amount shown after transfer and the Total RFP Price shall be corrected accordingly.

1.19 Local Municipal Work Included in RFP

If this Proposal Document includes Schedule(s) of Work for a Municipality within the local region, the Township hereby advises that they will circulate the following documentation, relating to this RFP, to the applicable Municipality, following the opening of the bids:

- Document Takers List
- Bid Summary (as opened)
- Bid Summary Spreadsheet (confirming calculations)
- Proposals

Local Municipal Councils and Staff will be responsible for:

- Ensuring the Proposal Submission meets their Procurement By-Law and practices.
- Evaluation, award, administration, supervision and making payments for the Schedule(s) of Work associated with their own Municipal Work.

By submitting a Proposal, the Bidder is acknowledging and accepting the requirement that they may be required to enter into Agreement(s) and provide various items to the local Municipality directly.

All terms included in this Proposal Document shall form part of the local Municipal Contract Agreement.

1.20 Bidder Expense

Any expenses incurred by the Bidder in the preparation of the RFP submission are entirely the responsibility of the Bidder and will not be charged to the Township.

1.21 Period for which RFPs are Irrevocable

The Bidder acknowledges that the submission of an RFP constitutes an irrevocable offer to provide the goods and / or services described herein for a period of sixty (60) calendar days from the RFP Submission Deadline.

1.22 Bidder Not to Communicate With Media

A Bidder may not, at any time directly or indirectly, communicate with the media in relation to this RFP or any Agreement awarded pursuant to this RFP without first obtaining the written permission of the Township.

1.23 Assignment of Contract

The successful Bidder shall not assign the Contract, or any portion thereof, without the prior written consent of the Township.

If the Township agrees to the assignment of the Contract, all Assignment Agreements will be prepared, at the sole cost of the Bidder, and under no circumstances will the Township be responsible for these costs.

1.24 Contract Documents and Order of Precedence

In the event of any inconsistency or conflict in the contents of the following documents, such documents shall take precedence and govern in the following descending order: Agreement, Purchase Order, Addenda, Special Provisions, Contract Drawings, Information to Bidders, Bid Document (Tender / Proposal, etc.), General Conditions and Working Drawings. The Contract documents shall consist of all the pages of the Proposal documents, issued by the Township, and the Company's submission. Amendments to the Contract, in the form of Change Orders / Notices, shall take precedence over the documents or portions thereof amended thereby, and Change Orders / Notices shall be considered part of the Contract Documents. None of the conditions contained in the Bidder's standard or general conditions of sale shall be of any effect unless explicitly agreed to by the Township and set forth or specifically referred to therein.

1.25 Default by Company

If the Company commits any act of bankruptcy or if a receiver is appointed on account of its insolvency or in respect of any of its property or if the Company makes a general assignment for the benefit of its creditor, then, in any such case, the Township may, without notice, terminate the Contract.

If the Company fails to comply with any request, instruction or order of the Township or fails to pay its accounts or fails to comply with or persistently disregards statutes, regulations, by-laws or directives or relevant authorities relating to the work or fails to prosecute the work with skill and diligence or assigns or sublets the Contract without the Township's written consent or refuses to correct defective work or is otherwise in default in carrying out its part of any of the terms, conditions and obligations of the Contract, then, in any such case, the Township may, upon expiration of ten (10) days from the date of written notice to the Company, terminate the Contract.

Any termination of the Contract by the Township, as aforesaid, shall be without prejudice to any other rights or remedies the Township may have.

If the Township terminates the Contract, it is entitled to:

- Take possession of all of the work in progress and finish the work by whatever means the Township may deem appropriate under the circumstances.
- Withhold any further payments to the Company until its liability to the Township can be ascertained.
- Recover from the Company loss, damage and expense incurred by the Township by reason of the Company's default. Said recovery (or portion therefore) may be deducted from any monies due or becoming due to the Company.

1.26 Contract Cancellation

The Township shall have the right, which may be exercised from time to time, to cancel any uncompleted or unperformed portion of the work. In the event of such cancellation, the Township and the Company shall negotiate a settlement.

The Township shall not be liable to the Company for loss of anticipated profit on the cancelled portions of the work.

