

North Dakota Department of Transportation
INVITATION TO BID

NDDOT Contract # 50201237

Bid Number: 760-06-20-050	Bid Opening Date & Time: 08/12/2020 02:00 PM
Items: Cutting Edges	Buyer: Vanessa Brosten
Bid Mailing Address: 608 East Boulevard Avenue	Telephone Number: 701-328-4466
City, State, Zip: Bismarck, North Dakota, 58505-0700	Email: vbrosten@nd.gov
Contract Period: 08/17/2020 TO 07/31/2021	Date Prepared: 07/24/2020

BID RESPONSE

Please submit your bid response on the attached forms in conformance with the instructions and specifications in the NDAC 04-12-01 – 04-12-16. One copy of your bid response must be returned to the North Dakota Department of Transportation (NDDOT) prior to the time and date specified for the bid opening. Bid responses received after the time and day specified for the bid opening will be rejected. Mark envelope with word "BID" and the opening time and date. **If your bid response is accepted by NDDOT, then your bid response will constitute a binding contract.**

CONTRACT

This contract is made and entered into by and between NDDOT for the state of North Dakota (hereinafter state) and

Vendor Name Chemung Supply Corp.	Vendor Address PO box 527 Elmira, NY 14902
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(hereinafter vendor). In consideration of and for the acceptance by the state of the offer made by the vendor pursuant to the bid response, the vendor agrees and promises to sell, furnish, and deliver to the state, at the time, places, and prices specified in the bid response, all goods, merchandise, supplies, commodities, equipment, or other items contained in the bid response and for which the vendor has been awarded this contract by the state. The vendor shall fully perform this contract in accordance with the terms and conditions contained in the bid response including all specifications, rules, or regulations mentioned therein, and shall comply with all applicable provisions of the NDAC 04-12-01 – 04-12-16 promulgated by the State Purchasing Division; such manual being made a part of this contract by reference. The Risk Management Appendix and Appendices A and E of the Title VI Assurances, attached, are hereby incorporated into and made a part of this agreement.

The following must be completed by the vendor; failure to do so may result in the rejection of the vendors bid proposal.

Vendor Name Chemung Supply Corp.		
Mailing Address PO Box 527 Elmira, NY 14902		
Telephone Number 607-733-5506	Fax Number 607-732-5379	E-mail Address mmenner@chemungsupply.com

Michael Menner, Vice-President Winter Products

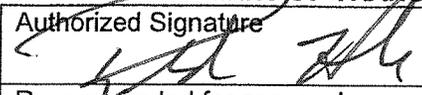
Name & Title (Type or Print)

Signature 

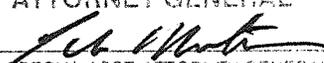
Date
08/11/20

To be signed by **Owner; Partner; Corp. Pres., Vice Pres., or other authorized Corp. Officer** or bid may be rejected. (if signed by other authorized Corp. Officer, please attach copy of Power of Attorney or other documentation showing authority to sign.)

FOR ND DEPARTMENT OF TRANSPORTATION USE ONLY Accepted by the state according to provisions of award.

Authorized Signature 	Date 10/5/2020
Recommended for approval Brad Jan	Date 10-1-2020
	Approximate contract amount \$ unknown



APPROVED as to execution this
 2nd day of October 20 20
 ATTORNEY GENERAL
 By 
 SPECIAL ASST ATTORNEY GENERAL

CLA 7480 (Div. 50)

MAILING INSTRUCTIONS

Mail only one completed and signed request for bid document per envelope, unless instructed otherwise. Request for bid documents not signed or received after the date and time specified in the request for bid will be rejected.

BID IS: SEALED NOT SEALED

Address the envelope containing your response in the following manner:

BID NUMBER – 760-06-20-050
BID OPENING DATE/TIME – August 12, 2020; 2:00 P.M. Central
N. D. DEPT. OF TRANSPORTATION
PROCUREMENT SECTION
608 E BOULEVARD AVE
BISMARCK ND 58505-0700

Sealed bids will be received for furnishing "CUTTING EDGES" as per the following instructions and specifications. To be considered, this bid form must be completed in its entirety and received by the **North Dakota Department of Transportation (NDDOT), 608 E. Boulevard Avenue, Bismarck ND 58505-0700 no later than 2:00 PM CENTRAL TIME, WEDNESDAY, AUGUST 12, 2020**, at which time and place such bids will be properly opened and read.

BIDDERS INSTRUCTIONS

1. **Additional Terms and Conditions.** Additional terms and conditions submitted with a bid response are of no effect unless accepted in writing by the Purchasing Agency. Bids with additional terms and conditions may be rejected as non-responsive. (N.D.A.C. § 4-12-11-06)
2. **Assistance to Bidders with a Disability.** Bidders with a disability and/or language assistance, contact Civil Rights Division, NDDOT, 701-328-2978 or civilrights@nd.gov or TTY 711, as soon as possible so that reasonable accommodations can be made. Additionally, the Request for Reasonable Accommodations form (SFN 60135) can be accessed at the following NDDOT website location: <http://www.dot.nd.gov/forms/sfn60135.pdf>.
3. **Award.** Award will be made to a responsive, responsible bidder with the lowest price considering conformity with specifications, terms of delivery, quality, and serviceability. NDDOT reserves the right to consider bids varying in minor respects from any specific requirements herein, but judged to meet the intent of this request. Bidders interested only in the total low bid for all items are to state 'all or nothing' on their bid response. Award will be made as follows:
 - Split award per group
4. **Award – Preference Laws.** If bid responses are received from nonresident (out-of-state) bidders, the Procurement Officer will apply reciprocal preference, if applicable, in accordance with N.D.C.C. §44-08-01. See OMB Guidelines on North Dakota Preference Laws.
5. **Award – Tie Bid Preference.** After applying any reciprocal preference, if a tie occurs between two or more bidders with equal bid prices or offerors with identical evaluation scores:
 - Preference must first be given to bids submitted by resident North Dakota vendors.
 - If a tie remains, preference is given to approved vendors on the Bidders List.
 - If a tie still remains, award shall be made in accordance with N.D.A.C. § 4-12-11-05.
6. **Bid Bond.** Waived in this instance: however, bidder(s) failing to enter into a contract with this office, upon notification of award, may be subject to removal from the bidder's list.
7. **Bid Held Firm.** Bids are not awarded at the bid opening. Bid responses will be firm for 30 days, unless stated otherwise.

8. **Bid Opening.** All sealed bids received by the NDDOT Procurement Office will be opened and read at 608 East Boulevard Avenue, Bismarck, North Dakota, at the time specified in the solicitation. Interested parties are invited to attend the bid opening.
9. **Bid Summary.** Interested parties may contact the Procurement Officer to obtain a summary of all bid responses received and the award. When bids are issued using the State's electronic bidding system, the bid summary will be posted and available for download from: <https://www.nd.gov/omb/vendor>. Bid summaries will be mailed to those bidders who supply a self-addressed, stamped envelope with their bid response. A copy of the bid summary may also be obtained by visiting the NDDOT Procurement Office during normal working hours.
10. **Bidder Checklist.** HAVE YOU REMEMBERED TO:
- Review all instructions, terms and conditions, and specifications to ensure your bid response complies?
 - Prepare your price in the specified unit of measure, F.O.B. Destination, Freight Prepaid to the delivery location listed on the cover sheet?
 - Indicate whether you can meet the delivery date indicated on the cover sheet?
 - Sign your bid response on the cover sheet?
 - Initial all changes and corrections?
 - Submit any required samples or enclosures, if applicable?
 - Mark the envelope as indicated above?
 - Review and complete all requirements contained in this solicitation to ensure compliance.
11. **Clarifications, Bid Changes and Questions Deadline.** The Procurement Officer is the point of contact. Any irregularities, lack of clarity, requested bid changes and all questions regarding this bid and the procurement process must be addressed to the Procurement Officer referenced on the first page of this document not later than end of business July 31, 2020. (Contact information is indicated on cover page). If a bid amendment is required, it will generally be issued after this date.
- The bidder is cautioned that the requirement of this solicitation can be altered only by written amendments and that verbal communications from whatever source are of no effect.
12. **Corrections.** The bidder's authorized representative must initial any corrections and alterations (i.e. erasures, whiteouts, correction tape, etc.) made to the bid response. Those bid responses with corrections and alterations that are not initialed are subject to confirmation by the Procurement Officer.
13. **Definitions.**
- Bidder - any person or firm submitting a competitive bid in response to a solicitation.
 - Bid summary - a summary of all bid responses received by the NDDOT Procurement Office.
 - Bid response - the executed document submitted by a bidder in response to a solicitation.
 - Commodities – all property, including equipment, supplies, materials, printing, insurance, and the lease of equipment.
 - Contract - a deliberate written agreement between two or more competent persons to perform specific act or acts.
 - Contractor - any person or firm having a contract with a governmental body.
 - N.D.A.C. – North Dakota Administrative Code, rules with the force and effect of law.
 - N.D.C.C. – North Dakota Century Code, state laws.
 - Solicitation - the process of notifying prospective bidders that the State wishes to receive bids for furnishing goods or services.
 - SPO Online – a procurement information website maintained by OMB State Procurement Office pursuant to N.D.C.C. § 54-44.4-14.
14. **Electronic & Facsimile Bids.** Sealed bids are required; therefore, bids cannot be submitted by email or fax to the Procurement Officer. Bid responses emailed or faxed may be rejected as non-responsive. Bids may be emailed or faxed to a third party who will put it in a properly-addressed envelope and deliver it to the NDDOT Procurement Office before the date and time specified in the solicitation.

15. **Upload Response Through the State Procurement Online System (SPO Online).** Bidders may electronically submit Bid Responses through the State Procurement Online system (SPO Online) by the Bid Response Closing Deadline.
 - A. This solicitation is posted on SPO Online at: <https://www.nd.gov/omb/vendor>
 - B. Click on "Bidding Opportunities." Go to "Recent Solicitations" and find this solicitation.
 - C. Use "Upload Response" to upload a maximum of five (5), clearly labeled documents before the deadline for receipt of proposals in the Bid Response closing deadline.
 - D. Offerors must upload their Technical Proposal and Cost Proposal in separate files.
 - E. The maximum file size allowed is 50mb per file.
 - F. All field entries must be alphanumeric. Dashes and underscores are allowed; however the system does not accept other special characters such as apostrophe, & symbol, quotation marks, etc.
 - G. Bidders will receive an email confirmation from infospo@nd.gov that the upload response was received including the "File Description" for the uploaded files. Review this email to ensure all files were successfully uploaded. If you do not receive an email confirmation, the upload was not successful, and you will need to upload the files again. If you do not receive an email confirmation after the reattempt, contact the Procurement Officer or the State Procurement Office at infospo@nd.gov or 701-328-2740.

Visit <https://www.nd.gov/omb/vendor/bidder-resources> for the SPO Electronic Response Job Aid which describes how to submit an electronic response.
16. **Freight/F.O.B. Destination.** Freight and transportation charges are to be included in the price of the products, unless otherwise specified in the solicitation. (F.O.B. - Free On Board).
17. **Indemnification.** Bidders must review the attached Risk Management Appendix for indemnification and insurance requirements. The indemnification and insurance provisions are incorporated and made part of this solicitation and the resultant final contract. Objections to any of the provisions of the indemnification and insurance requirements must be made in writing to the attention of the Procurement Officer by the time and date set for receipt of questions. No alteration of these provisions will be permitted without prior written approval from the Purchasing Agency or Entity in consultation with the North Dakota Risk Management Division. Upon receipt of the Notice of Award, the successful bidder must obtain the required insurance coverage and provide the Procurement Officer with proof of coverage prior to contract approval. The coverage must be satisfactory to the Purchasing Agency or Entity, in consultation with the North Dakota Risk Management Division. A bidder's failure to provide evidence of insurance coverage is a material breach and grounds for withdrawal of the award or termination of the contract.
18. **Late Bids.** It is the bidder's responsibility to ensure that a bid response is physically deposited with the NDDOT Procurement Office prior to the date and time specified for the opening. Late bids will be rejected, regardless of the degree of lateness, unless the delay is due to the error of the Purchasing Agency and discovered before the selection of the successful bidder.
19. **Minor Informalities.** The State reserves the right to waive minor informalities in bid responses in accordance with N.D.A.C. 4-12-10. Minor informalities are insignificant omissions or nonjudgmental mistakes that are matters of form rather than substance, evident from the bid document, with a negligible effect on price, quantity, quality, delivery, or contractual conditions that can be waived or corrected without prejudice to other bidders.
20. **Multiple Bid(s).** Bidders may submit more than one bid response(s) for the item(s) specified in the solicitation. Each bid submitted must comply in all aspects with the bid requirements and these instructions.
21. **Negotiation.** NDDOT reserves the right to negotiate with the successful bidder to ensure the best possible consideration is afforded to all concerned.
22. **New Equipment and Materials.** Unless otherwise indicated in the detailed specifications of this solicitation, all equipment and materials shall be new and under current production for use in the United States.
23. **Open Records Requests.** Bid responses are exempt records until the date and time of the bid opening. After the bid opening, all bid responses are subject to North Dakota open records laws. Interested parties may contact the Procurement Officer to request information related to this solicitation.

24. **Packaging.** All shipments are to be packaged according to accepted commercial practices to avoid damage in shipment.
25. **Performance Bond.** Successful bidders will not be required to furnish a performance bond; however, failure to perform satisfactorily will result in the immediate termination of the contract(s) and bidders may be subject to removal from the bidder's list.
26. **Preparation of Bid.** Bids will be accepted on NDDOT forms only. If the document is located on the State Procurement Office website, then bidder is to download the document and type or write their responses as indicated by the bid document. Alteration of the bid document may be cause for bid rejection. Bidders are cautioned to examine specifications and all instructions. Failure to do so will be at the bidder's risk.
27. **Pricing.** Unit prices are to be stated in United States currency and based on the unit of measurement specified in the solicitation, F.O.B. Destination, to the NDDOT delivery locations specified herein.

In the event of mathematical differences between the unit price and extended total, the unit price will prevail.

28. **Protests.** Protests of the solicitation must be received by the Procurement Officer within seven days before the bid closing deadline. Protests of the award or Notice of Intent to Award must be received by the Procurement Officer within seven days after receiving notice of award. Seven calendar days after award or issuance of the Notice of Intent to Award it will be assumed that all interested parties knew or should have known all the facts surrounding the award. Protests must be made in writing to the Procurement Officer and include the basis for the protest. (N.D.C.C. § 54-44.4-12; N.D.A.C. § 4-12-14.)
29. **Rejection.** The State reserves the right to reject any and all bid responses in whole or in part. The Procurement Officer will send a rejection notice, including the reason for rejection. Bid responses may be rejected if:
 - The bid response is not legible.
 - The bid response is not completed as requested.
 - The bid response is faxed to the procurement office.
 - The bid response is not responsive to the specifications or other requirements of the solicitation.
 - The bid response is received after the time and date specified.
 - The bidder has not met Vendor Registration requirements or is suspended or debarred.
 - The bid document has been altered by the bidder.
 - The bidder is determined to be not responsible (N.D.A.C. 4-12-11-04).If all bids are rejected, the Procurement Officer will send written notice to bidders, including the reason all bids were rejected.
30. **Signature.** The bid must be signed manually in ink. The name and title of the person signing the bid response must be typed or printed above the signature. The bid must be signed by **Owner, Partner, Corp. Pres., Vice Pres., or other authorized Corp. Officer** or the bid may be rejected. If signed by other authorized Corp. Officer or representative, please attach a letter signed by the Owner, Partner, Corp. Pres., or Vice Pres. indicating the individual has authority to enter into a contract on behalf of the company (or a Power of Attorney).
31. **Specifications, Brand Name or Equivalent.** Unless otherwise indicated in the detailed specifications of this solicitation, the use of a specific brand name or make/model is for illustrative purposes only, and the State will consider equivalent products. If a commodity or service put forth by a bidder is rejected as not being equivalent, the Procurement Officer will notify the bidder of the rejection.
32. **Specifications, Compliance.** All Bid Responses must comply with the stated specifications, and the successful Bidder will be held responsible. Bidders who desire to submit commodities or services that deviate from these specifications or have any objections to the stated specifications must contact the Procurement Officer by the deadline for questions or at least seven days before the Bid Response closing deadline, so the Procurement Officer can determine whether the specifications need to be amended.
33. **Supplemental Terms and Conditions.** Bids including supplemental terms and conditions will be accepted, but supplemental conditions that conflict with any conditions contained in this ITB or that diminish the State's rights will be considered null and void. The State is not responsible for identifying conflicting supplemental terms and conditions before issuing a contract award.

