



*"Our mission is to upgrade and maintain
a safe and efficient road system."*

NOTICE TO BIDDERS

Requests for Proposals of Equipment will be received at the Grand Traverse County Road Commission office, 1881 LaFranier Road, Traverse City, Michigan, 49696 on Tuesday, October 23, 2018, at 10:00 AM, EST, for:

Winter Maintenance Truck Equipment and Installation

The Board reserves the right to accept or to reject any or all bids; increase or reduce quantities, including dividing the bid projects into separate agreements; waive irregularities and/or informalities; and make the award(s) as may appear to the best interest of the Grand Traverse County Road Commission. Documents are available at www.gtcrc.org , Info@MITN.com or at the GTCRC office. All proposals are to be submitted as a sealed, hard copy document with the item being bid noted on the exterior of the envelope to the address above. No fax or email bids will be accepted.

Board of County Road Commissioners
Of Grand Traverse County
Marc S. McKellar, Chair
Jason Gillman, Vice-Chair
Carl J. Brown, Member
Andy Marek, Member
William D. Mouser, Member

SNOWPLOW EQUIPMENT INSTALLATION - MITN# 76500 & 76561
P R O P O S A L F O R M.
Bids Due: Tuesday, October 23, 2018 – 10 am

To: Grand Traverse County Road Commissioners
1881 LaFranier Road
Traverse City, MI 49696

The undersigned hereby certifies that they have examined the Specifications and are fully informed as to the nature of the equipment, material and labor to be furnished.

The undersigned agrees that, if awarded this proposal for services, they will deliver the proposed equipment, material and labor as required, from March 1, 2018 to February 28, 2019 at the bid prices. This bid, by mutual agreement of each party, may be extended for an additional one (1) year period. Contractor/supplier agrees to the GTCRC terms/conditions and insurance requirements as attached. A current Certificate of Insurance that meets the minimum coverage requirements of the Road Commission shall be furnished to the Road Commission prior to commencing work.

Bidder understands and agrees that all necessary permits, licenses and insurances must be obtained and that all applicable federal, state and local codes, laws and regulations must be complied with.

GTCRC reserves the right to accept or reject any or all bids, waive irregularities, increase or reduce quantities and delete bid items in the Proposal form, and to accept the bids either on an entire or individual basis that is in the best interest of the GTCRC. The GTCRC accepts no responsibility for any expense incurred by the bidder in the preparation and presentation of a bid. Such expenses shall be borne exclusively by the bidder.

The Undersigned further states that they have not directly or indirectly entered into any combination collusion, undertaking or agreement with any other bidder or bidders to maintain the price or bid on this work, or to prevent any bidder or bidders to refrain from bidding, and that this proposal is without reference or regard to any other proposal or proposals, and without agreement, understanding or combination with any other bidder or prospective bidder or agent thereof in any way or manner whatsoever.

Having carefully examined the specifications and any other applicable information, the undersigned proposes to furnish all items necessary for and reasonably incidental to the proper completion of this bid. Bidder submits this bid and agrees to meet or exceed all requirements and specifications unless otherwise indicated in writing and attached hereto. Bidder agrees to accept a purchase order with the Terms and Conditions as attached hereto and made a part hereof from the Road Commission if selected as the successful bidder.

Bidder certifies that as of the date of this bid, the company or he/she is not in arrears to the Road Commission for debt or contract. Bidder understands that the Road Commission reserves the right to accept any or all bids in whole or part and to waive irregularities in any bid in the interest of the Road Commission. The bid will be evaluated and awarded on the basis of the best value to the Road Commission. Criteria used will include, but not be limited to price, quality, and overall capability meeting the needs of the Road Commission.

The above signed hereby proposes to furnish all equipment, material and labor to meet the specifications and requirements of the Grand Traverse County Road Commission in accordance with state and federal safety standards, provide liability, automotive and workers' compensation insurance coverage.

