

**10 FT. & 12 FT. SNOW PLOWS, MOLDBOARD TYPE,
FRONT MOUNT TRUCK**

SCOPE:

This specification describes a Truck Mounted Hydraulic Powered, Front Mounted, Reversible, Hydraulic Angling, moldboard type Snow Plow.

CONTRACT:

Proposals are herewith requested to establish an "Agency Specific Term Contract" for both 10 Ft. and 12 Ft. snow plows for the Dept. of Transportation, Division of Highways, Raleigh, NC. Contract period shall be from date of an award and continuing for a period of three (3) years subject to the continuation of the program and the availability of funds. Acceptance of any price increases shall be solely at the discretion of the State and shall be in accordance to the attached "Terms and Conditions" for Price Adjustments and/or cancellation procedure.

QUANTITY:

It is the intent that the State will make an initial purchase according to the number of units indicated for each item under "FURNISH & DELIVER" section of these requirements. Additional units with different features may be purchased during the contract period. For bidding purposes, those same quantities shown under "FURNISH & DELIVER" section are estimated quantities for each of the one-year extensions. It shall be understood and agreed that the State (agency) may purchase more or less than these estimated quantities during the contract period. No maximum or minimum quantities are guaranteed. The State will be responsible only for items received. The State shall not be obligated to purchase in excess of its normal requirements.

USER:

NC DOT, DIVISION OF HIGHWAYS, RALEIGH, NC 27606

TRANSPORTATION CHARGES:

All transportation charges will be prepaid and included in the price of the bid.
Unless otherwise specified, units are to be shipped as follows:

FOB: NCDOT
Equipment and Inventory Control Unit
4809 Beryl Road
Raleigh, NC 27606

The equipment delivery entrance is located in the 600 block of Blue Ridge Road, marked by a sign that reads: NCDOT New Equipment Delivery.

(Delivery Note: Deliveries are accepted at the Equipment and Inventory Control Unit between the hours of 7:30 a.m. and 2:00 p.m. on Monday through Friday except State approved holidays, ONLY.)

GENERAL REQUIREMENTS:

A. Units offered shall meet or exceed the specifications set forth herein. Any bidder who provides ratings or data on the model offered above the published rating for that model offered in order to meet specifications, will be disqualified.

B. Failure to furnish lists, documents and catalogs as required in this specification will constitute incomplete delivery, will delay payments, and may be cause for assessment of liquidated damages.

DEVIATIONS:

Any deviations from specifications and requirements herein must be clearly pointed out by bidder. Otherwise it will considered that equipment offered is in strict compliance with these specifications and requirements, and successful bidder will be held responsible therefor. Deviations must be explained in detail below or on an attached sheet. However, no implication is made by the State that deviations will be acceptable. Bidder is advised that the response (or lack thereof) on this question does not take precedence over specific responses or non-responses provided elsewhere in this bid.

BID DISQUALIFICATION:

This section is crucial in the bidding, bid evaluation, and award process. All bidders should read and understand the following:

(1) By taking deviations of any nature or magnitude to any requirement contained in this IFB, you are risking disqualification of your bid. This is due in part to legal considerations concerning contract award. Depending on circumstances, it may or may not be possible for the State to award to a bidder with deviations.

(2) If you cannot fully meet all requirements contained in this IFB, you are urged to call purchaser named above as soon as possible, but in all cases before bid opening date. This may allow the State to consider your deviation (s) and if feasible to release an IFB addendum modifying the requirements concerned.

REFERENCES:

The State reserves the right to require upon its request a list of users of the exact model of equipment bid. The State may contact these users to determine quality level of the offered equipment. Such information may be considered in the evaluation of the bid.

SERVICE AVAILABILITY:

Adequate and satisfactory availability of repair parts, supplies, and ability to meet warranty and service requirements is necessary. The State reserves the right to satisfy itself by inquiry or otherwise as to bidder's capabilities in this regard.

List below firm's nearest location of user from which service and parts for the offered equipment are available:

<u>FIRM</u>	<u>LOCATION</u>	<u>PHONE</u>
(1) _____	_____	_____
(2) _____	_____	_____
(3) _____	_____	_____

REPAIR PARTS DELIVERY:

Bidder shall maintain access to a complete inventory of repair parts for the offered equipment, located within the United States, for ten (10) years after the date of acceptance of the equipment. Critical repair parts from this inventory shall be received by the designated repair depot within five (5) working days after request. "Critical repair parts" are defined as those parts, which are essential for the safe and proper operation of the machine.

For critical repair parts, a penalty of \$7.29 per working day shall be levied against the bidder and deducted from parts invoice(s) for each working day that completed delivery is in excess of the five day limit, in cases where the parts order has been placed with the bidder. This penalty clause shall be in effect for three (3) years from date of acceptance of equipment offered on this bid.

If in any instance bidder is unable to perform in accordance with this paragraph, and such non-performance in the determination of the State is due to factors other than those under control of the bidder and/or manufacturer, the State may waive the repair parts penalty in that instance.

After the three-year period, bidder performance with respect to promptness of repair parts delivery will continue to be monitored by the State. Failure of bidder, to perform acceptably at any time after the three-year period, may result in the prohibition of bidder from bidding to the State.

DEMONSTRATION:

Prior to award, the State reserves the right to request a demonstration of the exact model offered herein. The demonstration would be for the purpose of observing the equipment in operation, which may answer concerns otherwise not addressed in the bid document or literature provided by the vendor. The demonstration would be performed at the manufacturer's plant, or another mutually acceptable site, by the bidder or an authorized representative, upon written request by the State, and free of any charge to the State. If requested, the bidder should be prepared to demonstrate the equipment within 30 days after written notification. Such demonstration does not constitute full and final approval of the equipment; all units will be inspected for compliance with the specification upon receipt at the destination required.

EVALUATION OF BIDS:

In addition to bid price, delivery, and specification compliance, consideration may be given to other factors such as, but not limited to, proven performance of equipment offered, adequate availability of service and parts, bidder's previous performance in contracts with the State and other users, and information obtained from references.

PAYMENT:

Payment terms to be net 30 days after receipt of invoice and acceptance of equipment.

All invoices for this contract should be mailed in duplicate to:

**NCDOT
Equipment and Inventory Control Unit
4809 Beryl Road
Raleigh, NC 27606**

STANDARD EQUIPMENT:

Any additional equipment or accessories listed in manufacturer's current literature, as standard but not listed in these specifications must also be furnished.

PILOT MODEL:

The successful bidder is required to furnish a pilot model of the completed 10 & 12 Ft. snow plow offered in this bid within 30 days after receipt of official purchase order. Pilot model should be shipped to equipment Depot in Raleigh for inspection and compliance with specification. If Pilot model does not meet specifications bidder is responsible for transportation charges of the pilot model back to the plant for any modifications required. Pilot model will be delivered within days after receipt of purchase order.

DELIVERY:

****READ SPECIAL NOTE****

Specific deliveries are requested and the State reserves the right to evaluate the delivery schedule offered as a factor in determining award of this contract. The State is requesting that the bidder complete delivery within 120 consecutive calendar days after receipt of purchase order, unless otherwise stated. The bidder proposes to complete delivery within consecutive calendar days after receipt of purchase order.

Successful bidder will be expected to adhere strictly to proposed delivery schedule.

The equipment delivery entrance is located in the 600 block of Blue Ridge Road, marked by a sign that reads: NCDOT New Equipment Delivery.

(Delivery Note: Deliveries are accepted at the Equipment and Inventory Control Unit between the hours of 7:30 a.m. and 2:00 p.m. on Monday through Friday except State approved holidays, ONLY.)

