



COUNTY OF ERIE
MARK C. POLONCARZ
COUNTY EXECUTIVE
DIVISION OF PURCHASE
INVITATION TO BID

Bids, as stated below, will be received and publicly opened by the Division of Purchase in accordance with the attached specifications. **FAX bids are unacceptable.** Bids must be submitted in a sealed envelope to:

County of Erie
Division of Purchase
Attention: Tricia Pierce, Buyer (716) 858-6337
95 Franklin Street, Room 1254
Buffalo, New York 14202-3967

NOTE: Lower left hand corner of envelope **MUST** indicate the following:

BID NUMBER: **221200-004**

OPENING DATE **Wednesday 21 July 2021**

TIME: 10:00 am

FOR: Plow Parts and Winter Highway Materials

NAME OF BIDDER: _____

If you are submitting other Invitations to Bid, each bid must be enclosed in a separate envelope.

Following EXHIBITS are attached to and made a part of the bid specifications, and part of any agreement entered into pursuant to this Invitation to Bid:

<u> X </u>	EXHIBIT "A" - Assignment of Public Contracts
<u> X </u>	EXHIBIT "B" - Purchases by Other Local Governments or Special Districts
<u> </u>	EXHIBIT "C" - Construction/Reconstruction Contracts
<u> </u>	EXHIBIT "D" - Bid Bond (Formal Bid)
<u> N/A </u>	EXHIBIT "E" - Bid Bond (Informal Bid)
<u> X </u>	EXHIBIT "EP" - Erie County Equal Pay Certification
<u> </u>	EXHIBIT "F" - Standard Agreement
<u> X </u>	EXHIBIT "G" - Non-Collusive Bidding Certification
<u> X </u>	EXHIBIT "H" - MBE/ WBE Commitment
<u> X </u>	EXHIBIT "IC" - Insurance
<u> </u>	EXHIBIT "J" - Apprentice Training Program Certification
<u> </u>	EXHIBIT "P" & EXHIBIT "PBI" - Performance Bond
<u> </u>	EXHIBIT "PW" - NYS Prevailing Wage
<u> </u>	EXHIBIT "Q" - Confined Space Program Certification
<u> X </u>	EXHIBIT "V" - Vendor Federal Compliance Certification

(Rev. 1/15)

County of Erie

DIVISION OF PURCHASE BID SPECIFICATIONS

BID NO 221200-004

Ship to: County of Erie
Attention: DPW Highways &
Address: Various Departments

Ship Via: Most Economical
Date Required at Destination: As Needed

ITEM NO.	QUANTITY	UM	CATALOG NO./DESCRIPTION	UNIT PRICE	TOTAL PRICE
			Please furnish pricing for Plow Parts and Winter Highway materials as per the following specifications for the contract period September 1, 2021 through August 31, 2022		
			Questions: Call 716.858.7686		
			All bidders must submit (5) "EXTRA COPIES" of PRICING PAGES ONLY , clearly marked with Company Name on each copy - COLLATED AND BOUND.		
			Note: See Exhibit "H" 1. List of WBE/MBE as requested OR 2. Complete the Waiver Form One or the other MUST be completed and returned with the bid package in order for your bid to be considered		
			IMPORTANT PLEASE NOTE		
			Insurance Certificate and MBE/WBE MUST be Submitted with the sealed bid or the bid will be REJECTED		

NOTE: Bid results cannot be given over the phone. All requests for bid results should be submitted in writing or faxed to:

ERIE COUNTY DIVISION OF PURCHASE
Freedom of Information Officer
95 Franklin Street, Rm. 1254
Buffalo, NY 14202
FAX #: **716-858-6465**

TOTAL NET BID DELIVERED INSIDE _____

NAME OF BIDDER _____

County of Erie
DIVISION OF PURCHASE
INSTRUCTIONS TO BIDDERS (FORMAL)