1.27 Payments

The Bidder shall invoice the "The Township of Drummond/North Elmsley", for services and materials provided. The Township shall pay said invoice within thirty (30) days of the date of the invoice. The Township shall have the right to withhold from any sum otherwise payable to the Bidder such amount as may be sufficient to remedy any defect or deficiency in the work, or such amount as may be related to outstanding claims, pending correction of same.

The Township agrees to pay the Bidder, in lawful money of Canada, for the performance of the Work of each item at the unit prices set out in the Schedule of Items and Prices, as described in the RFP Form.

Compensation for Work performed or materials received, which were not specified in the Contract, will only be made if the Bidder has obtained written approval, prior to the commencement of the said Works, from the Township by means of a Contract Change Order.

1.28 Taxes

Harmonized Sales Tax (HST) will be paid in addition to the Total Bid, on applicable items, at the applicable rate at the time of purchase. All other taxes and fees shall be included in the quoted unit price.

SECTION 2 – WARRANTY AND SERVICE

The specifications provided in this RFP document lists only the major details of the vehicles and equipment required. It is the Bidder's responsibility to deliver fully equipped vehicles and equipment, with compatible components, to provide dependable efficient service.

2.0 Warranty

Additional information relating to Warranty may be attached to this section and submitted with your RFP submission, for evaluation. Signed Manufacturer's Factory Warranty documents shall be supplied to for the vehicles and equipment purchased.

Total Unit Warranty shall be provided with a minimum of 24 months. **Power Train warranty** shall be provided with a minimum of 36 months. If Warranty included in your proposal price is greater than the minimum noted above specify below.

Specify: _____

2.1 Service

Please indicate in the space below the locations available for service of the vehicle bid, and the approximate distance, in kms, from the Township Public Works Facility located at 1920 Drummond Concession 7 Road, Perth, ON, to the listed service locations.

Service Location Name	Service Location Address	Hours of Operation	Distance (km) to Township Facility

2.2 Availability of Parts

The Bidder shall ensure parts will be available within an hour's travelling time from the Public Works Garage in Drummond Centre. YES NO

Additional information may be provided below.

SECTION 3 – VEHICLE SPECIFICATIONS

General Specifications

All literature pertaining to the proposed items shall be included with the proposal submission.

Location for installation of any additional equipment should be determined with the Township prior to proceeding.

The Successful Bidder shall supply a Bill of Sale, clearly indicating the unit year, make, model and serial number, by email to scameron@dnetownship.ca a minimum of 24 hours in advance of delivery of the vehicle. This information will be utilized to bind insurance upon delivery.

No license is required and no lettering will be required on the doors.

The Township is a “fleet” customer with most manufacturers and we encourage any fleet or municipal discounts that may be available.

Where minimums are stated, the vehicle or equipment must meet or exceed the capacity, size or performance specified.

Specifications are the minimum or preferred specifications designed to generally describe the features required, in the vehicle or equipment. The Supplier shall check the yes box if the specification is met or exceeded. The Supplier shall check the no box if the specification is not met. Specifics and variances shall be identified in the space provided.

If your bid does not include all “Required Specifications”, you are required to identify, by number, what one is not met, and provide details on the sheet provided below, and it shall be submitted with the proposal.

Detailed Specifications

Vehicles and equipment must be supplied with suitable components to comply with the following specification in all aspects.

Item #1 – One (1) 2017 or newer model year Tractor

ITEM No. - 105 HP NEW TRACTOR WITH CAB			
<u>General</u>			
It is the intent of this specification to describe an industrial self-propelled mower tractor, 2017 or newer model year with less than 200 hours of usage meeting or exceeding the following specifications.			
For any offer to be considered all items must be of a standard production model and not modified for bid purposes.			
LINE #	REQUIRED SPECIFICATIONS	COMPLY YES/NO	EXPLAIN DEVIATIONS
<u>Engine</u>			
1.00	114 (85 KW) 97/68/EC Engine horsepower @ rated rpm.		
1.10	92 (69 kW) PTO Horsepower @ rated rpm.		
1.20	Final Tier 4 engine.		
1.30	Hand and foot throttle.		
1.40	Key engine shutoff.		
1.50	Front auxiliary drive preparation kit.		
<u>Transmission</u>			
1.60	24 forward speeds, 24 reverse speeds with Power Shuttle.		
1.70	Differential Lock.		
1.80	Neutral safety start system.		
1.90	Full Wet Multi-Disk Clutch. (Electro-hydraulically operated)		