After award of contract:

- a) If a conflict arises between a supplemental term or condition included in the bid and a term or condition of the ITB, the term or condition of the ITB will prevail, and,
- b) If the State's rights would be diminished as a result of application of a supplemental term or condition included in the bid, the supplemental term or condition will be considered null and void.

Changes, modifications, additions, or alterations to the bid document could be cause for rejection of the submitted bid at the sole discretion of the NDDOT. Contact the Procurement Officer in writing prior to the deadline for clarifications.

34. **Taxes.** The State does not pay sales tax or federal excise tax. The state sales tax exemption number is E-2001. The federal tax-free transaction number is 45-70-0010K. The Purchasing Agency will furnish a tax exempt certificate upon request.
35. **Vendor Registration.** Bids will be accepted from bidders who are not currently Approved Bidders for the State of North Dakota; however, the successful bidder may be required to become approved prior to award, in accordance with N.D.C.C. 54-44.4-09. To become an Approved Bidder, you must: 1) register with the North Dakota Secretary of State (fees apply), and 2) submit a completed Bidder List Application to the ND State Procurement Office. Registration instructions and forms are available on-line at: www.nd.gov/spo/vendor. Contact the ND State Procurement Office at 701-328-2683 or infospo@nd.gov for assistance.

Placement on the bidders list does not guarantee a bidder will receive notice of every formal solicitation. Bidders must maintain current information by submitting a Notice of Change form to the State Procurement Office (Fax 701-328-1615). Visit the website for forms: www.nd.gov/spo/vendor.

36. **Withdrawal or changes to a bid response prior to the bid opening date and time.** A bidder may withdraw or make a change to his bid response prior to the bid opening date and time. The request to make a change or withdraw must be in writing by a representative of the firm. The request to withdraw or change must be signed by the bidder or his designated representatives.
37. **Withdrawals after the bid opening date and time.** After the bid opening, no changes may be made to the bid response. The bidder may make a written request to withdraw the bid response, subject to approval by the NDDOT Procurement Office. Vendors continually withdrawing bids after the bid opening may be removed from the Vendor Database.

GENERAL CONTRACT TERMS AND CONDITIONS

1. **Affirmative Action.** The contractor will take affirmative action in complying with all Federal and State requirements concerning fair employment and employment of individuals with disabilities, and concerning the treatment of all employees without regard to discrimination by reason of race, color, religion, sex, national origin, or disability.
2. **Applicable Law and Venue.** Any dispute arising out of this agreement will be resolved under the laws of the State of North Dakota.
3. **Billing and Payment Procedures.** Purchase orders may be issued by NDDOT Procurement Office, or individual NDDOT District locations during the contract period.

Invoices are to be submitted as indicated on the purchase orders unless otherwise instructed. Failure to submit correct invoices to the appropriate NDDOT office may delay contractor payment.

Payment will normally be made within thirty days after delivery and acceptance of commodities or services under this contract and receipt of a correct invoice. All invoice and payment inquiries must be directed to the purchasing agency.

4. **Binding Contract.** The acceptance of a bid response in writing by the purchasing agency constitutes a contract between the bidder and the State. Written acceptance from the purchasing agency may be made by execution of a contract, purchase order, or order using a state purchasing card. Any oral agreement or

arrangement by a bidder with a State employee or purchasing agency will have no force or effect unless reduced to writing. This contract is not effective until fully executed by both parties.

5. **Compliance with Laws.** The contractor must, in performance of work under this contract, fully comply with all applicable federal, state or local laws, rules, regulations and policies, including those relating to nondiscrimination, affirmative action, accessibility and civil rights including Title VI of the Civil Rights Act of 1964. The contractor agrees to file all required reports on time, to make required payroll deductions, and to pay all taxes and premiums owed on time, including sales and use taxes and unemployment compensation and workers' compensation premiums. The contractor shall have and keep current at all times during the term of this contract all licenses and permits required by law.
6. **Contract Amendments, Unanticipated Amendment.** After a binding contract has been entered into, no changes (i.e. additions, substitutions, subcontracting or a price adjustment) may be made, unless prior approval has been obtained from the purchasing agency and Procurement Officer. The contractor may request changes, such as substitutions of a product, by submitting a written request to the Procurement Officer. Unanticipated amendments must be within the scope of the original contract, authorized by the terms of the contract due to legitimate, unforeseen circumstances. . (N.D.A.C. ch. 4-12-13)

The terms of this contract shall not be waived, altered, modified, supplemented, or amended, in any manner whatsoever, except by written instrument signed by the parties. No waiver consent, modification or change of terms of this agreement shall bind either party unless in writing and signed by both parties. Such waiver, consent, modification, or change, if made shall be effective only in the specific instance and for the specific purpose given. There are no understandings, agreements, or representations, oral or written, not specified herein regarding this agreement.

7. **Contract Price Adjustment.** The Contract Unit Prices shall be firm for the twelve (12) months of the contract period. On an annual basis, all unit prices may be subject to price adjustment (increase / decrease). The request for a price adjustment shall be submitted to the Procurement Office at least forty five (45) days before the scheduled contract expiration date and must include justification for the proposed change. The Procurement Officer will respond as follows:
 1. The request may be granted,
 2. The contract may be cancelled and solicitation may be re-advertised, or
 3. The contract may be continued without change.

If a price increase is approved by the NDDOT, the date the increase will be effective along with the new unit prices will be included in an amendment document. Approval of any price increase renews the twelve month firm price period.

The State shall also be advised of and receive the benefit of any price decrease. The same notification and review process will apply to a decrease in cost.

8. **Contract Term and Renewal Option.** The NDDOT will enter into a contract with an effective date **beginning August 17, 2020, and ending July 31, 2021**, inclusive. This contract may be renewed upon satisfactory completion of the initial contract term. The NDDOT reserves the right to execute up to two options to renew this contract for a period of twelve (12) months each, not to exceed thirty-six (36) months total. Renewals will be documented by amendment.

The NDDOT reserves the right to renegotiate price and terms provided that such negotiated price and terms fall within the original scope of work for this bid. Negotiations may be conducted annually or at such times that additional and unexpected services falling within the scope of the contract may occur. Such changes will be documented by amendment to the contract.

9. **Contract Termination.**
 - a. **Termination without Cause.** This contract may be terminated by mutual consent of both parties, or by either party upon 30 days' written notice.
 - b. **Termination for Lack of Funding or Authority.** The State may terminate this contract effective upon delivery of written notice to the contractor, or on any later date stated in the notice, under any

of the following conditions:

- i. If funding from federal, state, or other sources is not obtained and continued at levels sufficient to allow for purchase of the services or supplies in the indicated quantities or term. The contract may be modified by agreement of the parties in writing to accommodate a reduction in funds.
- ii. If federal or state regulations or guidelines are modified, changed or interpreted in such a way that the services are no longer allowable or appropriate for purchase under this contract or are no longer eligible for the funding proposed for payments authorized by this contract.
- iii. If any license or certificate required by law or regulation to be held by the contractor to provide the services required by the contract is for any reason denied, revoked or not renewed.

Any such termination of this contract under (i), (ii), or (iii), above, shall be without prejudice to any obligations or liabilities of either party already accrued prior to such termination.

- c. **Termination for Cause.** The State by written notice to the contractor may terminate the whole or any part of this contract:
 - i. If the contractor fails to provide services required by this contract within the time specified herein or any extension thereof; or
 - ii. If the contractor fails to perform any of the other provisions of this contract, or so fails to pursue the work as to endanger performance of this contract in accordance with its terms and after receipt of written notice from the State, fails to correct such failures within ten days or such longer period as NDDOT may authorize.
 - iii. The rights and remedies of the State provided in the above clause related to defaults by the contractor are not exclusive and are in addition to any other rights and remedies provided by law or under this contract.
- d. **Termination, Deliveries.** If the contract is terminated for any reason, the contractor is responsible for delivery of all commodities and services ordered prior to the termination, unless those orders had been canceled by the Purchasing Agency or Entity.

10. **Inspection and Investigations.** The State reserves the right to conduct inspections and investigations related to the bidder and the offered commodities or services, including but not limited to the firm, personnel, qualifications, and the commodities and services offered to make determinations regarding compliance with the bid requirements and responsibility of the bidder. All material and workmanship are subject to inspection and testing by the State at the point of manufacturer, place of storage, or upon receipt. The State reserves the right to reject any commodities or services and terminate the contract if the Contractor fails to comply with the specifications, terms and conditions, or the seller's express or implied warranties. Rejected commodities will be removed at the Contractor's expense. Failure to satisfactorily perform may result in suspension or debarment from the Bidders List.

If commodities or services are rejected as being not compliant with the requirements of this solicitation, the State will inform the CONTRACTOR in writing. The Purchasing Agency may provide the CONTRACTOR with a reasonable opportunity to cure, whenever practicable, as set forth in writing by the Purchasing Agency.

11. **Materials and Workmanship.** All material and workmanship shall be subject to inspection and testing at the discretion of the purchasing agency either at the point of manufacturer, place of storage, or upon receipt.
12. **Receiving.** Deliveries must arrive at the designated destination(s) during normal business hours unless other shipping/receiving instructions are issued by NDDOT personnel. The contractor shall contact the NDDOT to schedule delivery dates and times at least 24 hours in advance of delivery.

All NDDOT offices will be closed in recognition of State holidays. Any day declared a holiday by the President or Governor will also be recognized by office closure.

13. **Responsibility of the Bidder.** The Procurement Officer, at any time, may make a supplementary investigation as to the responsibility of any bidder, even though the Bidder may be on the Bidders List. If a bidder is determined to be not responsible, that bid response will be rejected even if it is the lowest bid response received, and the bidder may be debarred or suspended from the bidders list. (N.D.A.C. § 4-12-11-04)

14. **Specifications:** Bidder's shall submit detailed manufacturer's specifications along with this response, and upon acceptance of the bid, shall become part of the bidder's specifications. Specifications must include: brand, composition, blade analysis, hardness rating, design, dimensions, weight, etc. Promotional literature is generally not adequate. Any discrepancies between products to be furnished on the bid and manufacturer's printed specification must be documented.
15. **Subcontracts, Assignment.** The contractor shall not subcontract, assign or transfer the contractor's interests or duties under this contract without express written consent of the purchasing agency. However, the contractor may enter into subcontracts provided that any such subcontractor acknowledges the binding nature of this contract and incorporates this contract, including any attachments. The contractor is solely responsible for the performance of any subcontractor. The contractor shall not have the authority to contract for or incur obligations on behalf of the State.
16. **Successors in Interest.** The provisions of this agreement shall be binding upon and shall inure to the benefit of the parties hereto, and their respective successors and assigns.
17. **Testing and acceptance:** Blades may be tested upon delivery to ensure compliance with specifications prior to payment. The testing procedure requires approximately sixty (60) days. Materials failing to meet specifications will be returned at the bidder's expense.
18. **Service Representative.** The contractor must provide a dedicated customer service representative to provide support for this contract. The contractor shall notify the Procurement Officer in the event the representative is changed.

NAME: Michael Menner
(Name of person servicing this contract)

BUSINESS NAME: Chemung Supply Corp.

MAILING ADDRESS: PO Box 527

CITY & STATE: Elmira, NY ZIP CODE: 14902

PHONE NUMBER: 607-733-5506 TOLL FREE: 800-733-5508

FAX NUMBER: 607-732-5379 E-MAIL: mmenner@chemungsupply.com

**SECTIONAL TUNGSTEN CARBIDE INSERTED
SNOWPLOW ENCASED-IN RUBBER CUTTING EDGES, 6" HEIGHT, 5/8" HOLE-PUNCHING**

Similar or equal to JOMA brand blades AND PolarFlex brand blades

Individual steel segments encased in rubber with steel bushings positioned on 12" centers to mount to a snow plow. Each segment is inserted with tungsten carbide bits, brazed in place along the wear edge. The finished blade is approximately 7/8" thick by 6" wide by 4' long. Steel bushings are located 1.5" from the top of the blade on 12" centers. Each blade will have orientation embossed in the rubber casing. A 1/2" X 3" clamp bar is mounted on top to hold the blade to the plow. The clamp bar should weigh approximately 5 lbs per foot and have 11/16" square holes located on 12" centers to align with the bushings in the blade. If supplying a product equivalent to JOMA or POLARFLEX, **literature must be provided.**

Option 1: Carbide impregnation is not required on the curb-runner guard.

Detailed Specifications	Unit Price Each
JOMA 6000 ARTICULATING SYSTEM, <u>LESS CURB-RUNNER GUARD</u> NDDOT P/N 76006-367000	
10' System FOB ANY NDDOT District	\$ 2351.00
11' System FOB ANY NDDOT District	\$ 2596.10
12' System FOB ANY NDDOT District	\$ 2841.20
JOMA 6000 X 4' (39#) RUBBER EDGE – OR EQUAL NDDOT P/N 76006-367005	
FOB ANY NDDOT District	\$ 402.00
JOMA 6000 X 3' RUBBER EDGE – OR EQUAL NDDOT P/N 76006-367006	
FOB ANY NDDOT District	\$ 301.50
JOMA BS23901 4' BACK SUPPORT – OR EQUAL NDDOT P/N 76006-367010	
FOB ANY NDDOT District	\$ 365.54
JOMA BS23902 3' BACK SUPPORT – OR EQUAL NDDOT P/N 76006-367011	
FOB ANY NDDOT District	\$ 288.59
JOMA STRAP 4SEH (20#) – OR EQUAL NDDOT P/N 76006-367015	
FOB ANY NDDOT District	\$ 46.50
JOMA STRAP 3SEH (15#) – OR EQUAL NDDOT P/N 76006-367016	
FOB ANY NDDOT District	\$ 34.50

Quantity	Unit	Detailed Specifications	Unit Price Each
OPTION 1 - JOMA CURB-RUNNER GUARD 663158PLH (LEFT) NDDOT P/N 76006-367020			
FOB ANY NDDOT District			\$ 51.05
OPTION 2 - JOMA CURB-RUNNER GUARD 663158PRH (RIGHT) NDDOT P/N 76006-367020			
FOB ANY NDDOT District			\$ 51.05

BRAND NAME: Evolution Edges

MANUFACTURER: TXS

INITIAL ORDER DELIVERY DAYS ARO 60

DELIVERY FOR REORDERS 60 DAYS

BIDDER Chemung Supply

Quantity	Unit	Detailed Specifications	Unit Price Each
X-48-W ASSEMBLY, 4' POLARFLEX FRONT MOUNT SYSTEM C/W 5/8" X 6" ADAPTER BLADES, 12' PLOW (3PER) – OR EQUAL NDDOT P/N 76006-367700			
FOB ANY NDDOT District			\$ NO BID
5/8" X 6" POLARFLEX XWS-12 ADAPTER BLADES – OR EQUAL NDDOT P/N 76006-367500			
FOB ANY NDDOT District			\$
X-48-W-F, COMPLETE 4' SECTION, POLARFLEX – OR EQUAL			
FOB ANY NDDOT District			\$
BUX-48-W, 4' ADAPTER BLADE, POLARFLEX – OR EQUAL			
FOB ANY NDDOT District			\$
AUX-48, FRONT ANGLE – OR EQUAL			
FOB ANY NDDOT District			\$
POLARFLEX CURB GUARD 10620029 – OR EQUAL			
FOB ANY NDDOT District			\$

BRAND NAME: _____

MANUFACTURER: _____

INITIAL ORDER DELIVERY DAYS ARO _____

DELIVERY FOR REORDERS _____ DAYS

**THRU-HARDENED STEEL MOTOR GRADER EDGES
5/8" BOLT & HOLE PUNCH (unless noted otherwise)**

Detailed Specifications	Unit Price Each
5/8" x 8" Grader Through Hardened – 5FT NDDOT P/N 76006-361646	
FOB ANY NDDOT District	\$ NO BID
5/8" x 8" Grader Through Hardened – 6FT NDDOT P/N 76006-361653	
FOB ANY NDDOT District	\$
5/8" x 8" Grader Through Hardened – 7FT NDDOT P/N 76006-361778	
FOB ANY NDDOT District	\$
5/8" x 8" Grader Through Hardened – 8FT NDDOT P/N 76006-361786	
FOB ANY NDDOT District	\$
1/2" x 8" Grader Through Hardened - 6FT-6FT 11" NDDOT P/N 76006-361661	
FOB ANY NDDOT District	\$
1/2" x 8" Grader Through Hardened - 7FT-7FT 11" NDDOT P/N 76006-361752	
FOB ANY NDDOT District	\$
1/2" x 8" Grader Through Hardened - 8FT-8FT 11" NDDOT P/N 76006-361794	
FOB ANY NDDOT District	\$

BRAND NAME: _____

MANUFACTURER: _____

INITIAL ORDER DELIVERY DAYS ARO _____

DELIVERY FOR REORDERS _____

Detailed Specifications	Unit Price Each
Premium Sectional Tungsten Carbide Tipped Cutting Edges Snowplow and Underbody Scraper – 3FT NDDOT P/N 76006-366505	
FOB ANY NDDOT District	\$ NO BID
Premium Sectional Tungsten Carbide Tipped Cutting Edges Snowplow and Underbody Scraper – 4FT NDDOT P/N 76006-366510	
FOB ANY NDDOT District	\$

BRAND NAME: _____

MANUFACTURER: _____

INITIAL ORDER DELIVERY DAYS ARO _____

DELIVERY FOR REORDERS _____ DAYS

SECTIONAL TUNGSTEN CARBIDE TIPPED SNOWPLOW CUTTING EDGES
5" HEIGHT, 5/8" BOLT & HOLE PUNCHING
Please provide a delivered price for every line.