SPECIAL NOTE:

The State will not allow delivery of any equipment until the Electronic Manuals and the EPMQ Form with supporting documentation have been furnished, approved and accepted per the requirements of this bid. If delivery is delayed for failure to provide these associated materials, liquidated damages will be in effect.

SERVICE UPON DELIVERY:

Units shall be complete, serviced and ready for operation.

CATALOGS & MANUALS:

The successful bidder shall furnish the following to the NCDOT Production Control Manager of the Equipment & Inventory Control Unit:

A. One (1) operator's manual for the specific make & model of equipment shall be in each piece of equipment when delivered. ***Failure to furnish will delay payment.***

B. Two (2) electronic format copies of descriptive parts catalogs, operator's manual and shop/service manuals containing OEM Part Nos. covering all systems, components and accessories for the specific make & model of equipment bid. These are to be delivered to the NCDOT Production Control Manager at 4809 Beryl Road within ten (10) days after receipt of purchase order. ***DOT will not allow delivery of any equipment until the electronic manuals have been received, approved and accepted. DELIVERY AUTHORIZATION MUST BE RECEIVED FROM THE PRODUCTION CONTROL MANAGER BEFORE ANY EQUIPMENT IS DELIVERED.***

C. The parts catalog is to be populated with Technology and Maintenance Council (TMC) Vehicle Maintenance Reporting Standards (VMRS) Code Key 31, 32 and 33 (9 digit level, ex. xxx-xxx-xxx) in effect at time of order. Data may be populated on the parts page utilizing a text format or submitted by cross-reference of part number to the applicable VMRS code. One of the methods in the previous sentence is required. All parts shall reflect these codes with the following exceptions: (a) any consumables such as bolts, washers, fasteners, paint, adhesive and bulk material (hoses) that are readily bought over the counter, (b) "Tires, Tubes, Liners and Valves" and "Wheels, Rims" minimally shown at Code Key 31 and 32 (6 digit level, ex. xxx-xxx).

D. The successful bidder is responsible for providing parts catalog populated with the VMRS coding per the requirements of item C.

In lieu of vendor furnished coding, the State will populate the appropriate items with the VMRS coding as outlined in item C. If the State furnishes the coding the vendor will be assessed a total of \$1.00 per unique part number for the coding of data. This assessment will be deducted from the amount of the invoice at the time of payment.

Pricing for either option is to be included in your total bid price, do not list or price VMRS Coding as a separate line item.

Number of Items Coded with VMRS Coding: _____

Bidder to provide VMRS Coding: _____ **Yes/No**

Bidder accepts State provided VMRS Coding: _____ **Yes/No**

E. Two (2) electronic format copies of manufacturer’s production list of materials or bill of materials (line setting sheet) containing OEM Part Nos., parts codes, and variations unique to serial numbered equipment delivered, covering all systems, components and accessories ***shall be furnished prior to equipment delivery.***

F. One (1) electronic format of the list of consumable and preventative maintenance items (filters, hoses, belts, brake pads, etc.) for the exact model of equipment offered ***shall be furnished prior to equipment delivery.***

G. Two (2) electronic format copies of quarterly updates of parts catalog and shop manuals for the specific make and model of equipment delivered shall be furnished to the State at the same time such updates are furnished to the dealer.

Electronic Format: The successful vendor shall be responsible for providing the electronic media as described above in Adobe Portable Document Format or an electronic format pre approved by NCDOT.

H. In lieu of electronic format, the State will accept two original paper versions of items listed above. Paper version is to be presented in 8.5” by 11” portrait presentation. Items B and E will be converted for the State in electronic format and the vendor will be assessed a total of \$.28 per page for the conversion of data. Pages are defined as 8.5” by 11” sheet, one side. This assessment will be deducted from the amount of the invoice at the time of payment.

Parts catalogs, service manuals, operator’s manuals, or other material needed to satisfy these requirements are not to be bid as separate items. All materials shall be furnished as specified and applicable to the equipment bid, at no additional cost. The vendor specifically agrees that such material supplied under this section may be copied or reproduced in any manner for use by NCDOT.

NOTE: *Equipment shall not be delivered and payment will not be rendered by the State until such electronic manuals are determined by the State to be suitable for use in NCDOT's electronic infrastructure.* Expenses incurred by the State as a result of the vendor failing to provide quarterly updates under section G will be passed to the vendor.

LIQUIDATED DAMAGES:

Liquidated damages in the amount of \$7.29 per calendar day late per unit shall be assessed and deducted from invoice for failure to complete delivery by the guaranteed delivery date shown in "delivery" clause. Failure to provide associated materials (service parts manuals, etc.) as requested will result in 10% of the total value of the contract being withheld.

WARRANTY:

Bidder warrants that equipment furnished on this bid will be new and of good material and workmanship. Defective parts found to be free of negligence or accident will be replaced free of charge for 12 months from respective dates the machines are put in operations. Such replacement is to include all parts, labor, freight, and travel to site where equipment is down (statewide locations). In addition, any specific provisions in manufacturer's standard warranty that exceed the above requirement become part of the warranty on this contract.

COLOR:

Prior to the finish painting of equipment, bidder shall paint entire equipment with a rust preventive primer. Final coat of paint shall be flat black, unleaded.

EQUIPMENT PREVENTATIVE MAINTENANCE QUESTIONNAIRE (EPMQ):

A completed Equipment Preventative Maintenance Questionnaire (EPMQ) form with supporting documentation must be submitted by the successful bidder ***within ten (10) days after receipt of Purchase Order.*** A blank EPMQ form is included in this specification.

The EPMQ form consists of blanks in which servicing information is to be listed for the equipment furnished. This is a generic form and blanks that are not applicable are to be completed with N/A. The information supplied on the EPMQ form is entered in a DOT Division of Highways equipment database that is accessible by all of our shops.

Supporting documentation is required with submission of every form.

This supporting documentation can consist of a manual or any part of a manual that supports the service information provided on the EPMQ form. We will accept an owner's manual, operator's manual, parts manual, service manual, technical manual, bill of material, engineering technical document or copies of pages from any of these manuals that contain the required service information. DOT must be able to verify any copies of manuals or pages furnished came from the manufacturer's manual for the make and model of equipment being provided.

THE DOT WILL REFUSE DELIVERY OF EQUIPMENT UNTIL THE SUCCESSFUL BIDDER HAS PROVIDED A COMPLETE AND ACCURATE EPMQ FORM WITH SUPPORTING DOCUMENTATION TO THE PROCUREMENT SECTION OF THE EQUIPMENT & INVENTORY CONTROL UNIT. IF APPLICABLE, PAYMENT WILL BE WITHHELD AND LIQUIDATED

DAMAGES INCURRED FOR FAILURE TO PROVIDE A COMPLETED EPMQ FORM WITH SUPPORTING DOCUMENTATION.

Special Note:

Information provided on the EPMQ form must be correct or successful bidder will be assessed for expenses incurred as a result of incorrect information being provided.

SAMPLE MAINTENANCE ITEMS:

One complete set of any filters, including but not limited to oil, fuel, hydraulic or water, used on the offered unit to perform preventative maintenance, shall be delivered with the first unit. Failure to comply with this requirement will result in delay of payment.

Equipment Preventive Maintenance Questionnaire Form

Revised 05/05

The successful bidder or manufacturer's technical representative must complete and return this form within **10 days after receiving the Purchase Order** to the Equipment & Inventory Control Fleet Procurement Section.

Failure to furnish to the DOT Highway Equipment Engineer will delay payment.