Having read and clearly understanding the instructions and specifications for Snowplow Equipment Installation quantity estimated and being thoroughly familiar with the work to be performed, we hereby submit the following bid for Snowplow Equipment Installation to the Grand Traverse County Road Commission.

Company Name:	Submitted By:
_____	_____
	Signature
Address:	Name (Typed/Printed)
City, State, Zip	Title (Typed/Printed)
Telephone (_____) _____	Proposal Date _____
FAX # (_____) _____	Email: _____

Proposal Acceptance

Items No. _____ are hereby accepted by the Grand Traverse County Road Commission.

Date _____ By _____

Proposal Extension

Item(s) No. _____ are hereby offered for a one year extension of the proposal and agreement.

Date _____ By _____
Signature _____ Title _____

The Grand Traverse County Road Commission hereby accepts the offer to extend this proposal and agreement for an additional one year period of time.

Date _____ By _____
Signature _____ Title _____

The above signed hereby proposes to furnish within 30 days of receipt of order all materials to meet the current MDOT and Grand Traverse County Road Commission Specifications, f.o.b. Grand Traverse County, as specified to-wit:

No.	Item	Unit Price	Extended Price
1.	Six (6) Sets of Snowplow equipment per specifications including installation on Peterbilt trucks.	ea	

State the Warranties and Guarantees to be furnished by the supplier and/or manufacturer: _____

State Terms of Sale and Discounts: _____

TERMS AND CONDITIONS

THE SUPPLIER (hereinafter the "Supplier" or the "supplier"), BY RENDERING SERVICE TO THE GRAND TRAVERSE COUNTY ROAD COMMISSION (GTCRC) HEREBY AGREES TO ALL PROVISIONS LISTED BELOW:

1. **Non-Discrimination.** The Supplier agrees not to discriminate against an employee or applicant for employment with respect to hire, tenure, terms, conditions or privileges of employment, or a matter directly or indirectly related to employment because of race, color, religion, national origin, sex, age, height, weight, marital status, physical or mental disability, family status, sexual orientation, or gender identity. A breach of this covenant may be regarded as a material breach of this Service Order.
2. **Assignment.** There shall be no assignment or transfer of this Service Order or any part thereof unless mutually agreed to in writing by both parties.
3. **Venue.** Any and all suits for any and every breach of this Service Order shall be instituted and maintained in any court of competent jurisdiction in the County of Grand Traverse, State of MI.
4. **Dispute Resolution.** Prior to either party instituting any suit, any claim or dispute under the Service Order shall be submitted to non-binding mediation. The Supplier shall include a similar mediation agreement with all subcontractors and sub consultants under direct contract with the Supplier.
5. **Independent Contractor.** The relationship of the Supplier to the GTCRC is that of an Independent Contractor. The Supplier and the personnel employed by the Supplier shall not be deemed to be agents or employees of the GTCRC, shall not hold themselves out as employees of the GTCRC and shall not be entitled to any fringe benefits the GTCRC affords its employees.
6. **Required Insurance.** The Supplier shall provide an insurance certificate evidencing the following selected insurance prior to performing services under this Service Order:

		Yes	No
General Liability - Comprehensive	\$ 2,000,000 per occurrence	____	____
Professional Liability -	\$ 2,000,000 per occurrence	____	____
Premises and Operations		____	____
Independent Contractors		____	____
Completed Operations Hazard		____	____
Contractual Liability		____	____
Explosion, Collapse or Underground Damage		____	____
Owner's Protective		____	____
Environmental Pollution Liability	\$1,000,000 per occurrence	____	____
Automobile Liability	\$500,000 combined single limits	____	____
Owned, Non-owned &	\$250,000 each person	____	____
Hired	\$100,000 property damage each occurrence	____	____
Broadened auto pollution liability coverage, form CA 9948		____	____
Excess Liability	\$1,000,000	____	____
Umbrella Form		____	____
Employer's Liability	\$500,000	____	____

Additionally, Supplier shall provide the GTCRC with an endorsement to its insurance policies stating that the GTCRC is named as additional insured with the following language appearing either on the certificate or an attachment: *Grand Traverse County Road Commission, its commissioners, officers employees and agents are named as additional insureds.* A minimum of 10 days advance written notice will be provided in the event of cancellation.