1. BID SHALL BE SUBMITTED ON THESE COUNTY OF ERIE BID FORMS or bid will not be considered. Bid must be typed or printed in ink. Original autograph signatures in ink are required. Facsimile or rubber stamp signatures will not be accepted. ALL PAGES OF THIS BID DOCUMENT MUST BE RETURNED INTACT.
2. LATE PROPOSALS. Any bids received in the Erie County Division of Purchase after the date and time prescribed will not be considered for contract award.
3. EMERGENCY CLOSINGS. In the event the closing of certain County facilities and/or operations and/or services due to any flood, fire, fire drill, power failure, uncontrolled weather conditions or other cause beyond the Division of Purchase control, only bids received in the Division of Purchase prior to the date and time or postmarked as of the date prescribed will be considered for contract award.
4. ANY CHANGE IN WORDING OR INTERLINEATION BY A BIDDER OF THE INQUIRY AS PUBLISHED BY THE COUNTY OF ERIE shall be reason to reject the proposal of such bidder, or in the event that such change in the Invitation to Bid is not discovered prior to entering into a contract, to void any contract entered into pursuant to such bid.
5. THE COUNTY RESERVES THE RIGHT TO REJECT any and all bids, to accept either in whole or in part anyone bid or combination of bids, as may be provided in the bid specifications, or to waive any informalities in bids. The County does not obligate itself to accept the lowest or any other proposal.
6. AWARD TO THE LOWEST RESPONSIBLE BIDDER. For the purpose of determining which bidder is the lowest qualified responsible bidder, it shall be the lowest three bidders' responsibility, within FIVE DAYS of being so notified by the Division of Purchase, to present information and documentation to the Division of Purchase, to satisfy the County that the bidder possesses sufficient capital resources, skill, judgment and experience to perform the work or deliver the material, as per bid specifications.
7. CONTRACT(S) OR PURCHASE ORDER(S) WILL BE AWARDED after due consideration of the suitability of goods and/or services bid to satisfy these specifications, the total cost of such goods and/or services including all cost elements, and the timeliness of the agreed upon delivery date.
8. This EXECUTORY CLAUSE shall be a part of any agreement entered into pursuant to this bid:

IT IS UNDERSTOOD BY THE PARTIES THAT THIS AGREEMENT SHALL BE EXECUTORY ONLY TO THE EXTENT OF THE MONIES AVAILABLE TO THE COUNTY OF ERIE AND APPROPRIATED THEREFOR, AND NO LIABILITY ON ACCOUNT THEREOF SHALL BE INCURRED BY THE COUNTY BEYOND THE MONIES AVAILABLE AND APPROPRIATED FOR THE PURPOSE THEREOF.
9. FAILURE TO MEET DELIVERY SCHEDULE as per accepted bid may result in legal action by the County of Erie to recover damages.
10. PRICES SHALL BE QUOTED F.O.B. DESTINATION AND DELIVERED INSIDE. "Tailgate delivery" will not be accepted unless specified by the County.
11. COLLECT TRANSPORTATION CHARGES WILL NOT BE PAID BY THE COUNTY. All freight, cartage, rigging, postage or other transportation charges shall be prepaid and included in the bid. There will be no additional charges for delivery.

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12. NO TAXES ARE TO BE BILLED TO THE COUNTY. Bids shall not include any Federal, State, or local excise, sales, transportation, or other tax, unless Federal or State law specifically levies such tax on purchases made by a political subdivision. The County of Erie Purchase Order is an exemption certificate. Any applicable taxes from which the County is not exempt shall be listed separately as cost elements, and added into the total net bid.
13. THE SUCCESSFUL BIDDER shall comply with all laws, rules, regulations and ordinances of the Federal Government, the State of New York and any other political subdivision of regulatory body which may apply to its performance under this contract.
14. GRATUITIES, ILLEGAL OR IMPROPER SCHEMES. The County may terminate this agreement if it is determined that gratuities in the form of entertainment, gifts or otherwise were offered or given by a vendor, his agent or representative to any County official or employee with a view towards securing favorable treatment with respect to the awarding of this bid or the performance of this agreement. The County may also terminate this agreement if it is determined that the successful bidder engaged in any other illegal or improper scheme promotive of favoritism or unfairness incidental to the bidding process or the performance of this agreement. In the event that it is determined that said improper or illegal acts occurred, the County shall be entitled to terminate this agreement and/or exercise any other remedy available to it under existing law.
15. INSURANCE shall be procured by the Successful Bidder before commencing work, no later than 14 days after notice of award and maintained without interruption for the duration of the Contract, in the kinds and amounts specified in Exhibit IC, unless otherwise stipulated in these Bid Specifications. IF THE INSURANCE IS NOT PROVIDED IN ACCEPTABLE FORM WITHIN THIS PERIOD OF TIME, THEN THE DIRECTOR OF PURCHASE MAY DECLARE THE VENDOR NONRESPONSIVE AND AWARD THE CONTRACT TO THE NEXT LOW RESPONSIBLE BIDDER.