Successful Bidder: _____
Purchase Order No. _____ Bid No. _____
Description _____ Quantity Purchased _____

Equipment Make _____ Equipment Model _____

Weight of equipment _____ Gross Vehicle Weight _____

Equipment Overall Height _____ Overall Width _____ Overall Length _____

Engine: Make _____ Model _____
Number of Cylinders _____ Engine Type (Circle One): Inline or V
Engine Horsepower _____ Engine Displacement: _____ Liters
Engine Oil Capacity _____ (Quarts) Oil Filter Make _____
Oil Filter Part No., Primary _____ Secondary _____

Recommended Engine Oil Type _____
Recommended Oil Weight, 1st Choice _____, 2nd Choice _____, 3rd Choice _____

Air Filter Make _____
Air Filter Part No.; Primary _____ Secondary _____

Fuel Type: Gas ____, Diesel ____, LPG ____, CNG ____, BIO ____ Fuel Tank Capacity: _____ (Gals.)
Fuel Filter Make _____
Fuel Filter Part No.; Primary: _____ Secondary: _____

Fuel/Water Separator Filter Part No. _____

Coolant

System: Antifreeze Type _____ (Extended, Long Life, Conventional, etc.)

Color _____ Mixture _____
Radiator Capacity _____ (Quarts)
Coolant Filter Make _____ Part _____

No. _____

Transmission: Make _____ Model _____ Automatic _____ Manual _____

Recommended Fluid/Lube Type: _____

Fluid/Lube Capacity: _____ (Quarts)
Recommended Additive _____ Part No.

Recommended Additive Mixture & Capacity _____
Transmission Filter Make _____ Part No

Clutch Make _____ Model _____ Size

Recommended Clutch Fluid Type _____

1st Rear

Differential: Make _____ Model _____
Axle Size _____ (LBS.)
Recommended Fluid/Lube Type _____
Fluid/Lube Capacity _____ (Quarts) Additive Capacity _____
Recommended Additive _____ Part No.

Recommended Additive Mixture & Capacity _____

2nd Rear

Differential: Make _____ Model _____
Axle Size _____ (LBS.)
Recommended Fluid/Lube Type _____
Fluid/Lube Capacity _____ (Quarts) Additive Capacity _____
Recommended Additive _____ Part No.

Recommended Additive Mixture & Capacity _____

Front

Differential: Make _____ Model _____
(4 X 4) Axle Size _____ (LBS.)
Recommended Fluid/Lube Type _____
Fluid/Lube Capacity _____ (Quarts)
Recommended Additive _____ Part No.

Recommended Additive Mixture & Capacity _____

Wheel Hubs: Recommended Fluid/Lube Type _____
Fluid/Lube Capacity _____ (Quarts)

Transfer Case: Make _____ Model

Recommended Fluid/Lube Type _____
Fluid/Lube Capacity _____ (Quarts)
Recommended Additive _____ Part No.

Recommended Additive Mixture & Capacity _____

Tandem: Recommended Fluid/Lube Type _____
(Grader) Fluid/Lube Capacity _____ (Quarts)

Planetary: Recommended Fluid/Lube Type _____
Fluid/Lube Capacity _____ (Quarts)
Recommended Additive _____ Part No.

Recommended Additive Mixture & Capacity _____

Gear Box: Make _____ Model _____
Recommended Fluid/Lube Type _____
Fluid/Lube Capacity _____ (Quarts)

Steering: Recommended Fluid/Lube Type _____
Fluid/Lube Capacity _____ (Quarts)

Hydraulic: Pump Make _____ Model _____
Part No _____ / _____
Motor Make _____ Model _____
Part No _____ / _____
Recommended Fluid/Lube Type _____
Fluid/Lube Capacity _____ (Quarts) Conductive or Non-Conductive Fluid
(Circle One)
Filter Make _____
Part No.; Suction _____, Pressure _____, Tank _____

Zerk Fittings: Recommended Lube _____ (NLGI # 2, MPEP-2, EP-2, etc.)

Wheel Bearing Lube: Recommended Lube _____

Miscellaneous: Recommended Brake Fluid Type _____
Brake Fluid Filter Make _____ Part No. _____

Alternator Make _____ Volt/Amp Rating _____
Alternator Part No _____
Starter Make _____ Model _____
Starter Part No _____
Cab Filter Make _____
Part No.; Primary _____ Secondary _____

Special Notes/Information:

Warranty Info: Vehicle/Equipment _____ Engine _____
_____ Extended Warranty _____ Drive Train Extended Warranty _____

Completed By _____ **Title** _____ **Date** _____

Telephone Number _____ **Fax Number** _____

**10 FT. & 12 FT. SNOW PLOWS, MODLBOARD TYPE,
FRONT MOUNT TRUCK**

GENERAL: This specification describes a truck mounted hydraulic powered, front mounted, reversible, hydraulic angling, moldboard type snow plow. Shall have all component s, hoses, cylinders and necessary hardware for a complete mounting to truck hydraulic system. The truck will be furnished with front crankshaft driven cast iron gear pump with a flow rate of 15 to 17 GPM at 1500 engine RPM with a 3000 psi maximum pressure rating. The cab valving consists of a three (3) way detent in snow plow raise and lower control spool, and a three (3) way detent in snow plow angle control spool. Shall be complete with moldboard, fully enclosed dual tripping device (ram type, trip springs on back of moldboard not acceptable), hitch, rubber belting attached to top of moldboard for snow deflector, reflective markings on street side and curbside ends of moldboard, guide markers and hydraulic cylinders including functional design which shall include snow plow hydraulic raise, lower, hold and angle features. All quick disconnect shall confirm to ISO 7241-1 Series "B" (3/8 inch for up and down and 1/2 inch for right and left).

SPECIAL BID REQUIREMENT: Successful bidder shall be certain that all hydraulic system components and cylinders function properly with hydraulic pump and hydraulic system on N. C. DOT trucks. Successful bidder shall assist in the proper mounting at each location of assignment and a complete set of mounting instructions (including drawings) shall be furnished with each unit. All components, hoses, cylinders and necessary hardware for each unit should be packed separately. (Necessary hardware and components for all units packed in one container is not acceptable).

MOLDBOARD: The moldboard assembly for both 10 foot and 12 foot plow, exclusive of a snow deflector, shall have a minimum vertical height of 36 inches. Shall have a minimum clearing path of 103 inches for the 10-foot plow and a minimum clearing path of 120 inches for the 12-foot plow when

both plows are in a 30-degree angle. Actual length of the moldboard for the 10-foot plow shall be 120 inches and for the 12-foot plow 144 inches. Moldboard shall be single piece minimum 3/16-inch high tensile steel-formed 15-inch radius. The cutting edge backup angle shall be 3x4x1/2" inch angle. There shall be minimum of two- (2) 1/4x1-1/2" horizontal ribs and a minimum of eight (8) 1/2-x 3" inch vertical ribs. Shall have a minimum 30-degree angle left and right. Caster wheel or wear shoes are not required. Curb bumpers or guards shall be provided on both ends of the moldboard. Shall have alternating red and white reflective marking (minimum 2 inches wide) on each end of the moldboard, beginning at the top of the cutting edge and continuing to the top of the moldboard.

SNOW DEFLECTOR: A rubber belting type snow deflector shall be provided for the full length of the top of the moldboard.

TRIPPING DEVICE: Shall have a fully enclosed dual trip spring assembly, lubricated type, which automatically return the slow to the normal plowing position.

CUTTING EDGE: Shall be 1/2 inch by 6 inch by 120 inch high-carbon steel for 10 foot plow and 1/2 inch by 6 inch by 144 inch high-carbon steel for 12 foot plow.