7. **Workers Compensation.** The parties agree to maintain at all times while work is being performed under this Service Order, suitable workers compensation insurance pursuant to Michigan law and will, upon receipt of this Service Order, provide a certificate of insurance or copy of state approval for self-insurance to the GTCRC Manager.

8. Interpretation. This Service Order shall be governed by the laws of the State of Michigan both as to interpretation and performance.

9. Indemnification. To the fullest extent permitted by law, the Supplier shall defend, indemnify and hold the GTCRC, its agents, officials and employees harmless from and against all claims, damages, losses and expenses, including reasonable attorney fees and defense costs, arising out of or connected in any way with the performance of this Service Order which is caused in whole or in part by the Supplier's negligent, careless or intentional acts or omissions, or that of any agent, employee, or subcontractor of the Supplier, excluding only those damages, liabilities or costs attributable to the sole negligence of the GTCRC. The Supplier expressly acknowledges and agrees that this indemnification provision is intended to be as broad and inclusive as is permitted by law and that if any portion thereof is held invalid, it is agreed that the balance shall, notwithstanding, continue in full legal force and effect. This provision shall survive the termination of this Service Order and is not intended to waive the defense of governmental immunity that may be asserted by the GTCRC in an action against it.

10. Time. Time is of the essence in rendering the services described in this Service Order.

11. Pollution Indemnification. The Supplier's obligation to defend, indemnify and save harmless the GTCRC shall include any and all claims, liabilities, losses, damages, actual attorney fees and settlement expenses arising from any pollution liability, damage, or loss resulting or arising out of or in connection with the Supplier's performance of any work relating to this contract based upon any act, omission, or negligence of the Supplier or its employees, agents, servants, subcontractors or any other person or persons, including but not limited to the GTCRC, its agents, officers or employees. The obligations to defend, indemnify and hold harmless contained herein shall exclude only those matters in which the claim arises out of allegation of the sole negligence of the GTCRC, its officers, agents or employees. This indemnification agreement shall not be limited by reason of insurance coverage of any type. This provision is not intended to waive the defense of governmental immunity that may be asserted by the GTCRC in an action against it.

CHECK HERE IF APPLICABLE:

12. Third Party Beneficiaries. This Service Order confers no rights or remedies on any third party, other than the parties to this Service Order and their respective successors and permitted assigns.

13. Freedom of Information Act. The Supplier acknowledges that the GTCRC may be required from time to time to release records in its possession by law. The Supplier hereby gives permission to the GTCRC to release any records or materials received by the GTCRC as it may be requested to do so as permitted by the Freedom of Information Act, MCL 15.231 *et seq.*

14. Standard of Conduct. The Supplier shall render all services under this Service Order according to generally accepted professional practices.

15. Termination.

A. For Fault. If the GTCRC Manager determines that the Supplier has failed to perform or will fail to perform all or any part of the services, obligations, or duties required by this Service Order, the GTCRC Manager may terminate or suspend this Service Order in whole or in part upon written notice to the Supplier specifying the default and in the case of suspension shall specify a reasonable period not more than thirty (30) days nor less than fifteen (15) days from receipt of the notice, during which time the Supplier shall correct the violations referred to in the notice. If the Supplier does not correct the violations during the period provided for in the notice, this Service Order shall be terminated upon expiration of such time. Upon termination, any payment due the Supplier at time of termination may be adjusted to cover any additional costs occasioned the GTCRC by reason of the termination. This provision for termination shall not limit or modify any other right to the GTCRC to proceed against the Supplier at law or under the terms of this Service Order.