BRAND NAME: Evolution Tall Carbides		
MANUFACTURER: Evolution Edges		
District	Length NDDOT Part Number	Price Per Lineal Foot
Bismarck, ND 58504	3FT 76006-365597	\$ 33.96
	4FT 76006-365662	\$ 33.96
Valley City, ND 58072	3FT 76006-365597	\$ 33.96
	4FT 76006-365662	\$ 33.96
Devils Lake, ND 58301	3FT 76006-365597	\$ 33.96
	4FT 76006-365662	\$ 33.96
Minot, ND 58701	3FT 76006-365597	\$ 33.96
	4FT 76006-365662	\$ 33.96
Dickinson, ND 58601	3FT 76006-365597	\$ 33.96
	4FT 76006-365662	\$ 33.96
Grand Forks, ND 58208	3FT 76006-365597	\$ 33.96
	4FT 76006-365662	\$ 33.96
Williston, ND 58802	3FT 76006-365597	\$ 33.96
	4FT 76006-365662	\$ 33.96
Fargo, ND 58103	3FT 76006-365597	\$ 33.96
	4FT 76006-365662	\$ 33.96
Delivery Days After Receipt of Order: <u>60</u> Days		
Minimum order quantity: <u>500</u> LF		

SECTIONAL TUNGSTEN CARBIDE TIPPED UNDERBODY SCRAPER CUTTING EDGES

Please provide a delivered price for every line.

BRAND NAME: Evolution Tall Beveled Carbides		
MANUFACTURER: Evolution Edges		
5" HEIGHT, 5/8" HOLE-PUNCHING		
District	Length NDDOT Part Number	Price Per Lineal Foot
Bismarck, ND 58504	3FT 76006-366009	\$ 36.72
	4FT 76006-366108	\$ 36.72
Valley City, ND 58072	3FT 76006-366009	\$ 36.72
	4FT 76006-366108	\$ 36.72
	5FT 76006-366157	\$ 36.72
Devils Lake, ND 58301	3FT 76006-366009	\$ 36.72
	4FT 76006-366108	\$ 36.72
	5FT 76006-366157	\$ 36.72
Minot, ND 58701	3FT 76006-366009	\$ 36.72
	4FT 76006-366108	\$ 36.72
Dickinson, ND 58601	3FT 76006-366009	\$ 36.72
	4FT 76006-366108	\$ 36.72
	5FT 76006-366157	\$ 36.72
Grand Forks, ND 58208	3FT 76006-366009	\$ 36.72
	4FT 76006-366108	\$ 36.72
Williston, ND 58802	3FT 76006-366009	\$ 36.72
	4FT 76006-366108	\$ 36.72
Fargo, ND 58103	3FT 76006-366009	\$ 36.72
	4FT 76006-366108	\$ 36.72
	5FT 76006-366157	\$ 36.72
5" HEIGHT, 3/4" HOLE-PUNCHING		
Grand Forks, ND 58208	3FT 76006-366009	\$ 36.72
	4FT 76006-366108	\$ 36.72
Delivery Days After Receipt of Order: <u>60</u> Days		
Minimum order quantity: <u>500</u> LF		

SECTIONAL TUNGSTEN CARBIDE TIPPED MOTOR GRADER CUTTING EDGES

Please provide a delivered price for every line.

BRAND NAME: Evolution Edges Tall 8" Carbide Beveled		
MANUFACTURER: Evolution Edges		
8" HEIGHT, 5/8" HOLE-PUNCHING		
District	Length NDDOT Part Number	Price Per Lineal Foot
Bismarck, ND 58504	3FT 76006-361604	\$ 43.52
	4FT 76006-361638	\$ 43.52
Valley City, ND 58072	3FT 76006-361604	\$ 43.52
	4FT 76006-361638	\$ 43.52
Devils Lake, ND 58301	3FT 76006-361604	\$ 43.52
	4FT 76006-361638	\$ 43.52
Minot, ND 58701	3FT 76006-361604	\$ 43.52
	4FT 76006-361638	\$ 43.52
Dickinson, ND 58601	3FT 76006-361604	\$ 43.52
	4FT 76006-361638	\$ 43.52
Williston, ND 58802	3FT 76006-361604	\$ 43.52
	4FT 76006-361638	\$ 43.52
Fargo, ND 58103	3FT 76006-361604	\$ 43.52
	4FT 76006-361638	\$ 43.52
8" HEIGHT, 3/4" HOLE-PUNCHING		
Grand Forks, ND 58208	3FT 76006-361604	\$ 43.52
	4FT 76006-361638	\$ 43.52
Delivery Days After Receipt of Order: <u>60</u> Days		
Minimum order quantity: <u>500</u> LF		

**NORTH DAKOTA DEPARTMENT OF TRANSPORTATION
SPECIFICATIONS FOR
THRU-HARDENED STEEL VEE-SNOWPLOW EDGE**

GENERAL SPECIFICATIONS:

1. Cutting edges must be cut in the lengths as specified herein.
2. Cutting edge ends shall be square and cleanly cut.
3. Cutting edges shall be uniformly through hardened to Brinell hardness minimum of 400. Rating must be furnished with the bid. Rating must be furnished with the bid.
4. Lengths, as noted on the proposal, shall not vary more than $\pm 1/8$ " specified in order to fit total moldboard length in various combinations.
5. Bidder must specify delivery dates.
6. Materials and assembly shall be guaranteed with replacement against breakage, as well as satisfactory performance under normal cold weather snow and ice removal operations.

VEE-SNOWPLOW CUTTING EDGES:

1. Sizes and length as designated.
2. Flat.
3. Unpolished.

Brand Name:		
Manufacturer:		
8" HEIGHT X 1/2" THICK		
LENGTH DOT PART NUMBER	ORDER PRICE LINEAL FOOT	
5FT 76006-368005	\$ NO BID	DELIVERY DAYS AFTER RECEIPT OF ORDER _____
6FT 76006-368104	\$	Minimum order quantity for this price = _____ LF
7FT 76006-368153	\$	

**KUEPER BRAND CUTTING EDGES
 TUCA SX - TUNGSTEN CARBIDE/STEEL VULCANIZED IN RUBBER CUTTING EDGES
 (Or Equal)
 5/8" HOLE PUNCHING – ALL DISTRICTS**

General Specifications:

1. Materials and assembly shall be guaranteed with replacement against breakage, as well as satisfactory performance under normal cold weather snow and ice removal operations.

TUCA SX SNOW PLOW CUTTING EDGES			
Please provide a delivered price for every line.			
Delivery Location	Cutting Edge Length Each	NDDOT P/N KUEPER P/N	Price Each FOB Destination
Bismarck, ND 58504	3 FT	76006-369155 34855836X	\$ NO BID
	4 FT	76006-369177 34855936X	\$
Valley City, ND 58072	3 FT	76006-369155 34855836X	\$
	4 FT	76006-369177 34855936X	\$
Devils Lake, ND 58301	3 FT	76006-369155 34855836X	\$
	4 FT	76006-369177 34855936X	\$
Minot, ND 58701	3 FT	76006-369155 34855836X	\$
	4 FT	76006-369177 34855936X	\$
Dickinson, ND 58601	3 FT	76006-369155 34855836X	\$
	4 FT	76006-369177 34855936X	\$
Williston, ND 58802	3 FT	76006-369155 34855836X	\$
	4 FT	76006-369177 34855936X	\$
Grand Forks, ND 58208	3 FT	76006-369155 34855836X	\$
	4 FT	76006-369177 34855936X	\$
Fargo, ND 58103	3 FT	76006-369155 34855836X	\$
	4 FT	76006-369177 34855936X	\$
TUCA Snowplow "Each" is the cut-to-length edge price for each location and includes freight.			
Delivery Days After Receipt of Order: _____ Days			
Minimum order quantity: _____ LF			

TUCA SX UNDERBODY SCRAPER

DISTRICT	DESCRIPTION	ORDER PRICE LINEAL FOOT	
Bismarck, ND 58504	3 Ft, Kueper TUCA SX UB 3485583TX	\$ NO BID	
	4 Ft, Kueper TUCA SX UB 3485593TX	\$	
	5 Ft, Kueper TUCA SX UB 3485603TX	\$	
	6 Ft, Kueper TUCA SX UB 3485653TX	\$	
Valley City, ND 58072	3 Ft, Kueper TUCA SX UB 3485583TX	\$	
	4 Ft, Kueper TUCA SX UB 3485593TX	\$	
	5 Ft, Kueper TUCA SX UB 3485603TX	\$	
	6 Ft, Kueper TUCA SX UB 3485653TX	\$	
Devils Lake, ND 58301	3 Ft, Kueper TUCA SX UB 3485583TX	\$	
	4 Ft, Kueper TUCA SX UB 3485593TX	\$	
	5 Ft, Kueper TUCA SX UB 3485603TX	\$	
	6 Ft, Kueper TUCA SX UB 3485653TX	\$	
Minot, ND 58701	3 Ft, Kueper TUCA SX UB 3485583TX	\$	
	4 Ft, Kueper TUCA SX UB 3485593TX	\$	
	5 Ft, Kueper TUCA SX UB 3485603TX	\$	
	6 Ft, Kueper TUCA SX UB 3485653TX	\$	
Dickinson, ND 58601	3 Ft, Kueper TUCA SX UB 3485583TX	\$	
	4 Ft, Kueper TUCA SX UB 3485593TX	\$	
	5 Ft, Kueper TUCA SX UB 3485603TX	\$	
	6 Ft, Kueper TUCA SX UB 3485653TX	\$	
Grand Forks, ND 58208	3 Ft, Kueper TUCA SX UB 3485583TX	\$	
	4 Ft, Kueper TUCA SX UB 3485593TX	\$	
	5 Ft, Kueper TUCA SX UB 3485603TX	\$	
	6 Ft, Kueper TUCA SX UB 3485653TX	\$	
Williston, ND 58802	3 Ft, Kueper TUCA SX UB 3485583TX	\$	
	4 Ft, Kueper TUCA SX UB 3485593TX	\$	
	5 Ft, Kueper TUCA SX UB 3485603TX	\$	
	6 Ft, Kueper TUCA SX UB 3485653TX	\$	
Fargo, ND 58103	3 Ft, Kueper TUCA SX UB 3485583TX	\$	
	4 Ft, Kueper TUCA SX UB 3485593TX	\$	
	5 Ft, Kueper TUCA SX UB 3485603TX	\$	
	6 Ft, Kueper TUCA SX UB 3485653TX	\$	

DELIVERY DAYS AFTER RECEIPT OF ORDER _____

Minimum order quantity for this price per part number = _____ LF

**SECTIONAL TUNGSTEN CARBIDE INSERTED
SNOWPLOW CUTTING EDGES, 5" HEIGHT, 5/8" HOLE-PUNCHING**

Kennametal Isolated Carbide-Edge (I.C.E. Series)

Brand Name: Evolution Edges Pick Blades	
Manufacturer: Evolution Edges	
Description	PRICE PER LINEAL FOOT
3FT SNOWPLOW CUTTING EDGE and 3FT UNDERBODY SCRAPER CUTTING EDGES <u>Square Top Edge</u> (Kennametal catalog number PB 536, material number 1553693) <u>Beveled Top Edge</u> (Kennametal material number 2035932) NDDOT 76006-653693	\$ 85.45/ft. square 99.36/ft. beveled
4FT SNOWPLOW CUTTING EDGE and 4FT UNDERBODY SCRAPER CUTTING EDGES <u>Square Top Edge</u> (Kennametal catalog number PB 548, material number 1553694) <u>Beveled Top Edge</u> (Kennametal material number 2035931) NDDOT 76006-654894	\$ 85.45/ft. square 99.36/ft. beveled
Delivery Days After Receipt of Order: <u>60</u>	
Minimum Order Quantity for price indicated: <u>200</u> LF	

QTY.	ITEM	UNIT PRICE
KENNAMETAL I.C.E. CURB GUARD (Kennametal part number 2040087)		
BRAND <u>Pick Guard</u>	PART NO. (L) <u>EGRD-PICK-RRL</u>	
	PART NO (R) <u>EGRD-PICK-BRR</u>	
Delivery Days After Receipt of Order: <u>60</u> Days Minimum order quantity for this price = <u>20</u> EA	Price Each (L): \$ <u>130.81</u> Price Each (R): \$ <u>130.81</u>	

SPECIFICATIONS FOR STANDARD CURB GUARD

GENERAL SPECIFICATIONS:

1. The Curb Guards shall be SAE 1020-1045 steel.
2. Hole-punching shall be 11/16" square, countersunk to receive 5/8" diameter plow bolts or 13/16" square, countersunk to receive 3/4" diameter plow bolts. The hole spacing shall be as per AASHTO.
3. The finished Curb Guard shall be given one coat of rust resistant lacquer.
4. Must protect moldboard ends from impact.
5. Must list Curb Guard for the left and right side of plow.
6. Must be carbide reinforced.
7. Must provide literature on your Curb Guard.

STANDARD CURB GUARD	
BRAND _____	PART NO. (L) _____
	NO BID
	PART NO (R) _____
Delivery Days After Receipt of Order: _____ Days	Price Each (L): \$ _____
Minimum order quantity for this price = _____ EA	Price Each (R): \$ _____

Risk Management Appendix

Supply Contracts with Private Individuals, Companies, Corporations, Etc.:

Each party agrees to assume its own liability for any and all claims of any nature including all costs, expenses and attorney's fees which may in any manner result from or arise out of this agreement.

Contractor, or Contractor's delivery agent, shall secure and keep in force during the term of this agreement, from insurance companies, government self-insurance pools or government self-retention funds authorized to do business in North Dakota, the following insurance coverages:

- 1) **Commercial general liability** and **automobile liability** insurance.
- 2) **Workers compensation** insurance.

Contractor shall produce certificates of insurance or copies of insurance policies upon request by the State.

When a portion of a Contract is sublet, the Contractor shall obtain insurance protection (as outlined above) to provide liability coverage to protect the Contractor and the State as a result of work undertaken by the Subcontractor. In addition, the Contractor shall ensure that any and all parties performing work under the Contract are covered by public liability insurance as outlined above. All Subcontractors performing work under the Contract are required to maintain the same scope of insurance required of the Contractor. The Contractor shall be held responsible for ensuring compliance with those requirements by all Subcontractors.

RM Consulted 2007
Revised 6-07



Amendment No. 1

To: ALL INTERESTED SUPPLIERS
From: North Dakota Department of Transportation
Date: August 5, 2020
Re: Amendment to ITB 760-06-20-050, Cutting Edges

Bidders Instruction #11 of the solicitation established a deadline for receipt of questions. The responses to these questions are provided as addenda to the solicitation. When necessary, the solicitation has been amended.

Question 1:

Can you please provide blade thickness for the sectional tungsten carbide blades?

Answer 1:

The minimum blade thickness should be 7/8".
The bid is hereby amended.

Question 2:

Can you provide information on estimated quantities of each item ordered by each shop?

Answer 2:

Total quantities for each district shop have not been broken down. Amendment, Page 3 of 3 lists total units purchased by the agency from 08/01/2019 – 07/31/2020.
The bid is hereby amended.

Question 3:

We would like to be able to submit bids for Lake Effect and Ice O Force HD, as well as the Joma and carbide blades listed in the bid. Would it be possible to bid these as alternatives or to have them added by addendum?

Answer 3:

NDDOT is not ready to add new items to the bid at this time. Bidders may offer alternatives and must include product literature with the bid. NDDOT would assess the literature to determine equivalency. If it is determined that the alternate product is equivalent, Maintenance would be willing to test the edges to further support equivalency.
The bid is hereby amended.