MOLDBOARD PUSH FRAME ASSEMBLY: The push frame shall attach to the moldboard in a manner to provide ample road clearance of the assembly and permit sufficient oscillation for the snow plow to follow road contour for even snow removal. Shall have semi-circle and bracing of sufficient strength and rigidity to assure structural integrity under severe use conditions. The "A" frame shall be of sufficient length to preclude moldboard, at full angle position, coming into contact with any part of the vehicle. The "A" Frame shall have a 21" inch center to center hook-up dimension to accept two (2) 1-1/4" pins

MOUNTING (HITCH): Mounting hitch shall be bumper to axle type with 3x10 inch double acting lift cylinder, with 21 inch center to center hook up. Shall be the "low mount" or "low profile" type 12 inch to 14 inch mounting height at hook-up point. Hitch shall come with all hardware, coupling required to mount the hitch.

LIFTING DEVICE: The lifting device shall lift and hold the snow plow in the fully raised position while vehicle is being driven over secondary roads at speeds of 40 mph.

ANGLING DEVICE: Both the 10-foot and the 12-foot plows shall be hydraulically angled minimums of 30 degrees both right and left of center.

SNOW PLOW MARKERS: Snow plows guide markers shall be provided (high visibility)

"QUESTIONNAIRE"

1. Manufacturer _____ Model _____ Weight _____ lbs.
for item 1 - 10 foot snow plow.
2. Manufacturer _____ Model _____ Weight _____ lbs.
for item 2 - 12 foot snow plow.
3. Reversible _____ Y/N
4. Length of cutting edge for (10 foot) at 0 degree angle _____
at 30 degree angle _____.
5. Length of cutting edge for (12 foot) at 0 degree angle _____
at 30 degree angle _____.
6. Clearing path for (10 foot) at 30 degree angle _____
7. Clearing path (12 foot) at 30 degree angle _____
8. Moldboard thickness for (10 foot) _____ for (12 foot) _____
9. Is moldboard single piece tinsel steel? _____ Y/N.
10. Height _____ Number of vertical ribs _____
11. Describe material and how constructed (vertical ribs) _____

12. Number of horizontal ribs _____
13. Describe material and how constructed (horizontal ribs) _____

14. Describe safety-tripping mechanism _____
15. Maximum plowing angle for both 10 and 12 foot plow _____
16. Clearing path @ maximum angle (for 10 foot) _____ for 12 foot _____
17. Describe snow deflector and how attached _____

18. Describe guide markers _____

19. Are curb bumpers (guards) provided? _____ Y/N.
Describe _____

20. Describe material and how push frame is constructed _____

21. Are drawings furnished? ___ Y/N. Low mount type? _____ Y/N.
22. Is frame to axle according to the acceptable design drawing furnished with the IFB? _____ Y/N.
23. Are plows hydraulically angled? _____ Y/N.
24. Describe angle-locking device.

25. Describe reflective markings _____

26. All components, hoses, and hardware for each unit packed separately ___ Y/N.
27. Height of Moldboard for Item 3 _____
28. Describe first Primer paint used _____

29. Describe final finish coat used _____

FURNISH AND DELIVER:

1. (44) each Moldboard type snow plow, 10 foot, with hydraulic lifting mechanism and hydraulic angling device. Complete for attachment to truck, in accordance with attached specifications. Assistance in mounting of a single unit on a user provided truck at the equipment Depot in Raleigh should be included.

MFR: _____ MODEL _____ UNIT EACH \$ _____

SUB TOTAL \$ _____

2. (23) each Moldboard type snow plow, 12 foot, with hydraulic lifting mechanism and hydraulic angling device. Complete for attachment to truck, in accordance with the attached specifications. Assistance in mounting of a single unit on a user provided truck at the equipment Depot in Raleigh should be included.

MFR: _____ MODEL _____ UNIT EACH \$ _____

SUB TOTAL \$ _____

3. (26) each Moldboard type snow plow, low profile, 12 foot, with hydraulic lifting mechanism and hydraulic angling device. Complete for attachment to truck, in accordance with the attached specifications. Assistance in mounting of a single unit on a user provided truck at the equipment Depot in Raleigh should be included.

MFR: _____ MODEL _____ UNIT EACH \$ _____

Low Profile _____ Y/N

SUB TOTAL \$ _____

Height of Plow: _____

Total (items 1, 2, 3) \$ _____

SPECIAL NOTE ON AWARD:

THE STATE RESERVES THE RIGHT TO SPLIT AWARD OF THE ABOVE BIDS IN THE MANNER MOST ADVANTAGEOUS MANNER TO THE STATE: THEY MAY BE AWARDED BY ITEM NUMBER, ANY COMBINATION OF ITEMS TO A SINGLE BIDDER.

PURCHASE OF ADDITIONAL UNITS SHALL NOT AFFECT DELIVERIES AS SPECIFIED ON THE ORIGINAL ORDER.

MATERIAL SPREADERS BODIES 5 & 10 CUBIC YARD

V-BOX TYPE

SCOPE:

This specification is for the purchase of a hydraulic powered all-purpose chain conveyor V box, type 5 & 10 cubic yard hopper body spreader. Spreaders will be used for the distribution of salt, Chlorides and other mixtures. The units offered shall be new, unused and a current model under standard production by the manufacturer. Bidders are requested to submit two copies of current detailed descriptive manufacturer's literature that show the model bid, In addition, any other pertinent data as required by Par.9 of the attached "Instructions to Bidders"

CONTRACT:

Proposals are herewith requested to establish an "Agency Specific Term Contract" for V box type 5 & 10 cubic yard hopper body spreaders for the Dept. of Transportation, Division of Highways, Raleigh, NC. Contract period shall be from date of an award and continuing for a period of three (3) years subject to the continuation of the program and the availability of funds. Acceptance of any price increases shall be solely at the discretion of the State and shall be in accordance to the attached "Terms and Conditions" for Price Adjustments and/or cancellation procedure.

SPECIAL NOTE:

This bid is to establish a contract with the contract period beginning upon Date of Award. NO Purchase Order will be issued at time of award; however a Purchase Order may be issued later in the contract period. No minimum or maximum number of units to be purchased is guaranteed.

QUANTITY:

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NC DOT, DIVISION OF HIGHWAYS, RALEIGH, NC 27606

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The State reserves the right to require upon its request a list of users of models similar to the units offered in the bid. The State may contact these users to determine quality level of the offered equipment. Such information may be considered in the evaluation of the bid.

SERVICE AVAILABILITY:

Adequate and satisfactory availability of repair parts, supplies, and ability to meet warranty and service requirements are necessary. The State reserves the right to satisfy itself by inquiry or otherwise as to bidder's capabilities in this regard.

List below firm's nearest location of user from which service and parts for the offered equipment are available:

<u>FIRM</u>	<u>ADDRESS</u>	<u>PHONE</u>
(1)	_____	_____
(2)	_____	_____
(3)	_____	_____

REPAIR PARTS DELIVERY:

Bidder shall maintain access to a complete inventory of repair parts for the offered equipment, located within the United States, for ten (10) years after the date of acceptance of the equipment. Critical repair parts from this inventory shall be received by the designated repair depot within five (5) working days after request. "Critical repair parts" are defined as those parts, which are essential for the safe and proper operation of the machine.

For critical repair parts, a penalty of \$6.13 per working day shall be levied against the bidder and deducted from parts invoice(s) for each working day that completed delivery is in excess of the five day limit. This penalty will only apply in cases where the parts order has been placed with the bidder. This penalty clause shall be in effect for three (3) years from date of acceptance of equipment offered on this bid.