B. Not for Fault. Whenever the GTCRC Manager determines that termination of this Service Order in whole or in part is in the best interest of the GTCRC, in the event that termination is required by any state or federal agency, or in the event that necessary funds to continue with the specified equipment and services are not allocated by the GTCRC Board, the GTCRC Manager may terminate this Service Order by written notice to the Supplier specifying the services terminated and the effective date of such termination. Upon termination, the Supplier shall be entitled to and the GTCRC shall pay the costs actually incurred in compliance with this Service Order until the date of such termination.

16. Ownership of Documents. All documents produced by Supplier under this Service Order shall remain the property of GTCRC and may not be used by Supplier for any other endeavor without the written consent of GTCRC. Any reuse of

documents without the written consent of GTCRC shall be at Supplier's sole risk, without liability or legal exposure to GTCRC, its officers, directors, employees, agents, or volunteers.

17. Billing/Payments. Invoices for Supplier's services shall be submitted, at GTCRC's option, either upon completion of such services or on a monthly basis whichever is shorter. Invoices shall be payable within 30 days after the invoice date. Retainer/deposits fee shall be credited on the final invoice.

18. Specification and Bid Requirement Deviations by the Bidder: Any deviation from this specification/and bid requirement MUST be noted in detail, and submitted in writing on or with the RFQ. Completed specifications should be attached for any substitutions offered, or when amplifications are desirable or necessary. The absence of a specification deviation statement and accompanying specification will hold the Supplier strictly accountable to the specifications/and bid requirement. Failure to submit this document of specification/and bid requirement deviation, if applicable, shall be grounds for rejection of the item when offered for delivery. If specifications or descriptive papers are submitted with Bids, Proposals, or Quotes the Supplier's name should be clearly shown on each document. The Road Commission retains the right to determine the equivalency of any product or service.

19. MIOSHA Regulations: All equipment, machinery, tools and vehicles must meet all MIOSHA standards to be considered

20. Delivery and Receipt of Goods: Accessibility for delivery purposes shall be between the hours of 7:30 a.m. and 2:30 p.m. Monday through Friday, with exception of GTCRC's observed holidays. All deliveries shall be received and acceptance is "subject to inspection". All goods must be tailgate delivered.

21. F.O.B. Destination Freight Prepaid: Goods provided to the GTCRC under this Agreement shall be FOB Destination. Title passes to the GTCRC when goods are delivered to a GTCRC location. The supplier shall pay all freight charges, owns the goods during transit and files claims, if any.

22. Delivery A.R.O.: The supplier shall indicate how many days after receipt of order (ARO) before delivery to GTCRC.

23. Performance: The supplier agrees to deliver all items meeting specifications, brand, and part number in good condition, on the dates established. For blanket orders, failure to comply with the above performance standards for blanket orders in excess of 5% may result in the cancellation of the order.

24. Compliance with Applicable Laws and Regulations: The supplier specifically agrees to comply with any and all applicable State, Federal, and Local statutes, ordinances, and regulations, and with GTCRC regulations during performance of the services and will require compliance of all subcontractors. Additionally, the supplier shall comply with the following: In accordance with Michigan 1976 PA 453, the supplier hereto agrees not to discriminate against an employee or applicant for employment with respect to hire, tenure, terms, conditions or privileges of employment, because of race, color, religion, national origin, age, sex, height, weight or marital status. Further, in accordance with Michigan 1976 PA No. 220, as amended, the parties hereby agree not to discriminate against an employee or applicant for employment with respect to hire, tenure, terms, conditions or privileges of employment, or a matter directly or indirectly related to employment, because of a disability that is unrelated to the individual's ability to perform the duties of a particular job or position. The supplier further agrees that it will require all subcontractors for this project comply with this provision.