Question 4:

Would you consider adding the following requirement to the specification on pages 14 and 15 of the solicitation, pertaining to NDDOT P/N 76006-366505 & 76006-366510?

The inserts shall include and be manufactured with and be manufactured with small protrusions (on either abutting end) that maintain a precise gap between the inserts so that molten braze may flow between inserts consistently and effectively.

Answer 4:

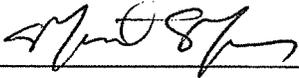
The specifications will not be changed at this time.
No amendment necessary.

Vendors are instructed to acknowledge receipt of and compliance with this amendment by signing below and returning this acknowledgement with your bid or proposal.

Any questions regarding this amendment must be submitted in writing to the undersigned Procurement Officer.

Vanessa Brosten, Procurement Officer
PHONE: 701-328-4466
E-MAIL: vbrosten@nd.gov

By my signature below, I hereby acknowledge receipt of and compliance with this amendment to the above referenced solicitation.

COMPANY NAME Chemung Supply Corp.	
PRINTED NAME OF BIDDER OR OFFEROR <u>and TITLE</u> Michael Menner, Vice-President	
SIGNATURE 	DATE 08/11/20



Ph. (607)733-5506, Fx. (607)732-5379

www.chemungsupply.com

Evolution Edges (a division of Chemung Supply)

COMPANY INFORMATION PACKET



Chemung Supply Corp. ♦ P.O. Box 527 ♦ Elmira, NY 14902



Ph. (607)733-5506, Fx. (607)732-5379

www.chemungsupply.com

GENERAL COMPANY INFORMATION

EVOLUTION EDGES (a division of Chemung Supply)

Firm Name
 2420 Corning Road
 Street Address
 607-733-5506/800-733-5508
 Area Code/Telephone (800 if available)
 mmenner@chemungsupply.com
 Email
 Mike Menner
 Sales Contact Name

16-0380890
 Federal Tax ID No.
 ELMIRA, NY 14903
 City/State/Zip
 607-732-5379
 Fax
 www.evolutionedges.com
 Website
 Manager
 Title

Company Profile

1. Company Name:
 - a. Evolution Edges (a Division of Chemung Supply)
2. Primary Business Address:
 - a. 98 Philo Road West, Elmira, NY 14903
3. Company Ownership Structure:
 - a. Corporation
4. Employee Size (number of Employees):
 - a. 74
5. Website:
 - a. www.evolutionedges.com
6. Sales Contact Information:
 - a. Mike Menner – VP, Winter Products
 - b. Work: 607-733-5506/800-733-5508



Chemung Supply Corp. ♦ P.O. Box 527 ♦ Elmira, NY 14902



Ph. (607)733-5506, Fx. (607)732-5379

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- c. Mobile: 607-731-6013
 - d. Email: mmenner@chemungsupply.com
7. Client retention rate during the past 3 years:
- a. Chemung Supply has been servicing the same customers (municipalities, contractors, and distributors) in the northeastern US for over 80 years. Our retention rate is very strong, as our customers have come to rely on our broad product-line in the highway supplies sector and excellent customer service.
8. A brief history of your company and the year it was founded:
- a. Chemung Supply Corp. was founded in 1931, and has been a key supplier of highway supplies to municipalities, contractors, and distributors in the Northeastern US since its inception. Our main products & services include: winter wear parts (steel/carbide/rubber snow plow blades, shoes, and plow guards), salt spreaders, spreader chains, drainage pipe, guiderail materials & installation, structural steel, signs & sign posts, geotextile fabrics, and much more. Our snow plow blade manufacturing facility, Evolution Edges, was opened in 2009, and primarily focuses on the manufacture of high carbon steel and carbide inserted snow plow blades.
9. Describe your company's growth during the past three years:
- a. Historically, as a distributor, our primary customer base was focused on municipalities in the Northeastern US. Since the opening of our manufacturing facility in 2009, Evolution Edges, we've extended our geographical coverage and customer base to states and distributors across the US, including the Mid-Atlantic, Southeast, Great Lake, Greater Southwest, Heartland, Rocky Mountain, Pacific, and Northwest regions. Becoming a manufacturer has provided us with significant growth opportunities in the winter product market.



Chemung Supply Corp. ♦ P.O. Box 527 ♦ Elmira, NY 14902



Ph. (607)733-5506, Fx. (607)732-5379

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Customer Service

1. What are your hours of operation and when are key account people available to us?
 - a. Hours of Operation
 - i. Monday – Friday: 7:00am – 4:30pm EST
 - b. Availability
 - i. Mike Menner can be contacted 24 hours a day, 7 days per week on his mobile phone for emergencies. Or, Mike and/or any one of our customer service representatives can be contacted at the main number during regular business hours.
2. Describe how problem identification and resolution will be handled.
 - a. A number of steps have been implemented in the manufacturing/sales order entry processes to avoid product problems from occurring prior to shipment of product:
 - i. Independent steel and carbide tests are conducted as new materials arrive to ensure they meet the required specifications prior to the manufacture of each product.
 - ii. Sales orders are checked at multiple stages by different employees to ensure they match customer orders/requirements
 1. Order Entry Stage – while new orders are entered into our JD Edwards ERP system
 2. Pre-Manufacturing Stage – while the orders are entered into the manufacturing queue at the plant
 3. Post Manufacturing Stage – while the material is removed from the manufacturing equipment
 4. Pre-Shipment Stage – prior to the material being loaded on a truck for delivery



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- b. When problems do occur with our products, we take the following steps:
 - i. Investigate the issue that occurred and identify the cause
 - ii. Prioritize the replacement of the product/s in the production queue and ship them to the effected customer quickly to avoid any service delays
 - iii. Remedy the issue to ensure the same issue is avoided in future production runs of the effected product
3. How will you service our account? Describe the system you will use to manage our account.
 - a. Chemung Supply uses JD Edwards (JDE) as an ERP system. Once any orders are received, they are entered into JDE which subsequently enters the order into the production queue at the Evolution Edge manufacturing plant. Orders are manufactured in chronological order unless a contract stipulation specifies a different delivery time. We also carry an inventory of any standard items based on previous order histories in order to improve delivery time. Once an order is ready for shipment, the customer is contacted to notify them of the delivery.
4. How do you respond to customer complaints and service issues?
 - a. Any issues communicated to us will be dealt with immediately upon notification. Evolution Edges warrant to its purchaser that all its products will be free of material or manufacturing defects. If the product fails under normal conditions with regards to its intended use, it will be replaced free of charge. Evolution Edges will not be responsible consequential or other damages of any nature. This is in lieu of all other warranties expressed or implied and is the sole warranty extended.
5. How do you assess customer satisfaction?
 - a. At Evolution Edges we constantly assess our customer's satisfaction through continual communication between our salesforce and our customers. We believe that we must continually improve and adapt in order to succeed; based on the feedback we receive



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Ph. (607)733-5506, Fx. (607)732-5379

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from our customers. As a result of our communication, we continue to focus on lean production processes, products, and strengthening relationships with our partners in an effort to better serve our customers. Some of the key areas we have improved include making second shift a year-round shift, not seasonal. In addition, we have added to our core of quality operators and production personnel to ensure we continually improve on our delivery of quality products in a safe manner. Lastly, we continually analyze sales histories and produce standard stock items to help alleviate some of the production pressures that occur when large volumes of orders come in during a busy winter season. In conclusion, we continually adapt to our customer's needs and adapt when our customer's communicate dissatisfaction or a change in requirements is needed.

Technology

1. Describe your online system that Purchasing Entities would use to place orders and receive results? Include all method of order submission
 - a. Our website, www.evolutionedges.com, has a "contact us" section that can be used to notify us that information is required or an order needs to be placed. We are then emailed from the site and a salesperson will follow up with the requestor to discuss the details of the order. Once the details are firmed up, the order will be entered in the JDE system as mentioned above and run through the manufacturing process until delivery is made. Or, the customer can contact us directly via phone or email to place the order.
2. Describe your ability and process to support a decentralized system of orders submitted from many end users in multiple states and locations.
 - a. As described above, we've been in business for over 80 years supporting the municipal market across the US. We are used to the fast-paced and sometimes critical demands of a broad customer base that require our products quickly to support their infrastructure needs. All orders, regardless of geographical location, are centralized in our JDE system



Chemung Supply Corp. ♦ P.O. Box 527 ♦ Elmira, NY 14902



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Evolution Edges Blade Warranty

1. Evolution Edges warrant to its purchaser that all its products will be free of material or manufacturing defects. If the product fails under normal conditions with regards to its intended use, it will be replaced free of charge. Evolution Edges will not be responsible consequential or other damages of any nature. This is in lieu of all other warranties expressed or implied and is the sole warranty extended.

References (3)

1. Idaho DOT
 - Lora Longhurst – Senior Buyer
 - 208-239-3346
 - Lora.longhurst@itd.idaho.gov
2. Utah DOT
 - Debbie Boulton – Purchasing Agent III
 - 801-965-4070
 - dboulton@utah.gov
3. South Dakota DOT
 - Scott Nelson – Purchasing Specialist
 - 605-773-4275
 - Scott.Nelson@state.sd.us



Chemung Supply Corp. ♦ P.O. Box 527 ♦ Elmira, NY 14902



A Division of Chemung Supply

Phone: (607)733-5506, Fax: (607)732-5379

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Tungsten Carbide Tipped Snow Plow Blades

The following specifications are being used by Evolution Edges in our manufacturing process to assure the carbide tipped snowplow blades we produced are of a superior quality.

1. Blade

- a. The blade shall be hot-rolled finished steel to meet or exceed the grade requirements of A36 or 1026 type steel.
- b. Holes shall be 11/16" square holes with countersink to receive 5/8" diameter plow bolts. Hole locations will be determined by the end user.
- c. Center of the holes shall be within 1/32" of the established horizontal centerline and 1/16" of established vertical centerline.

2. Tungsten Carbide Inserts

- a. The insert shall be a high shock WC grade of tungsten carbide with 11% to 12.5% cobalt content.
- b. Our tungsten carbides are made of 100% virgin carbide material. No recycled materials are used.
- c. The density of the carbide shall be 14.2 minimum to 14.6 maximum.
- d. The hardness of the carbide shall be 88.0 minimum to 89.0 maximum
- e. The transverse rupture strength shall be 350,000 psi minimum.
- f. Porosity shall conform to A06, B00, C00
- g. The shape and size of the insert shall be determined by the individual product. The tolerance on each dimension shall be as follows:
 1. 0.750 Height +/- .005"
 2. 0.365 Width +/- .005"
 3. Length 1" nominal
 4. Bottom Angle = 25 degrees(+/- 1 degree), with a nose radius of 1/16 inch (.0625) minimum



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Revised 6 26 2017



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3. Brazing

- a. Brazing material shall be a high strength high temp alloy type, with minimum shear strength of 30,000 psi
- b. Inserts will be placed next to each other in the milled slot along the entire length of the cutting edge.
- c. Inserts shall be braised on all sides consistent with sound brazing practice with no evidence of voids or use of shims.
- d. Each blade shall contain one insert, one inch nominal length for each inch of the blade sections overall length. Several inserts in each blade may be slightly longer or shorter to ensure there will be no inserts extending from the ends of the steel portion of the blade.

4. Milled Slot

- a. Slot Width .375" +/- .005
- b. Slot Depth .750" +/- .005

5. Additional Specifications

- a. The difference between the highest and lowest tip point on any two adjacent inserts is not to exceed 1/32" on any given blade assembly.
- b. Longitudinal deviation will not exceed 1/8" in a 4' blade section.

Evolution Edges Blade Warranty

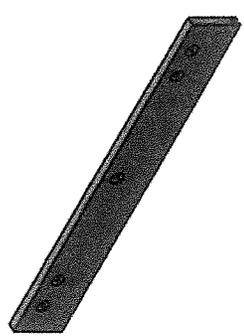
Evolution Edges warrant to its purchaser that all its products will be free of material or manufacturing defects. If the product fails under normal conditions with regards to its intended use, it will be replaced free of charge. Evolution Edges will not be responsible for consequential or other damages of any nature. This is in lieu of all other warranties expressed or implied and is the sole warranty extended.



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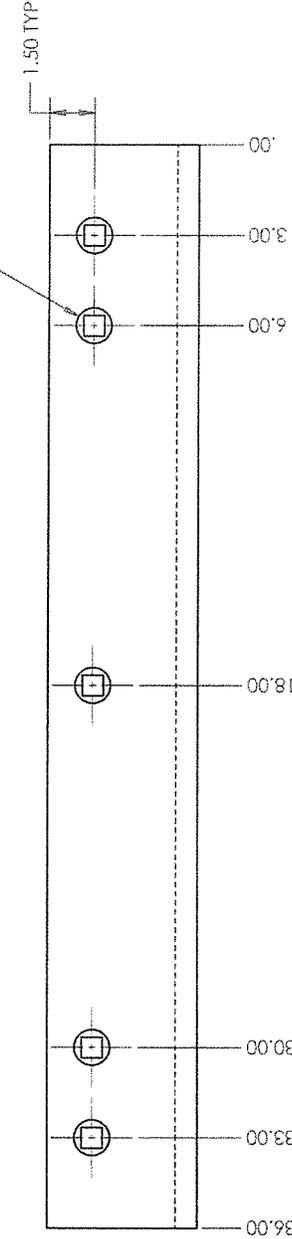
Revised 6 26 2017

1 2 3 4 5 6 7 8

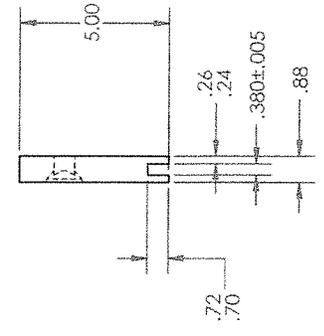


D

5x ϕ 1.191 ∇ .12
 82° 11/16" \square
 FOR 5/8 PLOW BOLT



C



B

UNLESS OTHERWISE SPECIFIED:
 DIMENSIONS ARE IN INCHES
 TOLERANCES:
 FRACTIONS 1/16
 DECIMALS .015
 ANGULAR DECIMAL ± 0.1
 TWO PLACE DECIMAL ± 0.1
 THREE PLACE DECIMAL ± 0.05
 HOLE DIMENSIONS PER
 MATERIAL
 FINISH 1024 OR EQ.
 AS NOTED

Evolution Edges

TITLE:
 STD CB7/8X5X36 TALL INS
 SQ GTSK 11/16(1 1/2 GA)3-3-12
 SIZE DWG. NO. B ECBTPSCA-78536
 REV A
 SCALE: 1:4 WEIGHT: SHEET 1 OF 1

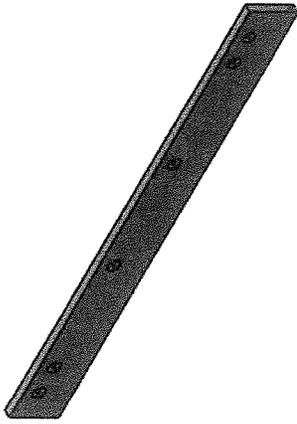
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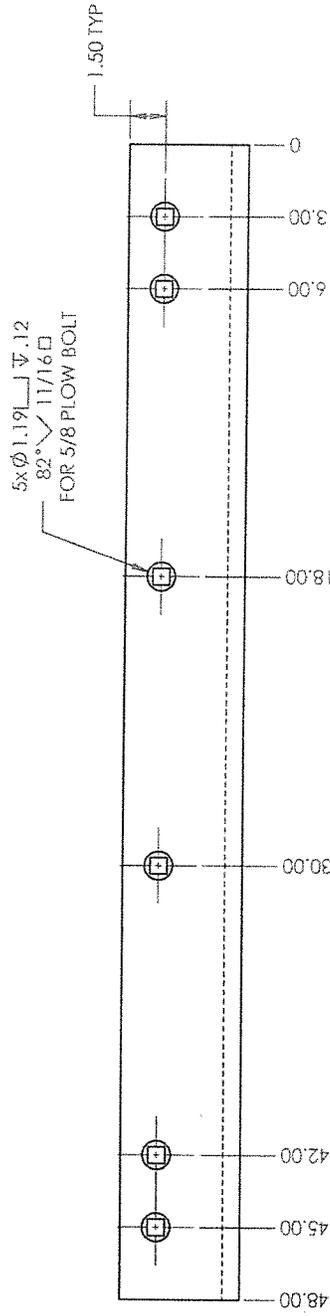
DO NOT SCALE DRAWING