The State may waive the above repair parts penalty in any instance where such non-performance, in the determination of the State, is due to factors other than those under control of the bidder and/or manufacturer.

After the three-year period, bidder performance with respect to promptness of repair parts delivery will continue to be monitored by the State. Failure of bidder, to perform acceptably at any time after the three-year period, may result in the prohibition of bidder from bidding to the State.

DEMONSTRATION:

Prior to award and upon written request, the State reserves the right to request a demonstration of the exact model offered herein. The demonstration would be for the purpose of observing the equipment in operation, which may answer concerns not otherwise addressed in the bid document or literature provided by the vendor. If requested, the bidder should be prepared to demonstrate the equipment within 30 days after receiving written notification from the State. The demonstration would be free of any charge to the State at a site selected by NC DOT. Such demonstration does not constitute full and final approval of the equipment. All units will be inspected for compliance with the specification upon receipt at the destination required.

EVALUATION OF BIDS:

In addition to bid price, delivery, and specification compliance, consideration may be given to other factors in the evaluation process. These factors include but are not limited to, proven performance of equipment offered, adequate availability of service and parts, bidder's previous performance in contracts with the State and other users, and information obtained from references.

AWARD OF CONTRACT:

It is the general intent to award this contract to a single overall bidder on all items. The State reserves the rights to make awards on the basis of individual items or groups of items, if such shall be considered by the State to be most advantageous and/or to constitute its best interest.

PAYMENT AND INVOICING:

Payment terms to be net 30 days after receipt of invoice and acceptance of equipment. **All invoices for this contract should be mailed in duplicate to:**

NCDOT
Fleet and Material Management Unit
4809 Beryl Road
Raleigh, NC 27606

PRE-CONSTRUCTION MEETING:

The state reserves the right to require a pre-construction meeting to be held in Raleigh, NC prior to fabrication of the equipment. A representative of the successful bidder, who has technical expertise and the authority to make decisions regarding mechanical aspects of the machine, shall be present at the meeting. The meeting is to be scheduled by agreement between the successful bidder and DOT.

STANDARD EQUIPMENT:

Any additional equipment or accessories listed in manufacturer's current literature, as standard but not listed in these specifications must also be furnished.

PILOT MODEL:

The State reserves the right to require that a pilot model be made available inspected and approved before any units are shipped. Inspection for compliance with specifications shall be at contractor's plant or another site acceptable to the State and final inspection and acceptance of all other units will be made at the N.C, Division of Highways Equipment Depot, Raleigh, NC. If required, the pilot model inspection date will be set when a purchase order is issued.

DELIVERY:

****READ SPECIAL NOTE****

The State requests that the bidder complete delivery within 90 consecutive calendar days after the receipt of a purchase order. The State reserves the right to evaluate the delivery schedule offered as a factor in determining award of this contract. The delivery schedule will be finalized with the successful bidder when a purchase order is issued. Bidders are requested to submit with their bid a proposed delivery schedule showing when the first unit will be delivered after receipt of purchase order and at what rate the remaining units will be delivered until order is complete. **The successful bidder will be expected to adhere strictly to the delivery schedule finalized in accordance with DOT guidelines after a purchase order is issued**

Proposed delivery schedule:

The equipment delivery entrance is located in the 600 block of Blue Ridge Road, marked by a sign that reads: NCDOT New Equipment Delivery.

(Delivery Note: Deliveries are accepted at the Equipment and Inventory Control Unit between the hours of 7:30 a.m. and 2:00 p.m. on Monday through Friday except State approved holidays, ONLY.)

SPECIAL NOTE:

The State will not allow delivery of any equipment until the Electronic Manuals and the EPMQ Form with supporting documentation have been furnished, approved and accepted per the requirements of this bid. If delivery is delayed for failure to provide these associated materials, liquidated damages will be in effect.

SERVICE UPON DELIVERY:

Units shall be complete, serviced and ready for operation, including a N.C. Safety Inspection or a Federal Inspection if required. The Division of Highways will only accept and approve for payment units that are complete in every respect and ready for operation.

CATALOGS & MANUALS:

The successful bidder shall furnish as part of the contract the following to the NCDOT Production Control Manager of the Equipment & Inventory Control Unit:

A. One (1) operator's manual for the specific make & model of equipment shall be in each piece of equipment when delivered. ***Failure to furnish will delay payment.***

B. Two (2) electronic format copies of descriptive parts catalogs, operator's manual and shop/service manuals containing OEM Part Nos. covering all systems, components and accessories for the specific make & model of equipment purchased. These are to be delivered to the NCDOT Production Control Manager at 4809 Beryl Road within ten (10) days after receipt of purchase order.

DOT reserves the right to refuse delivery of any equipment until the electronic or paper manuals have been received, approved and accepted. Payment will not be rendered by DOT until manuals are received and determined to be suitable for use in NCDOT's electronic infrastructure.

DELIVERY AUTHORIZATION MUST BE RECEIVED FROM THE PRODUCTION CONTROL MANAGER BEFORE ANY EQUIPMENT IS DELIVERED.

C. Two (2) electronic format copies of updates to the parts catalog and shop manuals for the specific make and model of equipment delivered shall be furnished to the State at the same time such updates are furnished to a dealer. Expenses incurred by the State as a result of the vendor failing to provide updates under section C will be passed to the vendor.

Electronic Format: The successful vendor shall be responsible for providing the electronic media as described above in Adobe Portable Document Format or an electronic format pre approved by NCDOT.

D. In lieu of electronic format, the State will accept two (2) original paper versions of items listed above. Paper version is to be presented in 8.5" by 11" portrait presentation.

NOTE: Parts catalogs, service manuals, operator's manuals, or other material needed to satisfy these requirements are not to be bid as separate items. All materials shall be furnished as specified and applicable to the equipment bid, at no additional cost. The vendor specifically agrees that such material supplied under this section may be copied or reproduced in any manner for use by NCDOT

LIQUIDATED DAMAGES:

Liquidated damages shall be assessed and deducted from invoice for failure to complete delivery per the **delivery schedule set in accordance with DOT guidelines when a purchase order is issued.** These damages will be calculated at \$6.13 per day, per unit, for any units delivered past the guaranteed delivery date. Failure to provide associated materials (service & parts manuals, etc.) as requested will result in delay of payment.

WARRANTY:

Bidder warrants that equipment furnished on this bid will be new and of good material and workmanship. Defective parts found to be free of negligence or accident will be replaced free of charge for twelve (12) months from respective dates the machines are put in operations. Such replacement is to include all parts, labor, freight, and travel to site where equipment is down (statewide locations). In addition, any specific provisions in the manufacturer's standard warranty that exceed the above requirements shall become part of the warranty on this contract.

The manufacturer(s) shall list the State of North Carolina as an authorized service account and warranty work may be performed by state employees when it is in the best interest of the State and with prior approval of the warrantor. Such work will be reimbursed at the then current labor rate and for the standard time allowed for the repair.

TRAINING:

Training is required and the successful bidder shall furnish a qualified representative to instruct the owner's operators in proper operation, maintenance and service of the equipment for a minimum period of eight (8) hours in (14) locations, statewide. For "Agency Specific Term Contracts" the State reserves the right to require training for any additional units purchased during the contract period. The number of training locations may increase or decrease with each purchase order based on the quantity of items purchased. After a period of six (6) months a trouble shooting and repair training session shall be held by a repair technician instructing owner's mechanic in the repair techniques at a location appropriate for DOT needs each for up to 8 hours as deemed appropriate. All training sessions shall be coordinated with and at the convenience of DOT through the office of the Equipment Plant and Maintenance Manager, (919) 733-2220.