GRAND TRAVERSE COUNTY ROAD COMMISSION
2019 Truck Equipment

Bidders please note that any and all exceptions to the specifications must be noted. Failure to disclose any and all exceptions or deviations from the enclosed specification will be grounds for the Grand Traverse County Road Commission to deem a bid unresponsive, and disqualify that bid proposal. Descriptive literature for equipment and comprehensive warranty statements shall be included and shall be considered part of the quotation/bid enclosures. Bid submittals shall include a detailed summary of all makes, models/brands being offered and manufacturer's literature must accompany all bids. These specifications are meant to provide a minimum performance and quality standard acceptable to the Road Commission. The Road Commission reserves the right to include pre-build and pre-paint inspections/meetings at the installer's location. The Road Commission also reserves the right to accept or reject any or all proposals and to award to the bid that is deemed to be in the best interest of the Grand Traverse County Road Commission. Payment will be made after conformity with the vendors bid proposal and the specifications is verified.

ITEM	Component ✓ = meets spec. Describe variances.
Central Hydraulic System	
A. The pump shall be minimum 8.9 cubic inch per rev code 61 split flange on the supply and code 62 split flange on pressure port.	_____
B. The pressure port at the pump shall be equipped with 1 ¼ code 62 direct mount 12 volt solenoid shut off block.	_____
C. Pump pressure line, 1" 304SS pipe with jumper hoses with swivels each end.	_____
D. The pump shall be driven by a Spicer 1310 series drive line assembly. The drive line shall be removable without removal of the pump assembly.	_____
E. The pump mounting cross member shall be gusseted, minimum 6" structured channel, bolted to the truck frame side rails.	_____
F. The pump suction line shall be a minimum 2 ½" ID stainless steel pipe with 2 ½" jumper hoses each end.	_____
G. The pump case drain line shall be ¾" minimum and include a ¼ turn full flow ¾" ball valve at the reservoir case drain port.	_____
H. Rexroth model M4/12 7-bank, includes mid-inlet, 4 section air, plow 13 GPM, both scraper functions 16 GPM, single acting conveyor 24 GPM EPC, double acting cross auger 15 GPM EPC, spinner and pre-wet 7 GPM EPC each, easy access top of the valve shuttle network. Valve will be mounted in 304SS sealed enclosure removable lid, all fittings and hoses will extend out of the bottom. All high pressure hose assemblies will be Parker 387 series with JIC and SAE O ring fittings, swivels, each end, abrasive resistant sleeving for added protection. 304SS piping ran to the rear, main chain, cross auger, spinner and pre-wet, including proper stainless steel support brackets.	_____

ITEM	Component ✓ = meets spec. Describe variances.
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Cab mounted air controls – automatic sander control

A. Apsco Air proportional controls, self-centering to operate, plow up/down, scraper up/down, and scraper reverse. Configured for maximum clearance between handles by using 35, B. 45 and 55 degree off-sets. Mounted on a custom built pedestal between the seats. Plow VM7 single lever control, scraper, and scraper reverse VM10 quad control.

B. Dickey-John control point system, consist of the following:

- ABASICCSLE control point console.
- CPCOMBO switch kit.
- Control point module, 46649330051.
- Dickey-John Allison speedometer adaptor Allison transmission, 464211440.
- Extension cable, 457901811.
- Granular valve driver.
- Liquid valve driver.
- Dickey-John feedback sensor.

C. Temperature read back and pre-wet temperature compensation.

D. Road watch cable inter face.

E. When using liquid, has a material reduction 20% built into the system.

F. Screen will show miles traveled and amount of material used.

G. The controller can be, as needed, up graded with lap top computer.

H. The controller can be, as needed, up graded with lap top computer.

Fuel/ Hydraulic Tanks

A. Tanks shall be designed to be installed in conjunction with a vertically mounted DPF/SCR exhaust system. The fuel hydraulic tanks shall be 7 ga. 201 stainless steel construction. The fuel tank shall be a minimum of 110 gal. capacity. The hydraulic tank shall be a minimum of 40 gal. capacity. The fuel and hydraulic tanks shall be integrated into a single, integrally constructed unit. The mounting of the tank shall include four mounting pads and shall be equipped with rubber bushings and mounting bolts. Supports for the tanks shall be constructed of 4" 7.25 structural channel. The mounting brackets shall extend from the right frame rail and shall cantilever to outside the left frame rail. A stainless steel serrated step shall be installed on the left side. The tank assembly shall include labels.