NAME: D. HEDMAN DATE: 9/17/2020
 DRAWN: CHECKED: ENG APPR: MFG APPR: Q.A. COMMENTS:
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 1 2 3 4 5 6 7 8

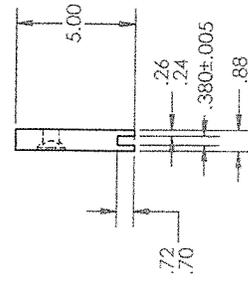
8 7 6 5 4 3 2 1



D



C



B

UNLESS OTHERWISE SPECIFIED:
 DIMENSIONS ARE IN INCHES
 TOLERANCES:
 FRACTIONAL: 1/16"
 ANGULAR: MACH. 1.01 BEND ± 1.5
 HOLE LOCATIONS: ± .005
 THREE PLACES: DIM. ± .005
 O.A.
 COMMENTS:



NAME: D. HERMAN
 DATE: 8/11/2020

DRAWN: CHECKED
 ENG. APPR. MFG. APPR.
 O.A.
 COMMENTS:

FINISH: 1026 OR EQ.
 AS NOTED
 DO NOT SCALE DRAWING

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HEAT TREAT: USED ON
 APPLICATION: 4

TITLE:
 STD CB7/8X5X48 TALL INS
 SQ CTSK 11/16(1 1/2 GA)3-3-12
 SIZE DWG. NO. **B** ECBTSCA-78548
 REV **A**
 SCALE: 1:5 WEIGHT: SHEET 1 OF 1

A

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3

4

5

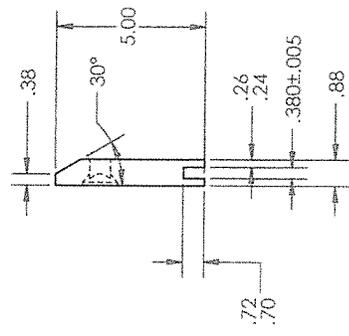
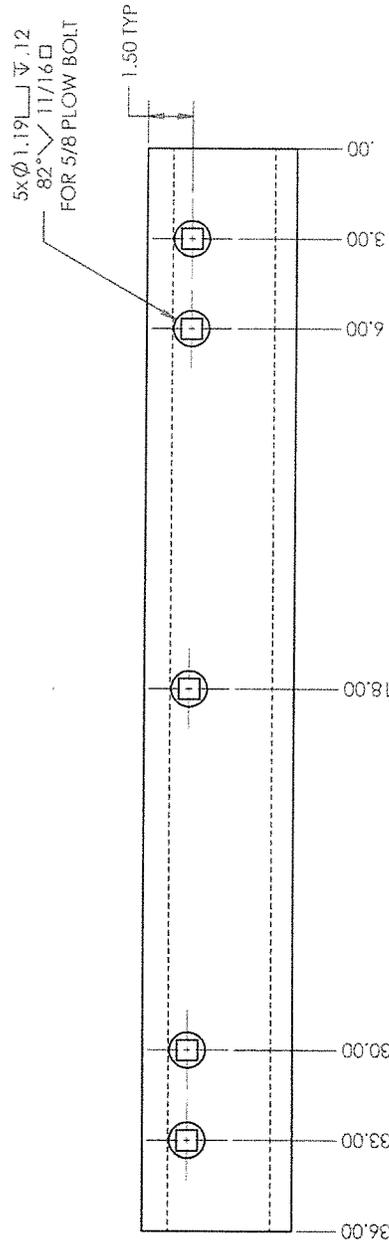
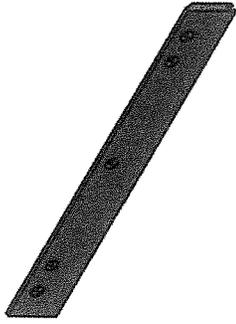
6

7

8

A

8 7 6 5 4 3 2 1



UNLESS OTHERWISE SPECIFIED:
 DIMENSIONS ARE IN INCHES
 FRACTIONAL: 1/16
 DECIMAL: .005
 TOLERANCES:
 FRACTIONAL: 1/16
 DECIMAL: .005
 TWO PLACE DECIMAL: ±.01
 THREE PLACE DECIMAL: ±.005
 UNLESS OTHERWISE SPECIFIED:
 MATERIAL: 1026 OR EQ.
 FINISH: AS NOTED

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EVOLUTION EDGES
 11/16 (1 1/2 GA) 3-12
 STD CB7/8X5X36 TALL INS BV30
 SQ CTSK 11/16 (1 1/2 GA) 3-12
 TITLE:
 SIZE DWG. NO. REV
 B ECBTSPCA-2805 A

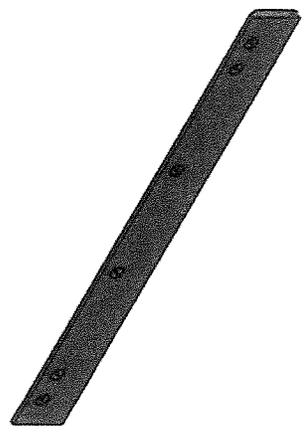
NAME: D. HESMAN
 DATE: 8/12/2008
 DRAWN: CHECKED:
 ENG APPR. MFG APPR.
 O.A. COMMENTS:

SCALE: 1:4 WEIGHT: SHEET 1 OF 1

DO NOT SCALE DRAWING
 APPLICATION: 4
 NEXT ASSEMBLY: 4
 USED ON: 4

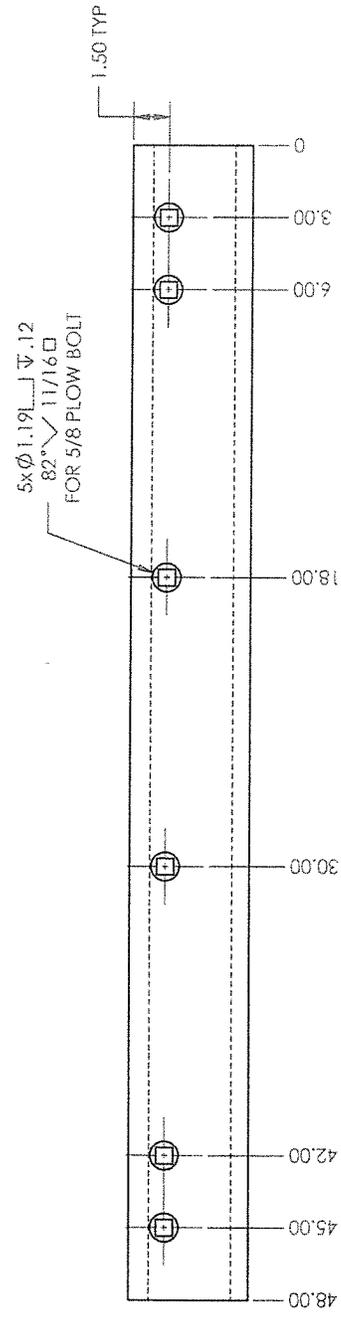
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8 7 6 5 4 3 2 1

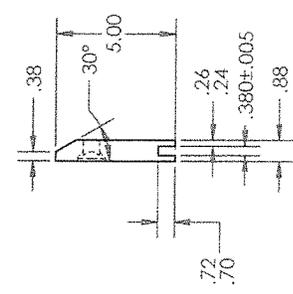


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UNLESS OTHERWISE SPECIFIED:
 DIMENSIONS ARE IN INCHES
 DECIMALS TO THREE PLACES
 ANGULAR: MACH: ON PERIODS
 TWO PLACE DECIMAL ±.01
 THREE PLACE DECIMAL ±.005
 UNLESS OTHERWISE SPECIFIED:
 DIMENSIONS ARE IN INCHES
 DECIMALS TO THREE PLACES
 ANGULAR: MACH: ON PERIODS
 TWO PLACE DECIMAL ±.01
 THREE PLACE DECIMAL ±.005
 UNLESS OTHERWISE SPECIFIED:
 DIMENSIONS ARE IN INCHES
 DECIMALS TO THREE PLACES
 ANGULAR: MACH: ON PERIODS
 TWO PLACE DECIMAL ±.01
 THREE PLACE DECIMAL ±.005

NAME: D. HERMAN
 DATE: 8/17/2020
 DRAWN: CHECKED: ENG APPR: MFG APPR: D.A.
 COMMENTS: MATERIAL: 1026 OR EQ.
 FINISH: AS NOTED
 DO NOT SCALE DRAWING

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REVISIONS:
 REV: 1
 TITLE: STD CB7/8X5X48 TALL INS BV30
 SQ CTSK 11/16(1 1/2 GA)3-12
 SIZE DWG. NO. B ECBPSCA-2806
 SCALE: 1:5 WEIGHT: SHEET 1 OF 1

1

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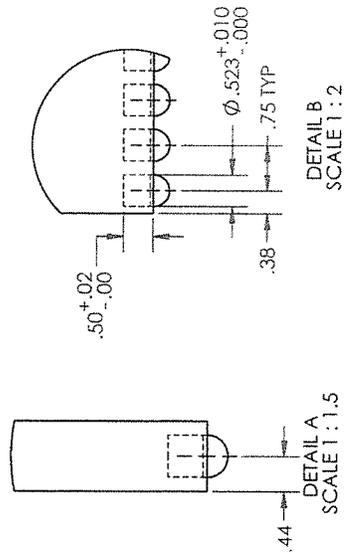
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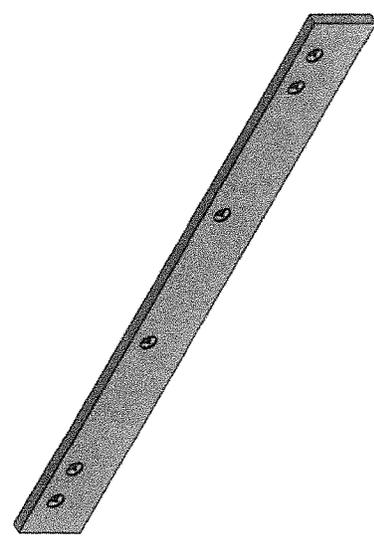
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A

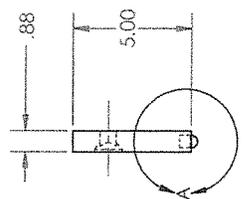
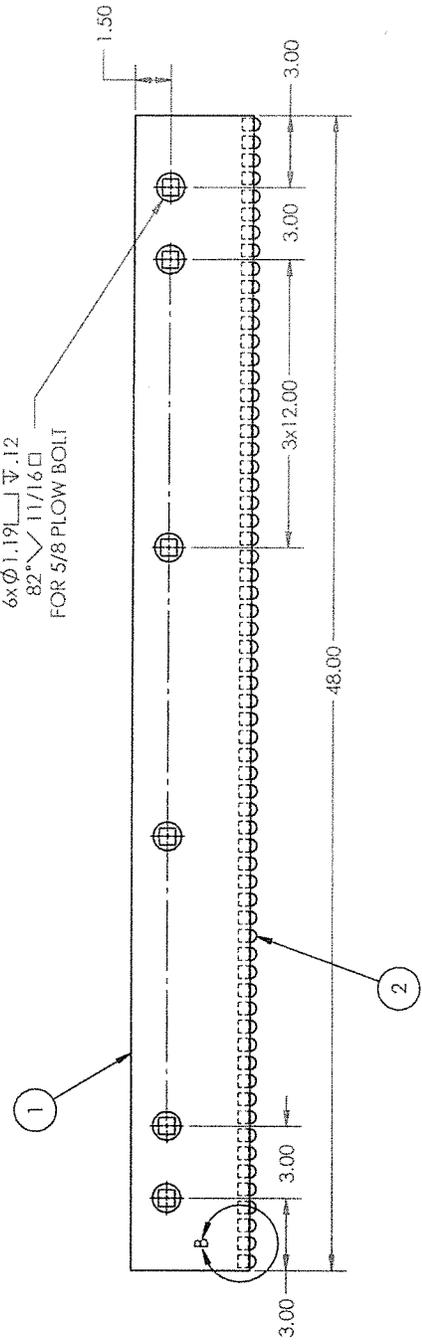
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	ECBPICK-78548	7/8x5x48" 11/16 CTSK 3-3-12 1.5GA	1
2	Wungsten Carbide Insert	CARBIDE DOME INSERT	64



DETAIL B
SCALE 1 : 2



6x $\phi 1.191 \pm .12$
82° ∇ 11/16 □
FOR 5/8 PLOW BOLT



UNLESS OTHERWISE SPECIFIED,
DIMENSIONS ARE IN INCHES
TOLERANCES UNLESS OTHERWISE SPECIFIED:
FRACTIONS TO THIRDS
DECIMALS TO THIRDS
TWO PLACE DECIMALS TO THIRDS
THREE PLACE DECIMALS TO THIRDS
DIMENSIONS UNLESS OTHERWISE SPECIFIED
MATERIAL
FINISH
USED ON
APPLICATION
DO NOT SCALE DRAWING

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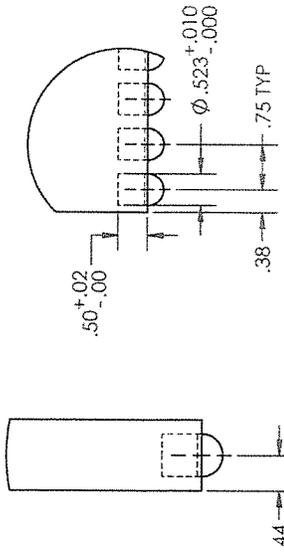


TITLE: PICK CB 7/8X5X48 DOME INS SQ CTSK 11/16(1.5GA)3-3-12
REV A
SIZE DWG. NO. ECBPICK-78548
SCALE: 1:5 WEIGHT: SHEET 1 OF 1

NAME: G. JERMAN
DATE: 9/26/2016
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CHECKED: [blank]
ENG APPR: [blank]
MFG APPR: [blank]
O.A.: [blank]
COMMENTS: [blank]

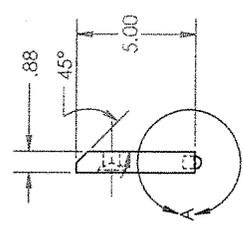
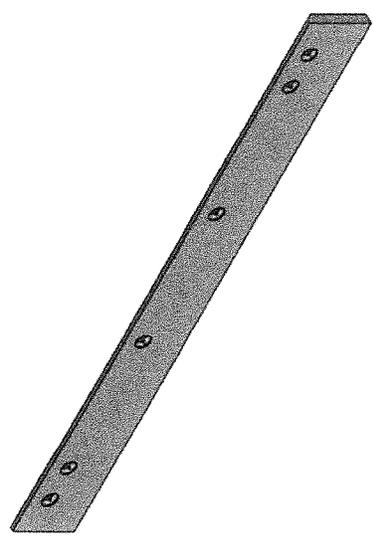
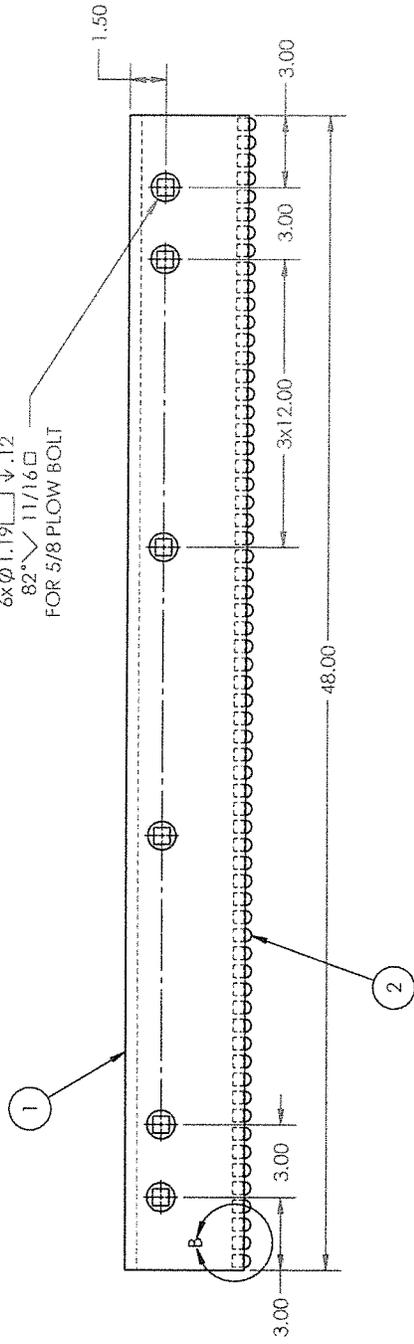
1026 OR EQ.
AS NOTED