COLOR:

Units supplied under this specification shall be painted with a lead free, "North Carolina Department of Transportation Safety Yellow" which shall be visually inspected for suitable match in the following manner; Prior to the finish painting of equipment, the successful bidder will be provided a paint chip by the North Carolina Department of Transportation which has been prepared utilizing a minimum of one (1) mil thickness of lead-free gray primer and a minimum of two (2) mil thickness of lead-free Dupont Centari # 54701A, ALT 2. The successful bidder shall be required to return the DOT paint chip and furnish two (2) 3 1/2" x 8" painted panels representing the finished color for approval. If approved, one panel will be returned to contractor and the other will be retained by State for color comparison. Color of equipment must then match the color-approved panel. The vendor must furnish a copy of the current MSDS sheet for the paint used which indicates that the paint is lead free with the submitted color chips.

Paint which has met the North Carolina Department of Transportation color specification includes but is not limited to: Dupont Centari # 54701A, ALT 2.

Wheel discs, stainless steel, polished aluminum and molded plastic parts are exempt from this requirement and are acceptable in the manufacture's standard color.

INSTRUCTIONS FOR TITLE INFORMATION (WHEN APPLICABLE):

THE PREPARATION OF MCO (MANUFACTURER'S CERTIFICATE OF ORIGIN) AND MVR-1 (MOTOR VEHICLES TITLE APPLICATION) ARE TO BE AS FOLLOWS:

MCO: In the space indicating ***Name of Purchaser(s)***, without abbreviations or exceptions, shall always read as follows:

NC Department of Transportation

Division of Highways

4809 Beryl Road

Raleigh, NC 27606

The name of the selling Dealer must match on the front and the back of the MCO. Also the GVWR and the Shipping Weight must be filled in on the MCO.

THE MCO MUST BE NOTARIZED. IF ANY OF THE ABOVE REQUIREMENTS FOR THE MCO ARE NOT MET, THE MCO WILL BE REJECTED.

MVR-1: The seller is required to fill in only the **Vehicle Section** of this form. NCDOT will fill in the remainder of this form.

This form can be found at no charge online at www.ncdot.org/dmv/forms/

EQUIPMENT PREVENTATIVE MAINTENANCE QUESTIONNAIRE (EPMQ) Form:

A completed Equipment Preventative Maintenance Questionnaire (EPMQ) form with supporting documentation must be submitted by the successful bidder ***within ten (10) days after receipt of Purchase Order***. A blank EPMQ form is included in this specification. The EPMQ form consists of blanks in which servicing information is to be listed for the equipment furnished. This is a generic form and blanks that are not applicable are to be completed with N/A. The information supplied on the EPMQ form is entered in a DOT Division of Highways equipment database that is accessible by all of our shops.

Supporting documentation is required with submission of every form.

This supporting documentation can consist of a manual or any part of a manual that supports the service information provided on the EPMQ form. We will accept an owner's manual, operator's manual, parts manual, service manual, technical manual, bill of material, engineering technical document or copies of pages from any of these manuals that contain the required service information. DOT must be able to verify any copies of manuals or pages furnished came from the manufacture's manual for the make and model of equipment being provided.

THE DOT WILL REFUSE DELIVERY OF EQUIPMENT UNTIL THE SUCCESSFUL BIDDER HAS PROVIDED A COMPLETE AND ACCURATE EPMQ FORM WITH SUPPORTING DOCUMENTATION TO THE PROCUREMENT SECTION OF THE EQUIPMENT & INVENTORY CONTROL UNIT. IF APPLICABLE, PAYMENT WILL BE WITHHELD AND LIQUIDATED DAMAGES INCURRED FOR FAILURE TO PROVIDE A COMPLETED EPMQ FORM WITH SUPPORTING DOCUMENTATION.

Special Note:

Information provided on the EPMQ form must be correct or successful bidder will be assessed for expenses incurred as a result of incorrect information being provided.

SAMPLE MAINTENANCE ITEMS:

One complete set of any filters, including but not limited to oil, fuel, hydraulic or water, used on the offered unit to perform preventative maintenance, shall be delivered with the first unit. Failure to comply with this requirement will result in delay of payment.

Equipment Preventive Maintenance Questionnaire Form (EPMQ)

Revised 09/10

The successful bidder must complete and return this form within **10 days after receipt of purchase order** to the DOT Fleet Procurement Section. DOT will refuse delivery of any equipment until this form has been provided complete and accurate. This is a generic form therefore fill in only the items that apply to your product.

Please indicate OEM recommended parts and fluids when completing this form.

Successful Bidder: _____ Purchase Order No. _____
Description _____ Quantity Purchased _____
Equipment Make _____ Equipment Model _____

Engine: Make _____ Model _____
No. of Cylinders _____ Horsepower _____ Displacement: _____ Liters
Engine Oil Capacity _____ (Qts.) Oil Filter Make _____
Oil Filter Part No. Primary _____ Secondary _____
Engine Oil Type _____ Oil Weight, 1st Choice _____
2nd Choice _____ 3rd Choice _____
Air Filter Make _____ Part No. Primary _____ Secondary _____

Fuel Type: Gas _____ Diesel _____ LPG _____ CNG _____ BIO Diesel _____
Fuel Tank Capacity: _____ (Gals.) Fuel Filter Make _____
Fuel Filter Part No. Primary _____ Secondary: _____
Fuel/Water Separator Filter Part No. _____
Diesel Exhaust Fluid Capacity _____ (Gals.)

Coolant System: Antifreeze Type _____ (Extended, Long Life, Conventional, etc.)
Color _____ Mixture _____ Radiator Capacity _____ (Qts.)
Coolant Filter Make _____ Part No. _____

Transmission: Make _____ Model _____ Automatic _____ Manual _____
Fluid/Lube Type: _____ Fluid/Lube Capacity: _____ (Qts.)
Additive _____ Part No. _____
Additive Mixture _____ Capacity _____
Transmission Filter Make _____ Part No _____
Clutch Fluid Type _____

1st Rear Differential: Make _____ Model _____
Axle Size _____ (LBS.) Fluid/Lube Type _____
Fluid/Lube Capacity _____ (Qts.)

2nd Rear Differential: Make _____ Model _____
Axle Size _____ (Lbs.) Fluid/Lube Type _____
Fluid/Lube Capacity _____ (Qts.)

Front Differential: Make _____ Model _____
Axle Size _____ (Lbs.) Fluid/Lube Type _____

Fluid/Lube Capacity _____ (Qts.)

Wheel Hubs: Fluid/Lube Type _____ Fluid/Lube Capacity _____ (Qts.)

Transfer Case: Make _____ Model _____

Fluid/Lube Type _____ Fluid/Lube Capacity _____ (Qts.)

Additive _____ Part No. _____

Additive Mixture _____ Capacity _____

Tandem: Fluid/Lube Type _____ (Grader) Fluid/Lube Capacity _____ (Qts.)

Planetary: Fluid/Lube Type _____ Fluid/Lube Capacity _____ (Qts.)

Additive _____ Part No. _____

Recommended Additive Mixture _____ Capacity _____

Gear Box: Make _____ Model _____

Fluid/Lube Type _____ Fluid/Lube Capacity _____ (Qts.)

Steering: Fluid/Lube Type _____ Fluid/Lube Capacity _____ (Qts.)

Hydraulic: Pump Make _____ Model _____

Part No _____ / _____

Motor Make _____ Model _____

Part No _____ / _____

Fluid/Lube Type _____ Fluid/Lube Capacity _____ (Qts.)