CERTIFICATES OF INSURANCE shall be furnished by the successful bidder on Erie County Standard Insurance Certificate, Exhibit IC.

16. ANY CASH DISCOUNT which is part of bid will be considered as a reduction in the bid prices in determining the award of the bid. Date of invoice must not precede date of delivery. The County policy is to pay all claims in a timely manner within the specified time. However, if for some reason payment is delayed, the County will take the discount when payment is made. The County will not pay any interest charges, nor refund discount amounts taken after the discount period. If this is unsatisfactory, please quote net.
17. CHANGES IN THE WORK. The County may, as the need arises, through the Director of Purchase, order changes in the work through additions, deletions, or modifications without invalidating the contract. Compensation, as it may be affected by any change, shall be adjusted by agreement between the contractor and County through the Director of Purchase.
18. BID OFFERING MATERIAL OTHER THAN THAT OF SPECIFIED MANUFACTURER OR TRADE NAME will be considered unless stated otherwise. The use of the name of a particular manufacturer, trade name, or brand in describing an item does not restrict a bidder to that manufacturer or specific article. However, the substituted article on which a proposal is submitted must be of such character or quality that it would serve the purpose for which it is to be used equally well as the manufacturer or brand specified. Proposals will be accepted in accordance with specifications on file or approved equal.

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19. IF MATERIAL OR SERVICES OTHER THAN THOSE SPECIFIED IN THIS BID DOCUMENT ARE OFFERED, the bidder must so state and furnish at the time of bid opening, if so requested, and as part of his bid the following information in duplicate:
- (a) Complete description of the item offered, and detailed explanation of the differences between the item specified and the item offered. If, in the opinion of the Division of Purchase, sufficient detail is not presented as a part of the sealed bid to permit definitive evaluation of any substitute item, the bid will not be considered.
 - (b) Descriptive literature of item offered, for evaluation.
 - (c) List of installations in Erie County of the item offered.
 - (d) List of other installations.
20. ANY ADDITIONAL INFORMATION for which bidder desires to add to the bid shall be written on a separate sheet of paper, attached to and submitted with the formal sealed bid, to be read at the formal opening.
21. WORKMANSHIP MUST MEET WITH THE APPROVAL OF THE DEPARTMENT HEAD(S) INVOLVED, AND SHALL BE FIRST CLASS in every respect without exception and shall be equal to the best modern practices. Materials furnished are to be new and unused. All materials furnished or work performed are to be guaranteed free from defects. Anything found defective or not meeting specifications, no matter in what stage of completion may be rejected and shall be made good by the contractor at his own expense.
22. CONTRACTOR SHALL CLEAN UP and remove all debris and rubbish resulting from the work and leave the premises broom clean to the approval of the department head.
23. THIS BID IS FIRM AND IRREVOCABLE for a period of 45 days from the date and time of the bid opening. If a contract is not awarded within the 45 day period, a bidder to whom the bid has not been awarded, may withdraw his bid by serving written notice of his intention to do so upon the Division of Purchase. Upon withdrawal of the bid pursuant to this paragraph, the Division of Purchase will forthwith return the bidder's security deposit.
24. PRICES CHARGED TO THE COUNTY OF ERIE are to be no higher than those offered to any other governmental or commercial consumer. If a bidder has a New York State or a Federal GSA contract for any of the items covered in this bid or any similar items, he shall so indicate that he has said contract on these bid papers and automatically supply a copy of this contract within five days after notification of award.
25. PRICE IS FIRM. The unit prices bid shall remain firm, and any other charges bid shall also remain firm, for delivery of the equipment, material, work, or services described in this bid. No cost increase shall be charged for any reason whatsoever.
26. EXTENSION OF PRICE PROTECTION. Any contract entered into pursuant to this bid to supply the County's requirements of goods and/or services for a definite period of time as stated in the attached specifications may be extended for not more than two successive periods of equal length at the same bid price upon the mutual agreement of the successful bidder and the County. All extensions shall be submitted in writing and shall have prior approval by the County of Erie, Director of Purchase.