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	ECBPICK-78548-BV	7/8x5x48" 11/16 CTSK 3-3-12 1.5GA	1
2	Insert	Carbide Dome Insert	64



DETAIL B
SCALE 1:2

6x $\phi 1.191 \pm .12$
82° $\nabla 11/16 \square$
FOR 5/8 PLOW BOLT



UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN INCHES
TOLERANCES FRACTIONAL 1/16
DECIMALS .015
HOLE DIMENSIONS TWO PLACE DECIMAL
THREE PLACE DECIMAL 1.005
ANGLE APPR.
D.A.
INTERPRET GEOMETRIC
TOLERANCING PER
ASME Y14.5
MATERIAL 1026 OR EQ.
FINISH AS NOTED

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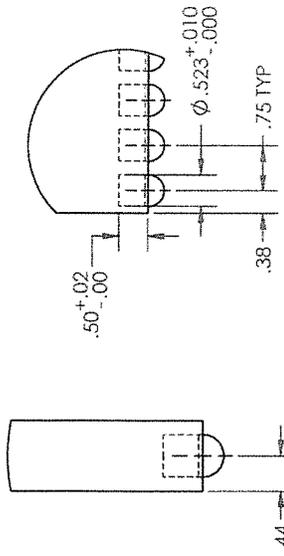


TITLE: PICK CB 7/8X5X48 DOME INS BV
SQ CTSK 11/16(1.5GA)3-3-12
REV A
SIZE DWG. NO. ECBPICK-78548-BV
SCALE: 1:5 WEIGHT: SHEET 1 OF 1

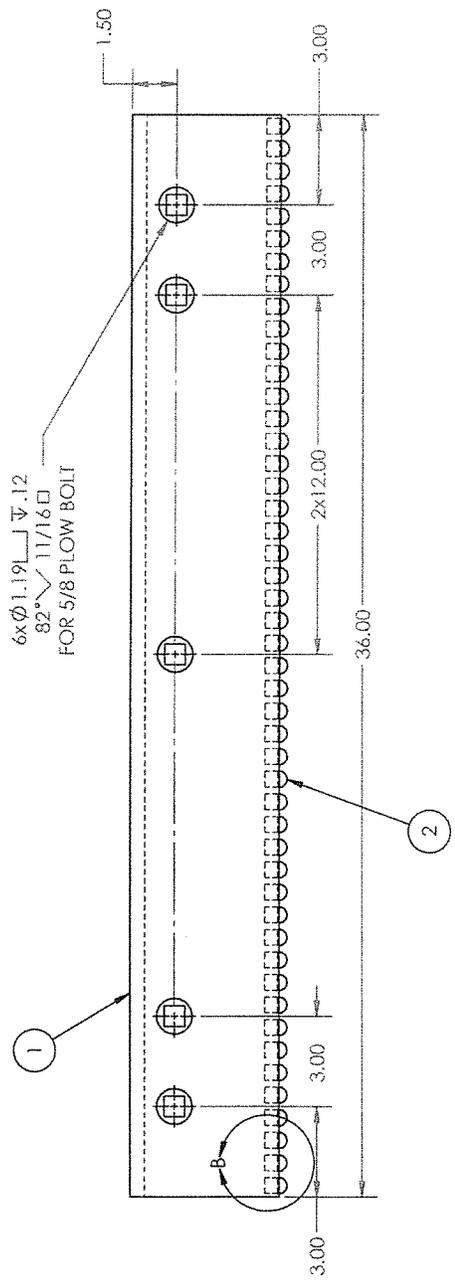
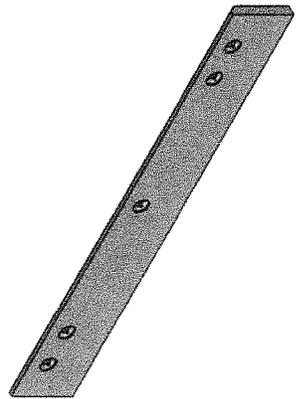
NAME DATE
D. HERMAN 9/14/2018
DRAWN CHECKED
ENG APPR.
MFG APPR.
D.A.
COMMENTS:
1026 OR EQ.
AS NOTED
E.O. NOT SCALE DRAWING

1 2 3 4 5 6 7 8

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	ECBPICK-78536-BV	7/8x536" 11/16 CTSK 3-3-12 1.5GA	1
2	Wungsten Carbide Insert	CARBIDE DOME INSERT	48



DETAIL B
SCALE 1:2



UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN INCHES
FRACTIONS: 1/16 IN REQS 4-5
TWO PLACE DECIMAL 4-6
THREE PLACE DECIMAL 4-505
MATERIAL
SURFACE FINISH
TOLERANCES
O.A.
COMMENTS:

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1026 OR EQ.
AS NOTED
DO NOT SCALE DRAWING

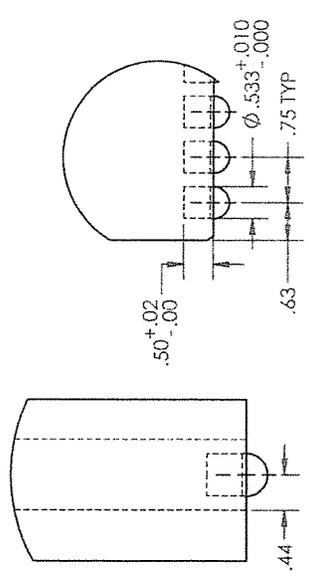
INSTRUMENT GEOMETRY
DRAWN BY: D. BERMAN
CHECKED BY: BFG/APP
DATE: 7/14/2018



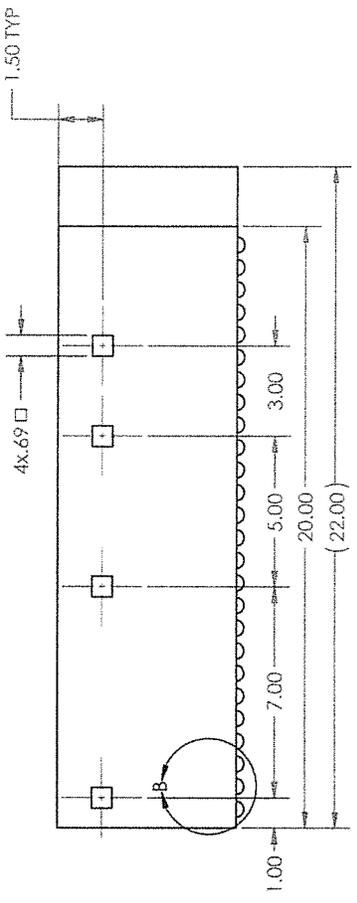
EVOLUTION EDGES
TITLE: PICK CB 7/8X536 DOME INS BV
SQ CTSK 11/16(1.5GA)3-3-12
SIZE DWG. NO. ECBPICK-78536-BV
REV A
SCALE: 1:4 WEIGHT: SHEET 1 OF 1

1 2 3 4 5 6 7 8

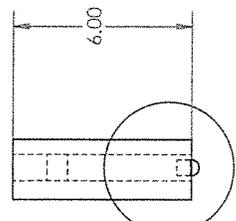
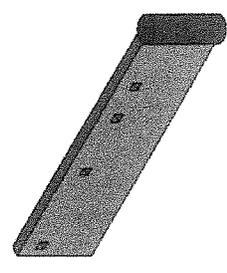
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	EGRD-PICK-BR	3/4X6X22 EDGE	1
2	Wingsten Carbide Insert	CARBIDE DOME INSERT	26
3	2X6 RND BAR	Ø 2X6 ROUND BAR	1



DETAIL B
SCALE 1 : 2



DETAIL A
SCALE 1 : 1.5



We will add countersink holes to make these left & right. We will make them out of 5" material for NO. 7797

EVOLUTION EDGES

UNLESS OTHERWISE SPECIFIED:
 DIMENSIONS ARE IN INCHES
 TOLERANCES
 ANGULAR MATCHES ON RENDS
 TWO PLACE DECIMAL ±.005
 THREE PLACE DECIMAL ±.005
 FINISH UNLESS OTHERWISE SPECIFIED
 MATERIAL
 A36 OR EQ
 AS NOTED

DATE: 6/20/2017
 DRAWN: CHECKED: EIG/APP
 MFG APPR: O.A.
 COMMENTS:

TITLE: 7/8X6X22 GRDW/BAR PICK INSERT
 SQ11/16 UNIV 1-7-5-3-4
 SIZE DWG. NO. REV
 EGRD-PICK-BR A
 SCALE: 1:4 WEIGHT: SHEET 1 OF 1

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USED ON
 NEXT ASSY
 APPLICATION

EcoMetal Inc.

154 Sonwil Drive, Buffalo, NY 14225
Phone: (716) 681 1888, Fax: (716) 681-1887

CERTIFICATE OF QUALITY

No.: 20200616-4/40

PRODUCT: Snow Plow Inserts

DIMENSION: 0.365*0.75*0.99

TYPE:NC-12508SX0.99/2370026

LOT NO: CB10-20162

QTY: 2040 pcs

RESULTS OF ANALYSIS

Co: 11.05%

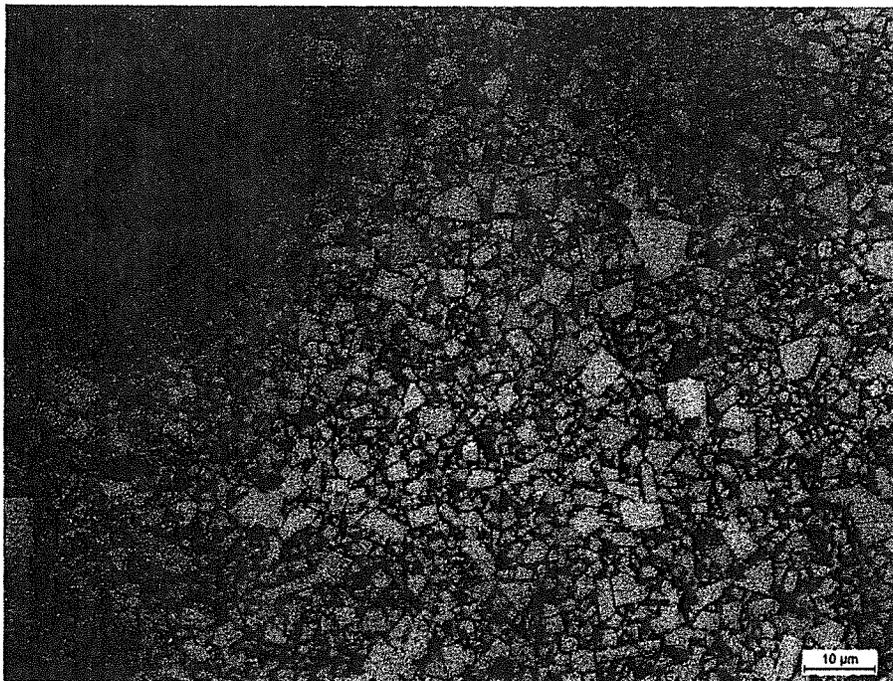
TRS:354 Kpsi

Hardness: 88.0HRA

Density: 14.21g/cm³

Porosity: A02B00C00

Microstructure: as below



EcoMetal Inc.

154 Sonwil Drive, Buffalo, NY 14225
Phone: (716) 681 1888, Fax: (716) 681-1887

CERTIFICATE OF QUALITY

No.: 20200616-4/40

PRODUCT: Snow Plow Inserts

DIMENSION: 0.365*0.75*0.99

TYPE:NC-12508SX0.99/2370026

LOT NO: CB10-20158

QTY: 3570 pcs

RESULTS OF ANALYSIS

Co: 11.01%

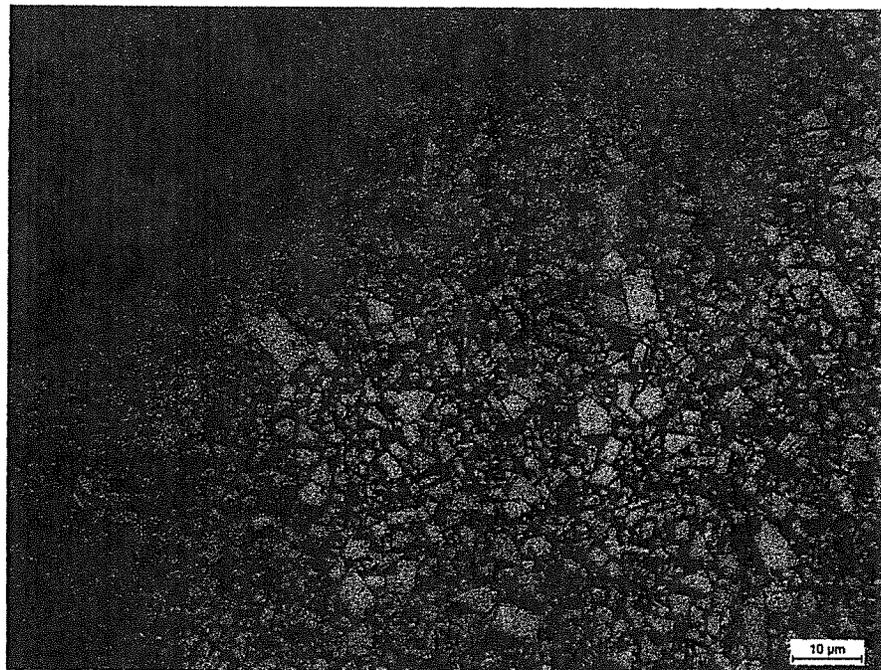
TRS:354 Kpsi

Hardness: 88.1HRA

Density: 14.21g/cm³

Porosity: A02B00C00

Microstructure: as below



EcoMetal Inc.

154 Sonwil Drive, Buffalo, NY 14225
Phone: (716) 681 1888, Fax: (716) 681-1887

CERTIFICATE OF QUALITY

No.: 20200616-4/40

PRODUCT: Snow Plow Inserts

DIMENSION: 0.365*0.75*0.99

TYPE: NC-12508SX0.99/2370026

LOT NO: CB10-20164

QTY: 2550 pcs

RESULTS OF ANALYSIS

Co: 11.01%

TRS: 354 Kpsi

Hardness: 88.0HRA

Density: 14.20g/cm³

Porosity: A02B00C00

Microstructure: as below



EcoMetal Inc.

154 Sonwil Drive, Buffalo, NY 14225
Phone: (716) 681 1888, Fax: (716) 681-1887

CERTIFICATE OF QUALITY

No.: 20200616-5/40

PRODUCT: Snow Plow Inserts

DIMENSION: 0.365*0.75*0.99

TYPE:NC-12508SX0.99/2370026

LOT NO: CB10-20158

QTY: 1530 pcs

RESULTS OF ANALYSIS

Co: 11.01%

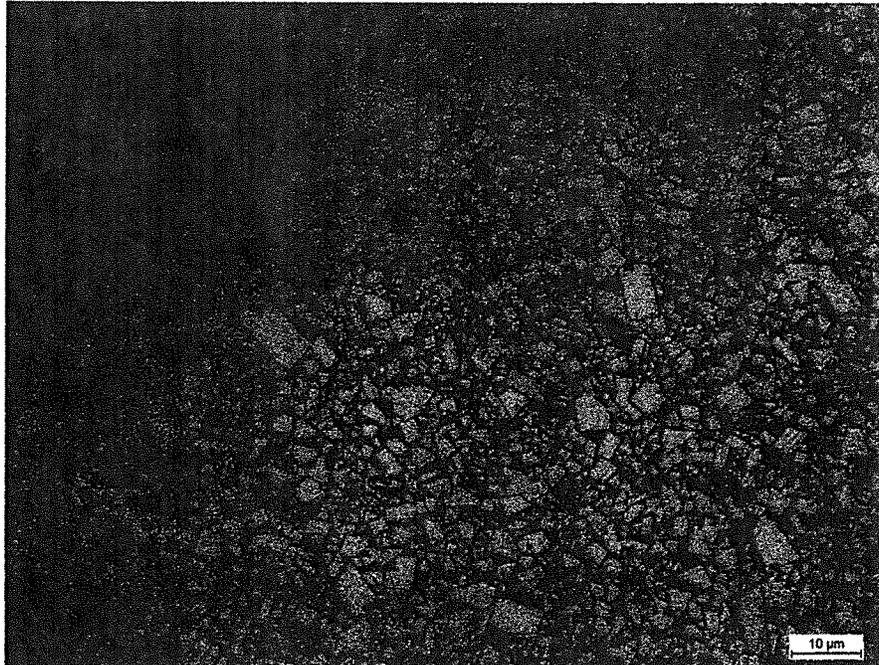
TRS:354 Kpsi

Hardness: 88.1HRA

Density: 14.21g/cm³

Porosity: A02B00C00

Microstructure: as below



TXS Oscillating Carbide Blade Specifications

General Specifications

The TXS Oscillating blade consists of steel segments vulcanized in rubber with steel bushings positioned to facilitate mounting on standard 12 inch centers. The steel segments have been milled and inserted with tungsten carbide pieces brazed in place along the wearing edge.