<u>Rear Axle and Tires</u>			
1.10	Mechanical rear wheel drive.		
1.11	Planetary final drives.		
1.12	Two 460/85 R34 Tires. (shall be loaded with Agrilim)		
<u>Front Axle and Tires</u>			
1.13	MFWD Electro-Hydraulic Engagement.		
1.14	Planetary final drives.		
1.15	Two 340/85 R24 Tires.		
<u>Steering and Brakes</u>			
1.16	Hydrostatic Power Steering.		
1.17	Rear axle differential lock.		
<u>Hydraulics</u>			
1.18	Open Center Hydraulic System.		
1.19	Pump output of 17 GPM minimum.		
1.20	Two rear remote with flow control valves.		
1.22	Hydraulic oil cooler.		
<u>Power Take off Shaft</u>			
1.23	540/1000 RPM, 1-3/8 In. Independent Rear PTO, and PTO Master Shield.		
1.24	Electric over hydraulic activation.		
1.25	Wet Multi-disk clutch.		
1.26	Neutral start Safety Switch.		
1.27	PTO Engagement Indicator light.		
1.28	Operator presence safety PTO warning.		

<u>Rock Shaft and Draw Bar</u>			
1.29	Electric over hydraulic activation hitch.		
1.30	Telescopic draft links.		
1.31	Category 2 Swinging Drawbar with Hammer Strap.		
1.32	3-Point (Category 2) Hitch.		
1.33	6800 Lb. Lift capacity @ 24" behind lift point SAE.		
1.34	Telescopic stabilizers.		
1.35	Lower link sensing draft control.		
<u>Instrumentation</u>			
1.36	Tachometer/ Hour Meter.		
1.37	Electronic fuel gauge.		
1.38	Oil pressure indicator light.		
1.39	Air Cleaner restriction indicator.		
1.40	Coolant temperature gauge.		
1.41	Turn Signal Indicator light.		
1.42	High Beam Indicator light.		
1.43	Alternator Indicator light.		
1.44	Hazard switch.		
1.45	PTO indicator engagement light.		
1.46	MFWD engagement indicator light.		
<u>Electrical</u>			
1.47	12 volt electrical system.		
1.48	One 12-Volt Battery, 100 Ah (900 Cold Cranking amps) with master shut off switch.		
1.49	7 terminal ASAE outlet socket.		
1.50	12v Power Outlet.		
1.51	130 amp alternator.		

<u>Lights</u>			
1.52	Four front grill headlights.		
1.53	Two Front Outer Roof Work lights.		
1.54	Four Flashing Hazard Lights.		
1.55	One roof mounted light GROTE #76943.		
1.56	Two Rear Tail Lights with Brake and Signal Lights.		
<u>Comfort Guard Cab</u>			
1.57	2 door cab.		
1.58	Air conditioning and heating.		
1.59	Air Ride Suspension Seat, 2-way Swivel		
1.60	AM-FM Radio, antenna, cable, two speakers.		
1.61	Tilt and Telescopic Steering Column		
1.62	Front and rear windshield wiper and washer.		
1.63	Telescopic rear view mirrors (2) manually adjustable.		
1.64	Rear Window Defogger/Defrost		
1.65	Tinted Windows in Cab		
1.66	Instructor Seat		
<u>Miscellaneous</u>			
1.67	Slow Moving Vehicle emblem.		
1.68	50 gallon fuel tank (minimum).		
1.69	Tilt-up hood.		
1.70	9,500 lbs. Tractor Weight Min. (Shipping Wt.)		
1.71	2 year warranty or 2,000 hours (trucking covered under warranty)		

Item #2 – New 2.00 m rear swing flail mower

LINE #	REQUIRED SPECIFICATIONS	COMPLY YES/NO	EXPLAIN DEVIATIONS
2.0	Diamond rear swing, Kubota SE2000P, Bomford Turbo Elite or equivalent. Specify: _____ Manufacturer: _____ Year: _____ Make: _____ Model: _____		
2.1	Mower actual cutting width shall be a minimum 2.00 m Specify: _____ cutting width.		
2.2	Mower weight shall be a minimum 1,900 pounds. Specify _____ pounds.		
2.3	Mower shall be designed with the offset capability to mow behind a tractor and mow on the right hand side of a tractor.		
2.4	Mower shall be new and currently produced by a well-established manufacturer.		
2.5	Mower shall be a heavy duty design with reinforced double skin protection.		
2.6	Mower unit is self-contained and mounts to the tractor's three (3) point, category 2 hitch.		