Hydraulic Fluid Type: *Conductive* _____ *Non-Conductive* _____

Hydraulic Filter Make _____ Part No. for Suction _____

Part No. for Pressure _____ Part No. for Tank _____

Zerk Fittings: Lube _____ (NLGI # 2, MPEP-2, EP-2, etc.)

Wheel Bearing Lube: Lube _____

Miscellaneous: Brake Fluid Filter Make _____

Brake Fluid Filter Part No. _____

Brake Fluid Type _____

Cab Filter Make _____

Part No. Cab Primary Filter _____

Part No. Cab Secondary Filter _____

List any required fluids, lubes, additives etc., that do not appear in the information above:

Completed By _____ Title _____

Telephone Number _____ Email _____

Fax Number _____ Date _____

FURNISH AND DELIVER:

Item	Qty.	Description/Configuration	Unit Price	Extended Price
Item 1	94	5 cubic yard material spreader		
Item 2	110	10 cubic yard material spreader.		

Total bid, item 1 and item 2 _____

Bidder is requested to give a unit price for the followings:

1- ~~(80) Gallons sprayer (for 5 CY. spreader)~~ as per specs in item X for the Electric Spray System.

Unit price \$ _____

2- (130) Gallons sprayer (for 10 CY. spreader) as per specs in item X for the Electric Spray System..

Unit price \$ _____

3- ~~Leg stands (for 5 CY. spreader)~~ as per specs in item XI

Unit price \$ _____

4- Leg stands (for 10 CY. spreader) as per specs in item XI

Unit price \$ _____

SPECIAL NOTE:

This bid is to establish a contract with the contract period beginning upon Date of Award. NO Purchase Order will be issued at time of award; however a Purchase Order may be issued later in the contract period. No minimum or maximum number of units to be purchased is guaranteed.

SPECIFICATION FOR 5 & 10 CUBIC YARD MATERIAL SPREADERS BODIES

GENERAL:

This specification describes a truck engine driven, hydraulic pump powered, chain conveyor type, 5 and 10 cubic yard (nominal) hopper in body V-box.

It will be used for the distribution of salt, sand, chlorides and other mixtures.

Bidders are requested to submit **two copies** of current detailed descriptive manufacturer's literature that show the model bid. In addition, any other pertinent data as required by Par. 9 of the attached "Instructions to Bidders."

I- Material spreader body 5 cubic yard:

Requested:

Offered:

a. Make: _____

b. Model: _____

c. Year Model: _____

d. Overall length approximately 10 Ft. 40 inches Overall length: _____

e. Hopper length at the top 9 Ft. Hopper length @ the top _____

f. Height to top of hopper approximately 52 inches Height to top of hopper _____

g. Overall width not to exceed 81 inches at the top. Overall width at the top. _____

h. Capacity in yards _____ yards

Struck _____ C.Y. Heaped _____ C.Y.

i. Weight of complete unit _____ Lbs.

j. Complete hydraulic connection kit with all the necessary components must be provided. Kit should include quick couplers, 2 hoses with 6 Ft. length, 2 hoses with 5 Ft. length, tee connection with reducer, rubber caps and any other needed components.

Yes No

II- Material spreader body 10 cubic yard:

Requested:

Offered:

- a. Make: _____
- b. Model: _____
- c. Year Model: _____
- d. Overall length approximately 15 Ft. Overall length: _____
- e. Hopper length at the top 13 Ft. Hopper length @ the top _____
- f. Height to top of hopper approximately 60 inches Height to top of hopper _____
- g. Overall width not to exceed 81 inches at the top. Overall width _____
- h. Capacity in yards _____ yards
Struck _____ C.Y Heaped _____ C.Y
- i. Weight of complete unit _____ Lbs.
- j. Complete hydraulic connection kit with all the necessary components must be provided. Kit should include quick couplers, 2 hoses with 6 Ft. length, 2 hoses with 5 Ft. length, tee connection with reducer, rubber caps and any other needed components. Yes No

III. Hopper Body

- a. Must be full welded construction of 10 gauge high grade steel with double crimped top edge forming a 2 inch section for better rigidity. Yes No
- b. Body sides and ends shall be 10 gauge steel and must have minimum 40 degree pitch to ensure free flow of material to the conveyor. Yes No
- c. A maximum width for the top of the slop shall not exceed 81 inches bed opening for both 5 & 10 cu. Yes No
- d. ~~The hopper must have a slopped front with a top hopper length of 108 inch to 120 inch for the 5 cu.~~ Yes No

- e. The hopper must have a slopped front with a top hopper length of 156 inch for the 10 cu. Yes No
- f. Hopper body must clear the dump body hydraulic cylinder hoist housing (doghouse) with a minimum of 2 inch when properly mounted. Yes No
- g. There shall be 10 gauge formed side supports that extend the full angle height spaced on 2 ft-centers. Yes No
- h. The body longitudinal must be manufactured of 7 gauge steel, and electrically welded into a solid unit with continuous welds between the outside joint to prevent a pocket of rust. Yes No
- i. Bottom support channels must be a minimum 3 inch structural steel to provide a rigid base for the longitudinal supports and side support. Yes No
- j. The cross supports provide spreader to truck bed support. Yes No
- k. A 6 inch X 4 inch X 3/8 inch wall rectangular tube must be elevated 6 inch above the top edge of the hopper providing a longitudinal brace and hinge point for the top screens This tube shall be mounted outside of spreader thereby countering the forces exerted by the material. Yes No
- l. There shall be 2 inch X 2 inch angle iron welded from side to side for additional side support. Yes No
- m. The top of the body must have enough strength and rigidity for the top screens. Yes No
- n. Unit must have 4 heavy welded steel lifting eyes with an inside diameter of 2 2/3 inch. One is located at each corners of the hopper. Yes No
- o. Shall be "slip in" truck body mounting. Yes No

IV. Conveyor Assembly:

- a. Material shall be conveyed from hopper to rear mounted spinner by means of a minimum 18 inch wide bar flight conveyor. Yes No
- b. Flights shall be on a maximum of 4 1/2 inch centers and with minimum 1/4 inch X 1 1/2 inch in cross section, with rollers and tensile rating of 20,000 as minimum. Yes No

- c.** Chain must be of riveted type construction with stainless steel cotter pin disconnects. Yes No
- d.** Self-cleaning Pintle type conveyor chain with minimum tensile rating of 20,000 pound per strand. Yes No
- e.** To protect the chain link strands, the top edge of the longitudinal must be formed down over the strands exposing only the drag chain bar to the material. Yes No
- f.** The side plates for conveyor chain adjustment and conveyor chain wear plate must be a minimum of 1/4 inch abrasion resistant steel. Yes No
- g.** Conveyor idler sprockets shall be adjustable for chain tension and shall have a minimum of 3 inch adjustment on each side. adjustment shall be by a spring cushioned 3/4 inch stainless steel threaded member that slides on stainless steel bearing adjusters. Yes No
- h.** Conveyor must discharge materials into a spinner disc through a calibrated quality designed enclosed chute opening which is equipped with an easy adjustable fee gate that is controlled with a screw type self locking gate jack with a non-corrosive non-lube universal joint. Yes No
- i.** Conveyor and spinner shall be hydraulic powered from the truck hydraulic pump. The gear box shall be sealed type with all gears and bearings running in an oil bath and 50:1 ration. Yes No
- j.** Conveyor drive shaft shall be a minimum of 2 inch diameter, bearing mounted with grease fittings. Yes No
- k.** Sprockets shall be cast steel and keyed or splined to the shaft. Yes No
- l.** Conveyor drive must have sufficient power to start conveyor without any damages to any component under adverse fully loaded conditions. Yes No
- m.** Hopper body shall have a hinged rear dump gate to accommodate fast unloading of the unused material without use of spinner/discharge chute. Yes No
- n.** The fast unload feature shall be accomplished without removal of spinner/discharge chute. Yes No