The overall dimensions are approximately 7/8-inch thick by 6 inches wide and manufactured in 3 and 4 foot lengths. Each 12-inch length of blade will consist of a specialty profiled, carbide inserted steel segment with an 11/16" ID Steel bushing positioned at the mounting hole. The entire blade, consisting of 3 and 4 foot segments, is encased in rubber by way of sound, industry standard vulcanizing methods.

Steel Segment

Each steel segment is manufactured from Q&T steel plate, profiled to accept the carbide insert in the lower portion and is thinner at the top to allow the segment to be encased in rubber so as not to have direct contact with the snow plow. Each segment is milled with a continuous slot along the wearing edge, which is fitted with tungsten carbide inserts that are brazed into place.

Segment dimensions are approximately 3/4" thick (lower section) and 5/8" thick (upper section) x approximately 5" wide and 11-1/4" long. Each segment is shaped in a "horseshoe" design such that there is no steel around the mounting hole.

Tungsten Carbide Inserts

The tungsten carbide inserts are high shock resistant grade tungsten carbide, "rooftop" shape. Each insert is approximately .3125" thick x .955" tall x 1" long and 68 grams in weight.

Tungsten carbide 89% by physical weight

Cobalt Binder approximately 11% by physical weight

Each finished segment will have 11 inserts

Specific Gravity 14.35 to 14.60

Hardness Range 87.5-88.8. Rockwell A.

Transverse rupture strength 351,000 – 428,000 P.S.I.

Braze

The inserts are brazed on all sides with Nickel/Silver braze which has a shear strength approximately 70,000 P.S.I. The maximum difference between the highest and lowest insert after brazing is 1/32" in each segment.

Braze Composition: Copper/Silver: 46.0 – 50.0%

Silicone: 0.04 – 0.25%

Nickel: 9.0 – 11.0%

Phosphorus: 0.25%

Aluminum: 0.01%

Lead: 0.05%

Zinc: Remainder

Rubber Matrix

Typical physical Properties: Ultimate Elongation: 582%

100% Modulus: 276 P.S.I.

Tensile Strength: 3113 P.S.I.

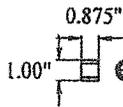
Shore A Durometer: 70 pts.

Tear Strength: 341 P.S.I.

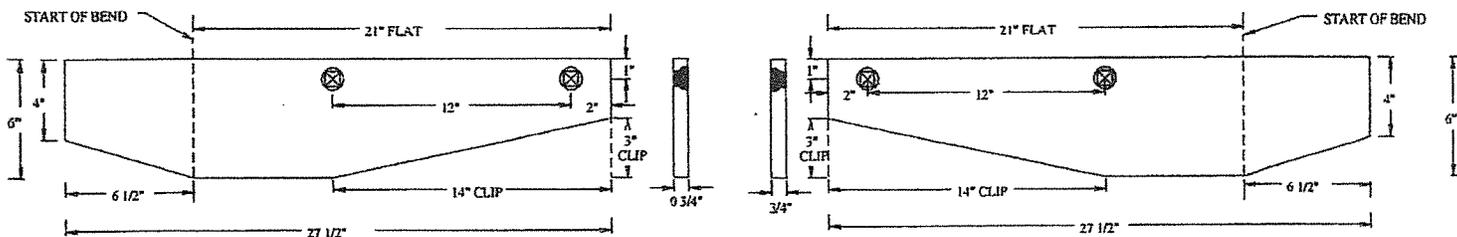
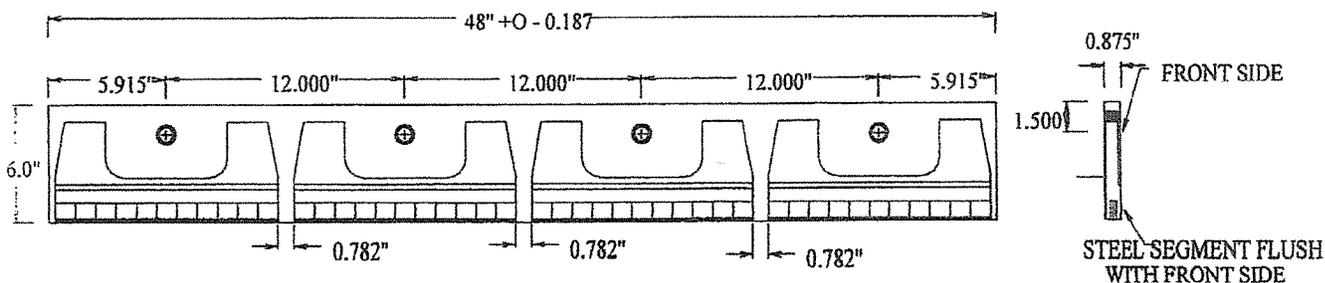
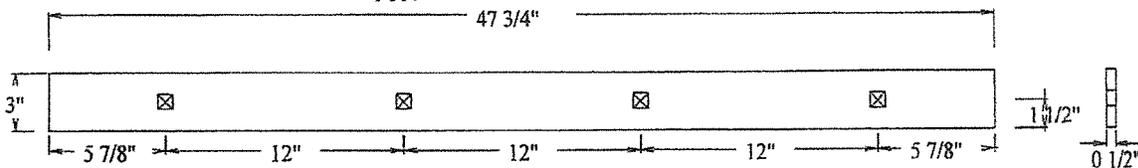
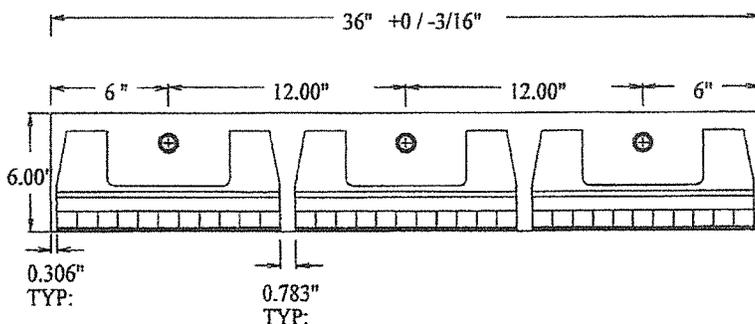
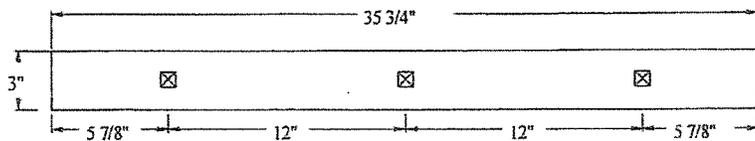
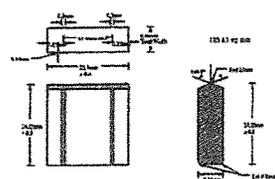
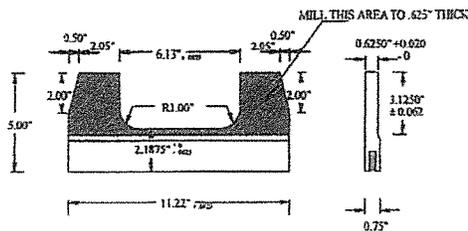
Compression Set: 26.5%

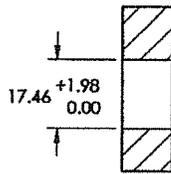
Low Temperature Brittleness: No cracks at -40C

This Product is Warranted Against Defects in Material and Workmanship

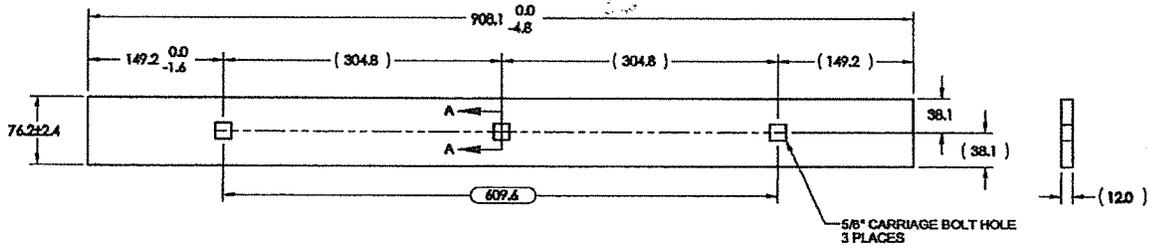
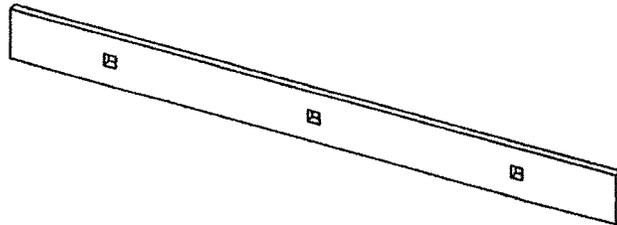


11/16" round hole





SECTION B-B
5/8" CARRIAGE BOLT HOLE



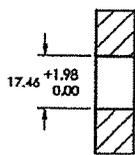
TOLERANCE		PART NAME	CLAMP BAR		DESIGN BY	CHK'D BY
X	±3mm	MATERIAL	BORON 15830	WEIGHT		
XX	±1.6mm			PART NO.		
XXX	±0.79mm			JB-CLAMP3		
X	±2°					
XX	±0.5°					

BOLT SIZE	AS SHOWN	QUANTITY	3	SHAPE SIZE	12062608.1
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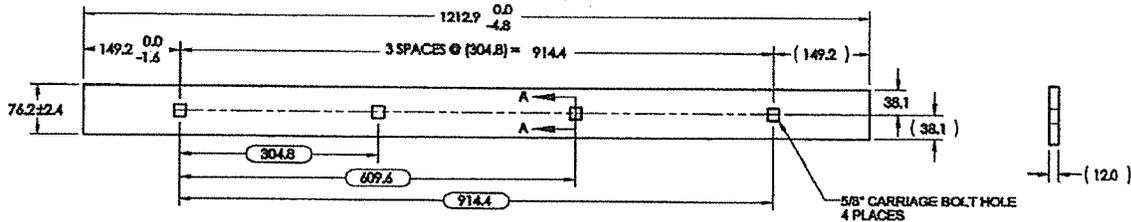
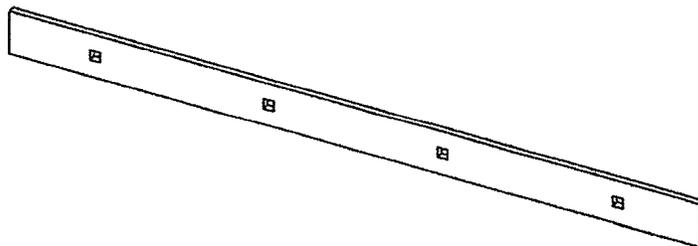
MARK

TXS
INDUSTRIAL PARTS

JB-CLAMP3



SECTION A-A
5/8" CARRIAGE BOLT HOLE



TOLERANCES	
X	±0.7mm
X.X	±1.6mm
X.XX	±0.75mm
X	±2°
X.X	±0.5°

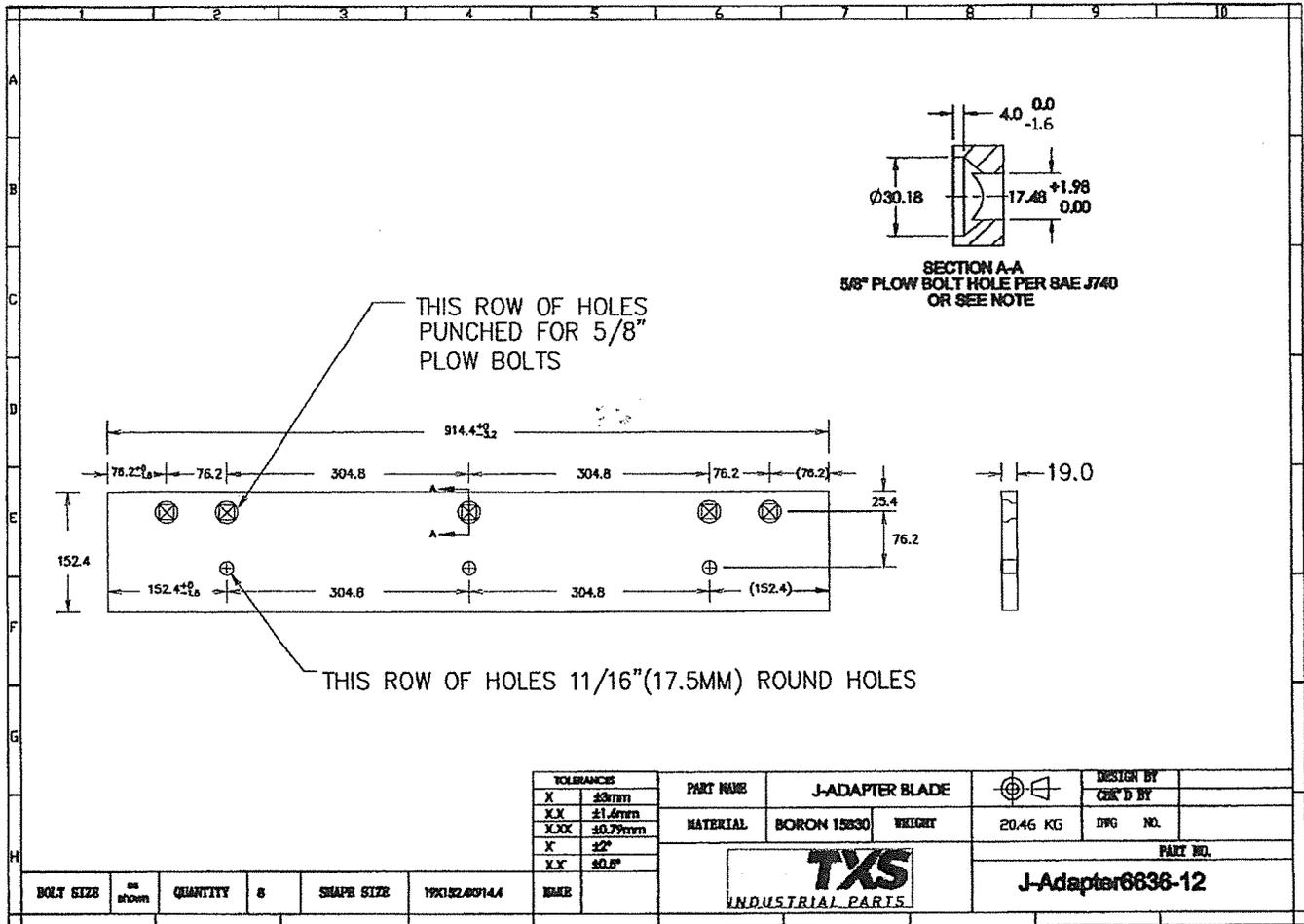
PART NAME	CLAMP BAR
MATERIAL	BORON 15830
WEIGHT	8.594KG

DESIGN BY	CSE'D BY
DWG NO.	