2.7	Mower frame shall be equipped with a self-resetting “breakaway” capability to allow the mower head to shift when mower head comes into contact with a hard object. Specify “breakaway capability” system function: _____		
2.8	Mower shall be equipped with 1) a safety discharge or flap and 2) a front deflector shield.		
2.9	Mower shall have adjustable cutting height. Specify minimum: _____ Specify maximum: _____		
2.10	Drive belts shall be equipped with an automatic belt tensioner and shall have the necessary guarding installed.		
2.11	Cutting shaft will have a minimum of twenty-eight (28) Hammer blade design flails. Specify Number: _____ Specify Make: _____		
2.12	P.T.O. gearbox shall be equipped for 540 RPM input speed and shall be equipped with an integrated freewheel or overrun clutch system.		
2.13	Gearbox will be rate at 90 hp constant		
2.14	Mower shall be equipped with a mechanical or hydraulic lock in order to secure the mower in the travel or upright position when traveling on roadways.		

2.15	Mower shall be equipped with an approximately seven (7) inch diameter, self-cleaning rear roller. Rear roller should be adjustable.		
2.16	Mower shall be equipped with skid shoes.		
2.17	Mower shall be equipped with adjustable storage stands to store the mower when not in use.		
2.18	Mower shall have a safety triangle installed on rear or mower. Final mounting location must be approved by Township Staff.		
2.19	Hydraulic hoses shall be covered with protective material and hoses shall be secured to the mower frame.		
2.20	Shall be equipped with heavy duty industrial type, double acting hydraulic cylinders.		
2.21	P.T.O. shaft shall be equipped with non-rotating protective guarding.		
2.22	Operator's Manual shall be stored in a water proof container or tube on the mower.		
2.23	All hardware required for installation and operation shall be included with the mower at time of delivery.		
2.24	The vehicle(s) shall comply with all Ontario Safety and Health Authority, Ontario Ministry of Labour and Ontario Ministry of the Environment Rules and Regulations.		

SPECIFICATIONS FOR 21' REAR CRADLE ATTACHMENT BOOM with 50" BOOM FLAIL CUTTIGN HEAD

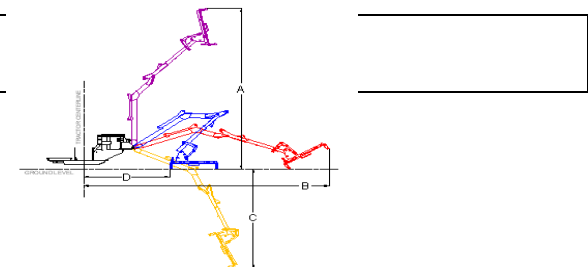
ITEM No. 3 - REQUIRED SPECIFICATIONS

It is the purpose of the following specifications to describe a self-propelled, hydraulically driven, boom type mower, which will mow forward and right of the right rear tire, and extend by means of an articulated, two-section boom. This unit will be constructed to receive any of our listed boom head options. The unit will be of the manufacturer's current production model, meeting or exceeding the terms of these specifications. Unit(s) will be the manufacturer's most heavy-duty model available. The manufacturer will furnish parts and operation manuals for the unit(s) bid. The manufacturer will also guarantee equipment against defects in workmanship and materials for a period of (1) year.