- o.** Fast unload, also could be accomplished by an oversized feedgate door and fast conveyor speed unload without using spinner/discharge chute. Yes No

V. Spinner Drive & Deflector Assembly:

- a.** Material spreader disc (spinner) must be polyurethane construction, with minimum 18 inches in diameter, minimum of six (6) molded into disc vanes in counter clockwise rotation Yes No
- b.** Four (4) chute mounted deflectors shall be provided to regulate the pattern of spread from 8 Ft. through 40 Ft. Yes No
- c.** Deflectors and distributor disc shall be adjustable vertically for various body heights. Yes No
- d.** The distributor disc shall be hydraulically powered, preferably by direct connections to a hydraulic motor underneath the spinner. Yes No

VI. Conveyor Bridge:

- a.** An adjustable in height inverted "V" shield with minimum 10 gauge steel must be provided to relieve the load on the conveyor chain. Yes No
- b.** The Inverted "V" leg must not rest on spreader body creating a rust pocket. Unless it has a rubber mounting pads as a barrier between the two. Yes No

VII. Top Screen:

- a.** A sectional to grids shall be provided, fully supported on four (4) sides and hinged with a minimum of two (2) hinges on the fourth side. Yes No
- b.** Grid openings must be formed by 3/8 inch round iron on approximately 2 1/2 inch centers. Yes No
- c.** Top screens shall be designed that no unnecessary gaps are created between the sections. Each section must be as close to other as possible. Yes No
- d.** A minimum of six (6) sections must be provided by hopper

to reduce the weight of each top screen.

Yes No

e. Screen sizes shall not exceed 4 X 4 foot section.

Yes No

f. The tope screen shall be hot dipped galvanized or powder coated for corrosion protection.

Yes No

VIII. Spreader Hold Down Equipment for Dump Body Mounting:

a. Securing spreader to top edge of dump body must be done without drilling or welding to dump body.

Yes No

b. Unit must have four (4) heavy welded steel lifting eyes with an inside diameter of 2 2/3 inch, one at each corner of the hopper. Shall be for "Slip in" truck boy mounting.

Yes No

c. Must have four (4) load binder type, adjustable hold down devices, two (2) for each side.

Yes No

d. Hold down shall have a 15 inch minimum adjustment.

Yes No

IX. Powder Coating or Wet Coating for the Entire Body:

Both processes are acceptable. Please indicate which process is used _____

1- Powder Coating Process:

a. All metal shall have the mill scale removed by means of shot blasting.

Yes No

b. Unit must go through a series of high-pressure chemicals wash and rinse stages.

Yes No

c. Unit must have a powder resin applied to all metals surfaces.

Yes No

d. The steel shall be heated to a minimum of 375 degrees for a minimum of ten (10) minutes.

Yes No

2- Wet Coating Process:

a. Unit must be chemically cleaned with a bath of phosphate solution.

Yes No

b. Unit must be primed with zinc chromate primer prior to finish paint.

Yes No

X. Requirements for Electric Spray System:

Both processes are acceptable. Please indicate which process is used _____

1- General:

This system shall provide for an electric spray system, designed to spray a constant deicing solution on material being spread. The system will be complete with a liquid spray pump, in cab controls, two (2) nozzles hose kit, spray tank's and necessary hoses and fittings to make the system complete. The spray system shall be capable of spraying calcium and magnesium chloride, glycol, liquid urea, or other liquid deicing solutions. The system should be mounted to the spreader box as a complete unit.

All components shall be rated at 150 PSI working pressure. A complete operating/instruction manual shall be provided.

2- Drive System:

- a. The electric motor/pump combination shall be a 12-volts DC., three chamber diaphragm pump with internal circuit breaker. Yes No
- b. The pump must be polypropylene with seal consist of vitron/santoprene combination. Yes No
- c. The pump must be have rate at 2.8 GPM. Yes No
- d. Output of the pump must remain constant regardless of conveyor/spinner speed. Yes No

3- Controls:

- a. The sprayer control console shall include a spray system on/off switch, power on indicator light (green), variable pump flow control knob, low pressure light (red), illuminated console light, and alarm for empty tank/inadequate nozzle indication. Yes No
- b. One piece harness with sealed "weather-pack" connectors and disconnect must be included with the system. Yes No

4- Sprayer Reservoir for the Five (5) Cubic Yard Spreader:

- a. ~~There must be two (2) 80 gallons each (minimum capacity), polythylene rotation molded reservoir baffled to reduce surging. Must have a replaceable screen line strainer, shut off valves and mounting hardware.~~ Yes No
- b. ~~Both reservoirs must be formed to allow for mounting to each side of the spreader without interference with dump body~~ Yes No
- c. ~~Maximum overall installed width of tanks 80 inches.~~ Yes No

5- Sprayer Reservoir for the Ten (10) Cubic Yard Spreader:

- a. There must be two (2) 130 gallons each (minimum capacity), polythylene rotation molded reservoir baffled to reduce surging. Must have a replaceable screen line strainer, shut off valves and mounting hardware. Yes No
- b. Both reservoirs must be formed to allow for mounting to each side of the spreader without interference with dump body Yes No
- c. Maximum overall installed width of tanks 80 inches. Yes No

6- Nozzles:

- a. Minimum of two (2) brass spray nozzles equipped with flexible neoprene nozzles that vary in orifice sized based on the liquid flow and mounting hardware. Yes No

XI. Leg Stands: (If required under furnish and deliver)

- a. The spreader must come equipped with a storage stand system designed to be bolted or welded directly to the spreader. Yes No
- b. The skid type arrangement must be constructed entirely of structural tubing. Yes No
- c. The main frame on which the hopper will mount must be constructed for minimum of 4inch X3 inch X 1/4 inch tubing. Yes No

- d.** Must have a sufficient lateral bracing constructed of 3 inch X 4 inch X 1/4 inch tubing to support the hopper. Yes No
- e.** The forward “Leg” shall be constructed of 3 1/2 inch X 3 1/2 X 3/16 inch tubing and must be adjustable in height and designed to fold up as the vehicle backs underneath the stand. Yes No
- f.** Manufacturer standard cast iron wheels with greasable steel ball bearings, must be mounted at the main frame to allow the unit to roll into the vehicle. Yes No
- g.** Rear “legs” shall be of a self-storing telescopic design. Yes No
- h.** The lower “Leg” shall be constructed of minimum of 3 1/2 inch X 3 1/2 inch X 3/16 inch tubing and must telescope inside the upper “Leg” which must be constructed of 4 inch X 4 inch X 3/16 inch tubing for storage. Yes No
- i.** The rear “Legs” shall extend beyond the spinner assembly to help protect the spinner assembly from accidental damages. Yes No
- j.** Lower rear legs must be equipped with manufacturer standard mounted foot to provide additional stability during loading and unloading operations. Yes No
- k.** All metal shall have the mill scale removed by means of shot blasting. Yes No
- l.** The unit must then go through a series of high-pressure chemical wash and rinse stages. Yes No
- m.** A powder resin shall be applied to all metal surfaces, immediately following the application of the powder. The steel must then be heated to a minimum of 375 degrees for no less than ten (10) minutes. Yes No
- n.** The finished product (leg stands) must be black in color. Yes No