B. The fuel tank shall include ball valve shut off valves on both the supply and the return fuel lines to facilitate changing of fuel filters. The proper fuel gauge sending unit shall be installed. The vent for the tank shall conform with the engine manufacturer's specifications. The tank shall also be equipped with a magnetic drain plug

C. The hydraulic tank shall include a 3" supply port with a 3" x 2" suction strainer. A zinga type, top of tank mounted, return line oil filter shall be installed. The filter element shall be 10 micron. The filter shall be equipped with an internal drop tube and an anti-siphon device. A solid state, low oil sending unit shall be installed in the side of the tank. A float type sender will not be acceptable. A 5" sight/temperature gauge shall be installed on the side of the tank. The tank shall be full of AW32 hydraulic oil.

ITEM	Component √ = meets spec.
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Describe variances.

Refurbish and Install County Owned 13 Foot Duz-Mor, To include the following new components:

- A. Series Parallel valve shall be air shift with in-cab control, to allow Hi and Low speed of conveyor chain. _____
- B. Replace all piping with stainless steel, including extra lines needed to the main chain, cross auger, spinner, and pre-wet. _____
- C. Air tailgate cylinder, air solenoid and in-cab switch. _____
- D. Modify cab shield to fit on new Peterbilt chassis. _____
- E. New front idler shaft, sprockets, bearing adjuster, rear drive shaft, sprockets, bearings. _____
- F. Torque arm weldment upgrade. _____
- G. Roller Stator Drive motors. (2 per unit) – One with speed sensor, Both 17.9 cubic inch. _____
- H. Stainless steel floor including front and rear wipers. _____
- I. Stainless steel chain shields _____
- J. New chain, bar every other link, With 667xh Chain. _____
- K. Rear mounted stainless steel air foil. _____
- L. Rear door jack _____
- M. All new LED ICC lights and wiring. (lights are described in lighting spec) Front and rear mud flaps with stainless hardware. _____
- N. Stainless steel bracket mounting kit. _____
- O. New 6:1 gear boxes x2 per body _____

Paint

- A. All components that are 201SS- 304SS are not to be painted. All carbon steel components shall be primed and painted black. _____

Pre-wet System, designed for Duz-Mor

- A. Truck mounted liquid dispensing system ground speed oriented, will be calibrated through the Dickey-John control point _____
- B. Will include NEMA enclosure, SS brackets, SS suction strainer, two brass nozzles, check valve, bronze chemical pump driven hydraulically including flow meter. _____
- C. $\frac{3}{4}$ " suction and $\frac{1}{2}$ " discharge hoses, all EPDM rated. _____
- D. $\frac{3}{8}$ " thick UV stabilized polypropylene (two) 120 gal. Each tank system, 2" sealed fill caps, $1\frac{1}{4}$ " ports, including molded in gallon markings. _____
- E. Bulk fill coupler and flusher kit with 3-way valve. _____

ITEM	Component ✓ = meets spec. Describe variances.
F. Equalizing cross over hose system.	_____
G. Dual tank mounting saddles and hardware made of 201SS with nylon straps hold downs.	_____
H. Unit will be complete, installed, tested and calibrated through the Dickey-John control point.	_____
I. Tank will have to fit on fender cat walks, designed not to interfere with tarp system.	_____

Cross Auger Model: MS969-DD-DD-201SS, to fit Duz-Mor with dual Spinner System

A. 96" width, single pin quick detach, easy top and bottom clean out, balance point lifting slots, complete unit manufactured of 201SS.	_____
B. 3/16" thick auger trough, 1/4" extended one piece end plates, hinged rear panel and cover designed to dump over or hinge up to feed the auger, 3 hinge system on bottom trough door "Z" latch handle system, all of the above manufactured of 201SS	_____
C. 9" auger 4" pitch, 3/8 flighting welded to 2 7/8" tube, supported by 1 1/2" 4 – bolt greaseable flange bearings.	_____
D. Direct drive 28 C.I.R. Roller Stator motor including a stainless steel couplers.	_____
E. SAE 7/8" O ring ports.	_____
F. Each to have dual spinner 18" poly disc 3 C.I.R. Roller Stator motor seal savor design, mounted for left and right hand discharge, self-leveling.	_____
G. Complete installed, Parker jumper hoses, SS disconnects, caps and plugs.	_____