Line #	<u>SAFETY SPECIFICATIONS</u>	Comply	Explain Deviations
		Yes / No	
3.00	Unit will meet or exceed the following industry standards: SAE J1001, J115, J208, J715, J898, J909, J920, J1150, J1500, ANSI/SAE S441, S318.7, S217.10, S278.6, EP363, and ASTM A370. A compliance report will be available upon request.		
	<u>CUTTING HEAD</u>	Comply	Explain Deviations
		Yes / No	
3.01	Cutting head will have 435° of combined rotation, weigh a minimum of 1,068 lbs., and 50" of actual cut.		
3.02	Cutting head deck will have 100,000 lb. rated steel housing, minimum of 1/4" x 25" solid steel sidewalls, and have replaceable skid shoes.		
3.03	Hydraulic motor will have a rating of 81.3 hp, and motor assemblies will have automatic belt self-tensioners.		
3.04	Cutting bonnet thickness will be a minimum of 1/8".		

Line #	<u>CUTTER SHAFT</u>	Comply	Explain Deviations
		Yes / No	
3.05	Cutting shaft will have a minimum of (48) dual purpose, 2 lb., 8" in length, brush and grass knives. Knives will be 10mm thick, and be capable of cutting brush 6" in diameter. Knives will be mounted with 1" grade 8 bolts to the cutting shaft. Knives will be reversible.		
3.06	Cutting shaft will be a minimum of 6" in diameter, with 2-3/16" diameter stub shafts and bearings. Cutting shaft bearings will be of the grip tight double shielded type.		
3.07	Blade cutting diameter will be 23".		
3.08	Cutting shaft rpm will be a minimum of 1700 (tip speed of 10224 fpm.)		
	<u>GROUND ROLLER</u>	Comply	Explain Deviations
		Yes / No	
3.09	Cutting heads will have 6-5/8" diameter rollers, constructed of schedule 40 DOM tubing. Left and right outer edges of ground roller will be tapered at 45° down to a diameter of 4.81" to minimize turf damage during turns.		
3.10	Ground roller bearings will be KOYO 2580-2520, with four bearings per ground roller. Bearings will be protected inside ground roller tube, specifically excluding external-mounted bearing systems.		
3.11	Ground roller bearings will be lubricated in oil bath, which will be changed on an annual basis. Specifically excluding bearing systems that require daily maintenance or are lubricated with grease.		
3.12	Ground roller bearings will come standard with 2-year warranty.		

Line #	BOOM SPECIFICATIONS	Comply	Explain Deviations
		Yes / No	
3.13	Mainframe of mower is properly braced to rear axle and front axle housing to absorb side torque and impact of severe applications.		
3.14	Boom swivel bracket will be triple anchored with 1" thick T-1 steel. All (3) anchors will have 360° grease groove hardened spring steel replaceable split bushings. All (3) anchors will each be equipped with a grease zerk.		
3.15	Wheel weight will weigh not less than 1,400 lbs., mounted on the left rear wheel (specifically excluding frame mounted weight.)		
3.16	The primary boom structural tube will have a minimum of the following sectional properties: Torsional 74.9"⁴ Bending (Horizontal) 60.1"⁴ Bending (Vertical) 23.8"⁴. The primary boom will be constructed of 8"x6"x1/4" steel tube, and reinforced with 3/8", T1 steel.		
3.17	The secondary boom structural tube will have a minimum of the following sectional properties: Torsional 25.0"⁴ Bending (Horizontal) 22.1"⁴ Bending (Vertical) 11.7"⁴. The secondary boom will be constructed of 6"x4"x1/4" steel tube, and reinforced with 3/8", T1 steel		
3.18	A Polycarbonate Lexan window will be installed to provide safety protection for the operator. It can be installed in place of, over the glass, or attached to a frame on the right side of the cab windows.		
3.19	Boom dimensions are measured from ground level and the tractor's centerline. Boom reach, height, and depth may vary depending upon tractor and/or tire configuration.		
	50" HD Flail		
A	16'4"		
B	19'7"		
C	11'1"		
D	6'8"		