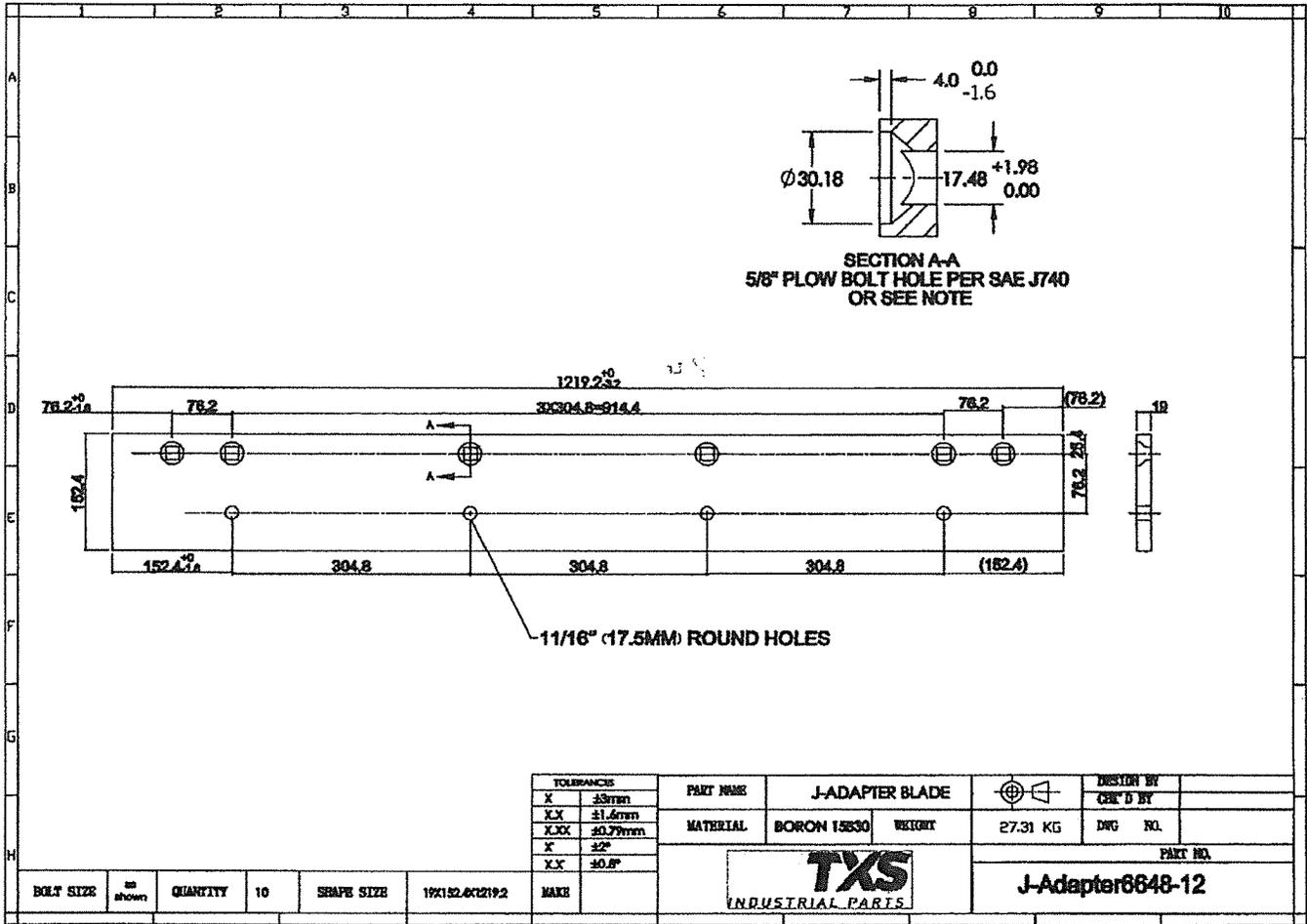
BOLT SIZE	AS SHOWN	QUANTITY	4	SHAPE SIZE	120762X12129
NAME					

TXS
INDUSTRIAL PARTS

PART NO.
JB-CLAMP4



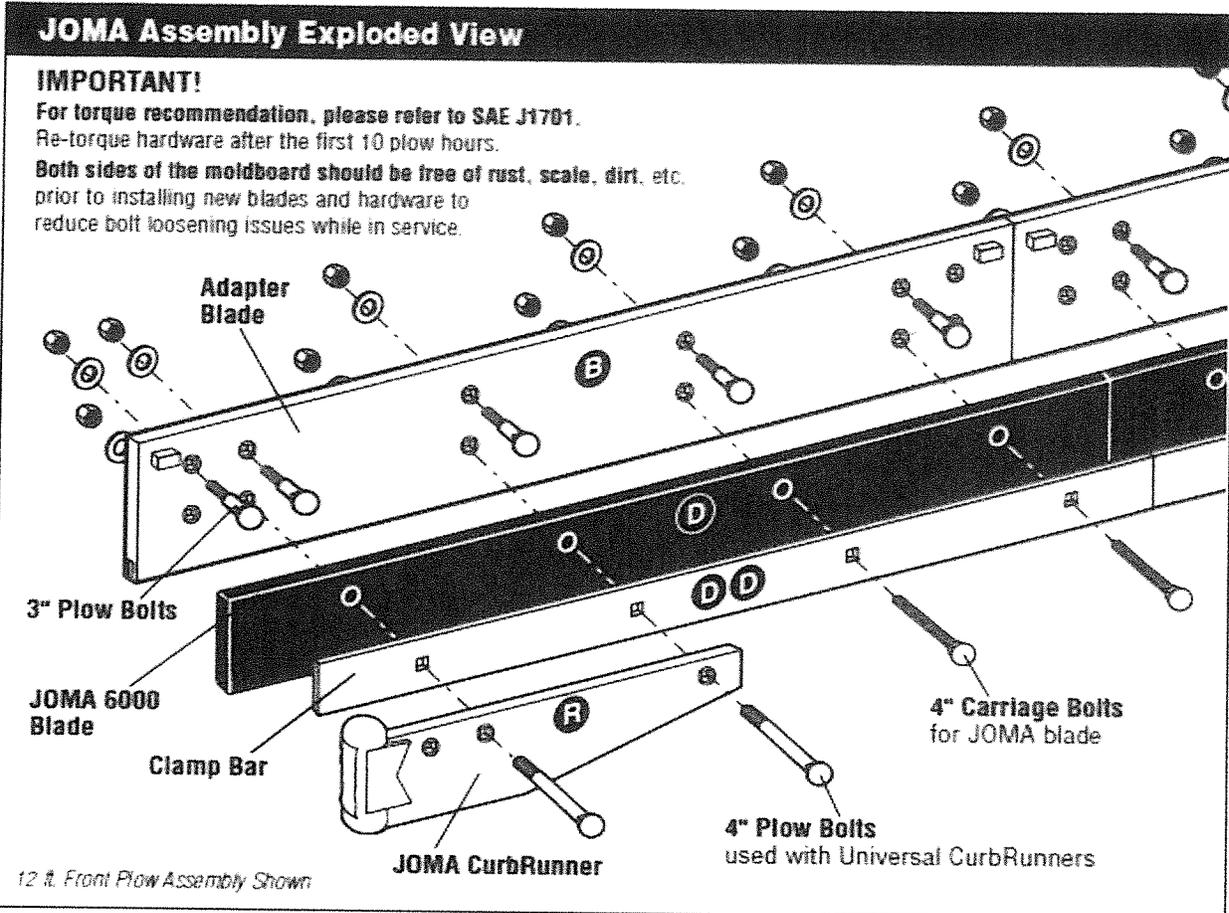
TOLERANCES		PART NAME	J-ADAPTER BLADE		DESIGN BY		
X	±0.3mm				CHK'D BY		
XX	±1.6mm	MATERIAL	BORON 15830	WEIGHT	20.46 KG	DRG. NO.	
XXX	±0.79mm						
X	±2°					PART NO.	
XX	±0.5°					J-Adapter6636-12	
BOLT SIZE	as shown					QUANTITY	8



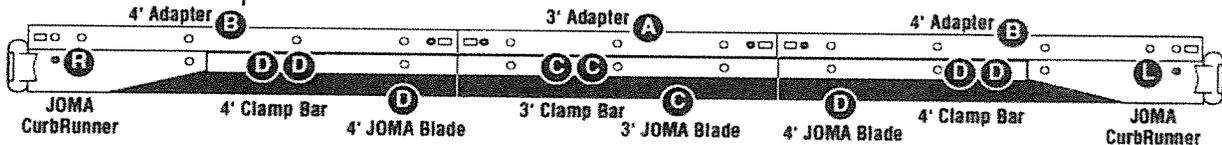
INSTALLATION GUIDE

TXS™ SNOW PLOW BLADE

Note: TXS™ SNOW PLOW BLADE, is a direct replacement to the JOMA® Blade System.



11' JOMA Setup



JOMA CurbRunner (Curb Guards not included).

Hardware Required:

3" Plow Bolts (Adapter Blade), 4" Carriage Bolts (JOMA Blade), Stover Lock Nuts, Conical Washers

JOMA® is a registered trademark, any reference to this mark is solely for functional or descriptive purposes and are for reference only and are not that of the respective manufacture

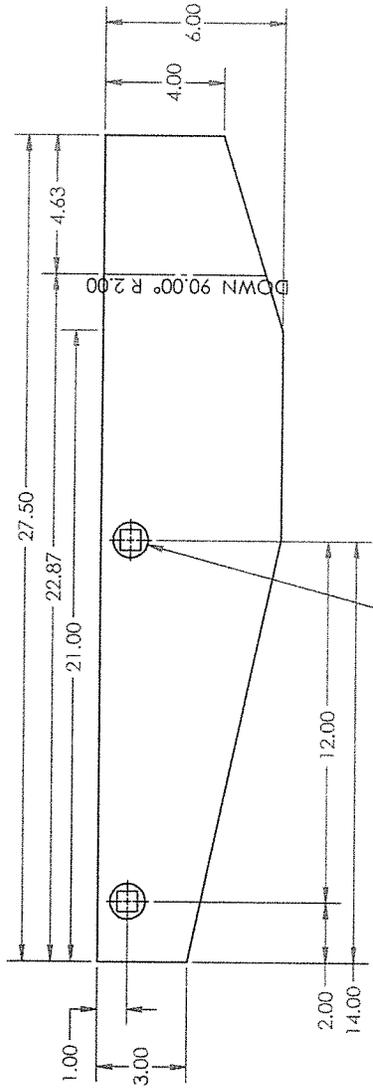
Cutting Edge Innovation

**EVOLUTION
EDGES™**

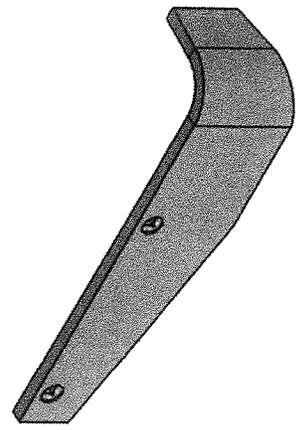
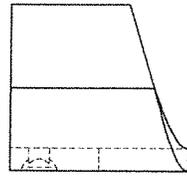
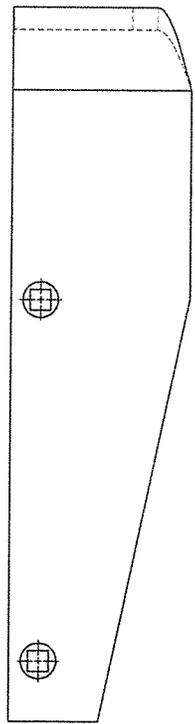
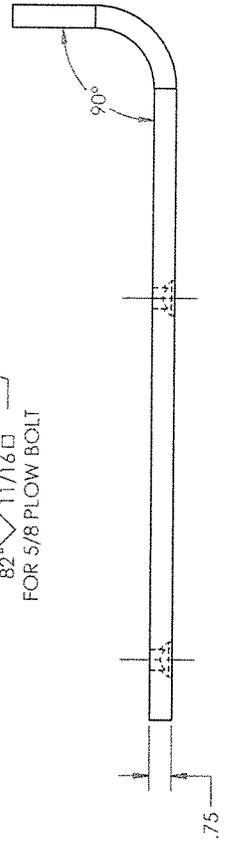
For more information, contact: Daren R. Lynch, Director, Business Development 315.663.6529 | DLynch@EvolutionEdges.com

2420 Corning Road | PO Box 527 | Elmira, New York 14902 | EvolutionEdges.com

8 7 6 5 4 3 2 1



2x $\phi 1.191 \sqrt{.12}$
 $82^\circ \sqrt{11/16}$
 FOR 5/8 PLOW BOLT



UNLESS OTHERWISE SPECIFIED:
 DIMENSIONS ARE IN INCHES
 TOLERANCES:
 FRACTIONALS 1/16
 DECIMALS .005
 HOLE DIMENSIONS .005
 TWO PLACE DECIMAL .005
 THREE PLACE DECIMAL .005
 UNLESS OTHERWISE SPECIFIED:
 MATERIAL
 FINISH
 AS NOTED
 DO NOT SCALE DRAWING

NAME: D. HERMAN
 DATE: 4/24/2017
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 ENG. APPR.: [blank]
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 Q.A.: [blank]
 COMMENTS: [blank]

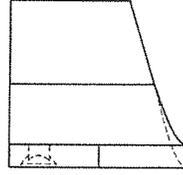
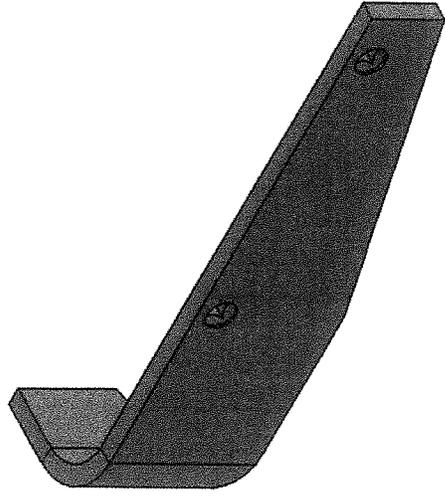
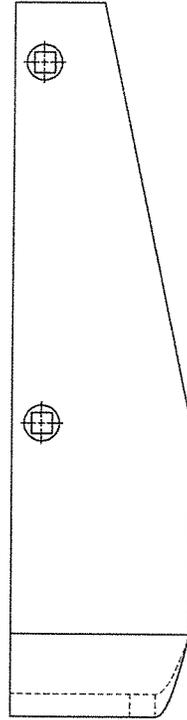
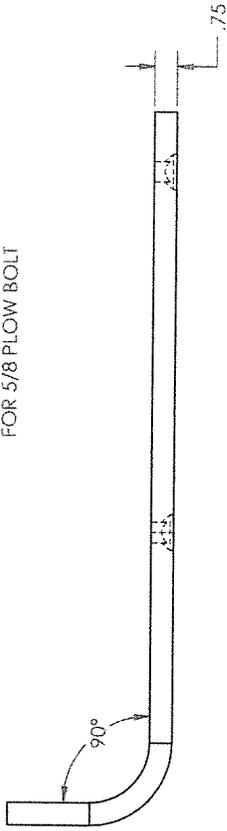
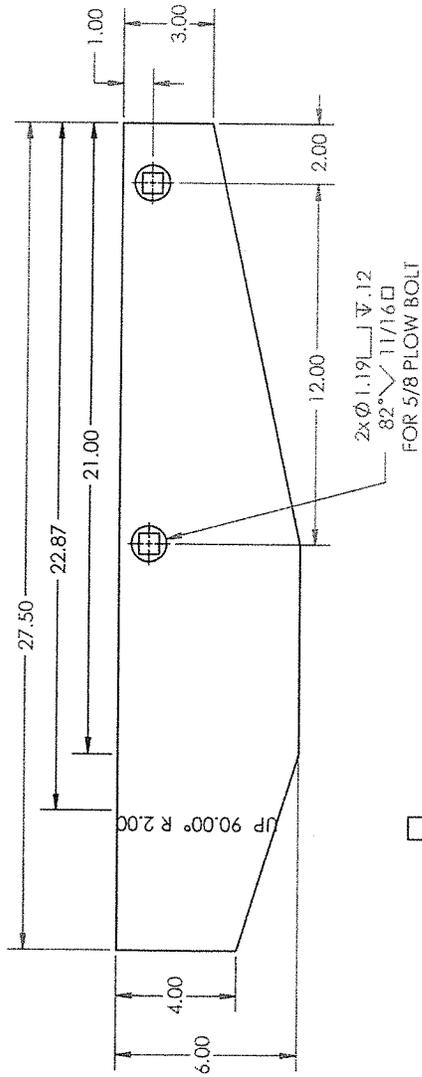
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 CS11/16 (1GA) 2-12 LEFT
 DWG. NO. B
 EGRD-JBLADE-LCS1 A
 SCALE: 1:4 WEIGHT: SHEET 1 OF 1

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HEAT ASSY
 APPLICATION

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8 7 6 5 4 3 2 1



UNLESS OTHERWISE SPECIFIED:
 DIMENSIONS ARE IN INCHES
 TOLERANCES
 FRACTIONAL: 1/16
 ANGULAR: MACHINE BEND ±.5
 TWO PLACE DECIMAL: .01
 THREE PLACE DECIMAL: .005
 PREFERRED GEOMETRIC TOLERANCING PER ASME Y14.5
 MATERIAL: A36 OR EQ.
 FINISH: AS NOTED
 DO NOT SCALE DRAWING

EVOLUTION EDGES
 TITLE: 3/4X6X21 CRVGRD J-BLADE
 CS11/16 (1 GA) 2-12 RIGHT
 SIZE DWG. NO. B EGRD-JBLADE-RCS1
 REV A
 SCALE: 1:4 WEIGHT: SHEET 1 OF 1

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