Underbody Scraper: Monroe MS4500

A. HANGERBOARD: Designed and engineered for optimum strength. 1/2" formed plate reinforced by 1/2" X 7-1/2" flat plate to make full 1" thickness. 3.25"X .344" mechanical tube outer hinge tubes. 3/4" bar reinforced full length of the hinge. 3/4" thick trunion arms. Outer trunion arms shall be bolted to hangerboard. Welded on is unacceptable. Shall include a Manifold bracket for the grease line kit, one installed each side of the hangerboard	_____
B. HINGE SHAFT: 2-1/2" OD X 96" long with (4) grease points and (3) hinge points. The two (2) outer hinges are 3-1/4" OD X 6" long with .344 wall thickness. Each outer hinge has (1) 1/2" wrap – around gusset, center hinge shall be 3 1/4" OD X 10 3/4" long with .344 wall and have (2) 1/2" thick wrap – around gussets, including thrust bearing wear plates to prevent side to side shifting of moldboard.	_____
C. MOLDBOARD: 1" thick X 20" high X 12' long moldboard. Integral pressed in lower offset. Rolled formed or fabricated moldboards will not be considered where the cutting edge bolts to the moldboard. 1/2" X 6" double beveled cutting edge with standard highway punched.	_____
D. SHOCKS & HOUSINGS: Cushioned by two (2) heavy duty spring housings. Two (2) 1/2" thick flange retaining plates held by (4) 5/8" bolts with prevailing lock nuts. Housings to be slotted to relieve contaminates. Grease-able trunion mount bushings are 2-3/4" OD with a .344" wall mechanical tube trunion mount pins are 2" solid rod, bolt in removable and replaceable design.	_____

ITEM	Component ✓ = meets spec. Describe variances.
E. ACTUATING CYLINDERS: Shall be 3-1/2" bore X 10" stroke with 2" socatri 1000 piston rods, with poly pac seals and cast steel heads, 1/2" hoses and stainless steel tubing (supported with poly clamps) to be externally mounted for easy access. Prince in-line relief valve shall be supplied.	_____
F. CIRCLE: Shall be 1" solid one piece with infinite plowing positions (no notches), minimum cut out for power reverse cylinder travel and full front circle ears as to have clamps in full contact of circle at 45 degree angle for maximum circle bearing surface. 5" ID X 6.5" OD X 1" hardened center pin bushing.	_____
G. CENTER PIN: Heavy Duty 5" diameter, hardened center pin, zinc coated. Grease-able with 3 port grease journal and 5/16" wide X 3/16" deep grease groove around pin. Center pin is piloted into the hangerboard.	_____
H. CLAMPS: 20.5 long X 7" deep X 1" thick. Shaped to follow the contour of the circle. 3/8" UHMW wear pads. Entire clamps must remain fully on the circle throughout the entire rotation of the scraper.	_____
I. REVERSE CYLINDERS AND HARDWARE: (2) 4" Dual – acting cylinders containing 1/2" #8 SAE ports, 2" socatri 1000 piston rods, poly pac seals, and cast steel heads. 3" OD – 2" ID anchor pivots, 2" hardened zinc coated with spiraled grease groove removable pivot pins (grease-able at each end). Prince Cross over relief valve set at 2000 PSI to protect reversing cylinders from shock impacts.	_____
J. MOUNTING PLATES: 3/4" thick full plate steel construction. With 7" X 7" cut out for ease of cleaning. Attached to the truck using 3/4" grade 8 bolts, SAE washers and prevailing lock nuts that are electronically plated for corrosion resistance.	_____
K. PAINT: Shot-blasted, washed and powder coat paint TGIC polyester black. All parts are powder coated prior to assembly of scraper. Outer 12" of moldboard ends painted high visibility yellow.	_____
L. SERRATED GRADE SAFETY STEP: Welded to outer end of the moldboard on driver's side.	_____
M. GREASE LINE KIT: Remote grease kit that allows grease to be applied at centralized locations outside of the chassis frame. Grease hoses shall be SAE 107 Hytron hose rated at 3000 psi. Grease line kit will incorporate all 15 grease points on the scraper	_____
Front Plow Hitch	
A. Hustings style heavy duty 34" wide Quick Hitch, roller plunger pins shall have grease zerks and secondary locking tabs. Lift arm shall include pivoting booster arm with (3) 1/2 grab hooks. Double acting cylinder 3" bore and 10" stroke - 2" socatri 1000 shaft, use Peterbilt construction bumper, upper and lower bracing, installed with grade 8 nuts and bolts, primed and painted urethane black.	_____
Plow Lights	
A. Nordic combination model N520 plow lights and turn signals, hood mounted, custom built aluminum brackets with in hood support plates, height to be determined at time of installation to include in-cab 6-way switch and wire harness.	_____
Lights and Light Enclosure	
A. Light strobe, Sound Off LED amber mini bar, installed at center, forward and above	_____