Line #	<u>MAINFRAME</u>	Comply	Explain Deviations
		Yes / No	
3.20	Mainframe of boom mower will be solidly mounted, bolted, as well as mid and rear braced to tractor main mid-body to absorb side torque and impact of severe applications.		
3.21	Crankshaft adapter and spacer will be bolted securely to the front of the crankshaft pulley with cap screws and lock washers for the pump drive shaft and spline coupling to be mounted.		
3.22	Hydraulic pump mounting bracket will be bolted securely to the front of the tractor with spacers, and will be able to allow the hydraulic gear pump to be mounted and properly connected with spline coupling.		
3.23	The control box containing solenoid switches will be for controlling hydraulic flow from the hydraulic pump to the hydraulic motor. It will be mounted in a dry and well-protected area with wiring routed, and a 30 amp breaker in the cab area.		
3.24	All wiring installed will be properly routed and protected with plastic wire cover and rubber boots for protection.		
3.25	Additional hydraulic valving will be installed on the exterior of the right rear cab area so valving will be accessible to the operator.		
3.26	Weights will be attached properly to tractor wheel (specifically excluded will be frame mounted weight.)		
3.27	All proper safety stickers will be attached to the boom mower.		
	<u>REAR CRADLE TRAVEL REST</u>	Comply	Explain Deviations
		Yes / No	
3.28	The rear cradle (travel rest) will be axle mounted, specifically excluding 3-point hitch cradle mounts.		
3.29	The rear cradle (travel rest) will be constructed of 5" x 5" and 3" x 3" tubing of 3/8" wall thickness.		

Line #	<u>HYDRAULIC SYSTEM</u>	Comply	Explain Deviations
		Yes / No	
3.30	Hydraulic oil reservoir will have a minimum capacity of 35 gallons, with a minimum oil volume of 28 gallons to the sight glass.		
3.31	Hydraulic oil reservoir will be equipped with a combination sight glass and thermostat.		
3.32	Hydraulic oil reservoir will have a filter with 10 micron element, 75 gpm rated, and a restriction gauge visible to the operator.		
3.33	Hydraulic oil suction will be an unrestricted 1.5" ID (specifically excluded will be the suction filter and screens.)		
3.34	Hydraulic oil pressure and return system hoses will be 1" ID high pressure unrestricted. Hoses will have a burst pressure 4x working pressure.		
3.35	Hydraulic oil pressure, return, and lift system steel hydraulic lines will be mounted at the rear of the boom arms.		
3.36	Wire braid reinforced hydraulic lines will be used at all flexible positions on the boom arm (hydraulic hoses/tubing will not be allowed inside boom arms.)		
3.37	Pump drive shaft powers hydraulic pump for power to hydraulic motor, is attached to tractor crankshaft, and have a rating of 180 hp.		
3.38	Hydraulic pump will have a rating of 98 hp input, and pump and motor will be gear type with cast steel housing and steel gears (specifically excluded are aluminum pumps, motors, and aluminum gears.)		
3.39	Hydraulic oil to the power center head will not pass through a restriction causing valve while operating the cutting head.		
3.40	Main hydraulic control valve will be non-restrictive, electric solenoid type, with starter lockout switch (Optional hydraulic brake valve available.)		
3.41	Hydraulic oil will be cooled by an air-to-oil cooler equipped with a reversible electric fan.		

Line #	<u>HYDRAULIC CYLINDERS</u>	Comply	Explain Deviations
		Yes / No	
3.42	All cylinders are heavy duty industrial type, nitro steel rod welded, and all cylinder mountings will have replaceable, hardened bushings, of the grease-able type.		
3.43	Secondary boom cylinder will have a spherical bearing on the rod end.		
3.44	Hydraulic lift cylinders will be mounted on the top of the boom arms.		
3.45	Boom will have (2) double acting hydraulic cylinders, and (1) single acting hydraulic cylinder with accumulator.		
	<u>ACTUATOR</u>	Comply	Explain Deviations
		Yes / No	
3.46	The boom can pivot 180° frontward and rearward.		
3.47	While operating in forward and reverse direction, the boom has break-away protection.		
3.48	The boom pivot will be hydraulically driven and fully enclosed.		
	<u>JOYSTICK</u>	Comply	Explain Deviations
		Yes / No	
3.49	Electronic joystick with a 4/5 bank electro-hydraulic proportional, and manual override at operators' position.		
3.50	5 spool electronic joystick with 4 proportional and 1 non-proportional, load sensing, and manual override at operators' position.		
3.51	Joystick controls will be securely mounted so as to not interfere with other operator controls.		
3.52	Travel lock will be incorporated into the control valve. This locking valve will prevent the deck-roll function from settling when the boom is in the travel rest.		