ITEM	Component ✓ = meets spec. Describe variances.
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the tarp system with lens guard, (2) corner mount single oval 304SS enclosures with (2) 60 series LED Strobes #EOVREBZA, (2) 304SS oval single enclosures with (2) 60 series LED Strobes #EOVREBZA, install on rear of Duz-Mor sander under air foil assemble.

B. 3- Hole 304SS enclosures, rear of the body, 60 series lights, LED strobe #EOVREBZA, LED stop/tail/turn #ECV062STT, LED back-up lights #M63324.

C. Federal 108 lighting will be LED.

D. Work lights (2) 4" LED 500 lumen minimum, 1 each side to shine on drag blade, (2) work lights LED 1400 lumen minimum 1 each side rear to shine on spinner discharge, (1) LED installed (forward of wing) to illuminate patrol wing, (2) work lights LED 1400, lumen install on rear of Duz-mor sander under air foil assemble. (1) LED 1400 lumen work light installed inside sander box to illuminate interior of sander box.

NOTES: Lights, switches and arrangement will be determined with the county prior to installation.

WIRING: All wiring from rear of cab to rear of Duz-Mor to be run in PVC pipes, then into an 18 pin Betts junction box. From the junction box, all wiring to be run through protective loom including all lights and back-up alarm.

Tarp System

A. RollRite, model 6416, shall be fully automatic, 4 spring system, wind deflector, tarp spool, aluminum tension and tarp bows with 30 degree elbows, in-cab switch, indicator light and circuit breaker, 18 ft. heavy duty mesh tarp, complete and installed.

Rear Pull Point

A. Must match current design being used on GTCRC fleet

NOTES:

1. **The Board of Road Commissioners of Grand Traverse County reserves the right to accept or reject any and all bids, to waive any irregularities in bids and to make the award of the bid in the best interest of the County. Special consideration will be given to a bidder based on past performance with regard to ability to stock and supply parts and components. The speed in which parts and components are received from suppliers, location of the facility of ship and deliver is very important.**
2. **Bid form must be used when submitting a bid and any specifications and / or exceptions must be fully explained. Please mark each item "yes" if it meets specifications or "no" if it does not and explain the deviation from the specification.**
3. **Bidders must provide four(4) reference organizations, contact name and phone numbers / email address, for which similar work has been completed:**

ITEM	Component ✓ = meets spec. Describe variances.
4. Successful bidder shall consult with Grand Traverse County Road prior to installation of all components for placement and order of operation.	
5. The successful body vendor shall provide hands-on training for the service personnel and operators of the Grand Traverse County Road Commission.	