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27. IN EXECUTING THIS BID, THE BIDDER AFFIRMS that all of the requirements of the specifications are understood and accepted by the bidder, and that the prices quoted include all required materials and services. The undersigned has checked all of the bid figures, and understands that the County will not be responsible for any errors or omissions on the part of the undersigned in preparing this bid. Mistakes or errors in the estimates, calculations or preparation of the bid shall not be grounds for the withdrawal or correction of the bid or bid security. In case of error in extension of prices in the bid, the unit price will govern.
28. ACCOUNTABILITY. The undersigned shall be fully accountable for his or its performance under this bid, or any contract entered into pursuant to this bid, and agrees that he, or its officers, will answer under oath all questions relevant to the performance thereof and to any transaction, act or omission had, done or omitted in connection therewith if called before any Judicial, County or State officer or agency empowered to investigate the contract or his performance.
29. TERMINATION OF CONTRACT:
- a. At its option, the County may at any time for any reason terminate this agreement and the Contractor shall immediately cease all work under the agreement upon receipt of written notice of such termination from the County.
 - b. In the event of termination for any reason other than the fault of the Contractor, or the nonavailability of funds as provided in the above Executory Clause, the Contractor shall be paid the amount due to date of termination, and all reasonable expenses caused by such termination.
30. THE SUCCESSFUL BIDDER TO WHOM THE BID IS AWARDED SHALL INDEMNIFY AND HOLD HARMLESS the County of Erie and its agents and employees from and against all claims, damages, losses or causes of action arising out of or resulting from such vendor's performance pursuant to this bid.
- 31 .STATUS AS AN INDEPENDENT CONTRACTOR: The successful Bidder to whom the bid is awarded and the County agree that the Bidder and its officers, employees, agents, contractors, subcontractors and/or consultants are independent contractors and not employees of the County or any department, agency or unit thereof. In accordance with their status as independent contractors, the Bidder covenants and agrees that neither the Bidder nor any of its officers, employees, agents, contractors, subcontractors and/or consultants will hold themselves out as, or claim to be, officers or employees of the County or any department, agency or unit thereof.
32. GOVERNED BY NEW YORK LAW: This Agreement shall be construed and enforced in accordance with the laws of the State of New York. In addition, the parties hereby agree that for any cause of action arising out of this Agreement shall be brought in the County of Erie.

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To facilitate correct drawing and execution of contract, bidder shall supply full information concerning legal status:

FIRMNAME _____

ADDRESS OF PRINCIPAL OFFICE STREET _____

CITY _____

AREA CODE _____ PHONE _____ STATE _____ ZIP _____

Check one: CORPORATION _____ PARTNERSHIP _____ INDIVIDUAL _____

INCORPORATED UNDER THE LAWS OF THE STATE OF _____

If foreign corporation, state if authorized to do business in the State of New York:

YES _____ NO _____

TRADE NAMES: _____

ADDRESS OF LOCAL OFFICE STREET _____

CITY _____

AREA CODE _____ PHONE _____ STATE _____ ZIP _____

NAMES AND ADDRESSES OF PARTNERS:

_____	_____
_____	_____
_____	_____
_____	_____



COUNTY OF ERIE
MARK C. POLONCARZ
COUNTY EXECUTIVE
DIVISION OF PURCHASE

ASSIGNMENT OF PUBLIC CONTRACTS

GENERAL MUNICIPAL LAW -Section 109:

1. A clause shall be inserted in all specifications of contracts hereafter made or awarded by an officer, board or agency of a political subdivision, or any district therein, prohibiting any contractor, to whom any contract shall be let, granted or awarded, as required by law, from assigning, transferring, conveying, subletting or otherwise disposing of the same, or of his right, title or interest therein, or his power to execute such contract, to any other person or corporation without the previous consent in writing of the officer, board or agency awarding the contract.
2. If any contractor, to whom any contract is let, granted, or awarded, as required by law, by any officer, board or agency of a political subdivision, or of any district therein, without the previous written consent specified in subdivision one (1) of this section, assign, transfer, convey, sublet or otherwise dispose of such contract, or his right, title or interest therein, or his power to execute such contract to any other person or corporation, the officer, board or agency which let, made, granted or awarded such contract shall revoke and annul such contract, and the political subdivision or district therein, as the case may be, and such officer, board or agency shall be relieved and discharged from all liability and obligations growing out of such contract to such contractor, and to the person or corporation to which such contract shall have been assigned, transferred, conveyed, sublet or otherwise disposed of, and such contractor, and his assignee, transferee or sublessee shall forfeit and lose all monies, theretofore earned under such contract, except so much as may be required to pay his employees. The provisions of this section shall not hinder, prevent or affect any assignment by any such contractor for the benefit of his creditors made pursuant to the laws of the State.

NO ASSIGNMENT OF ANY AGREEMENT pursuant to this bid shall be made without specific prior approval, in writing, by the Erie County Director of Purchase.

(Rev. 1/00)



COUNTY OF ERIE
MARK POLONCARZ
COUNTY EXECUTIVE
DIVISION OF PURCHASE

PURCHASES BY OTHER LOCAL GOVERNMENTS OR SPECIAL DISTRICTS

The Erie County Legislature has adopted the following resolution for the purpose of allowing the following-named local governmental or school districts to make purchases through the County bidding procedures.

Under the following conditions, the Director of Purchase may make purchasing services available to the following 88 participants:

1. When in the opinion of the Director of Purchase it will not create any burden or hardship upon the County and the anticipated prices will not be adversely affected thereby, the Director is authorized when he deems appropriate and as may be requested by the participants to provide in any particular County bid specification that the participants in Erie County shall have the right to make purchases based upon the bids received by the County.
2. The County Purchase Director, within the limits of his time and manpower, shall disseminate relevant contract information to the participants.
3. The participants in County contracts will issue purchase orders directly to vendors within the specified contract period referencing the County contract involved and be liable for any payments due on such purchase orders.

Bidders shall take notice that as a condition of the award of a County contract pursuant to these specifications, the successful bidder agrees to accept the award of a similar contract with any of the participants in Erie County if called upon to do so. The County, however, will not be responsible for any debts incurred by participants pursuant to this or any other agreement.

Necessary deviations from the County's specifications in the award of a participant's contract, particularly as such deviations may relate to quantities or delivery point, shall be a matter to be resolved between the successful bidder and participants. All inquiries regarding prospective contracts shall be directed to the attention of:

AKRON CENTRAL SCHOOL DISTRICT, District Clerk, 47 Bloomingdale Ave., Akron, NY 14001
AKRON VILLAGE OF, Clerk-Treasurer, 21 Main St., Akron, NY 14001
ALDEN CENTRAL SCHOOL DISTRICT, District Clerk, 13190 Park St., Alden, NY 14004
ALDEN TOWN OF, Town Clerk, Town Hall, 11901 Broadway, Alden, NY 14004
ALDEN VILLAGE OF, Village Clerk, 13336 Broadway, Alden, NY 14004
AMHERST CENTRAL SCHOOL DISTRICT, Business Manager, 4301 Main St., Amherst, NY 14226
AMHERST TOWN OF, Highway Superintendent, Town Hall, 5583 Main St., Williamsville, NY 14221
AMHERST TOWN OF, Town Supervisor, Town Hall, 5583 Main St., Williamsville, NY 14221
ANGOLA VILLAGE OF, Clerk-Treasurer, 41 Commercial St., Angola, NY 14006
AURORA TOWN OF, Town Clerk, Town Hall, 5 S. Grove St., E. Aurora, NY 14052
BLASDELL VILLAGE OF, Clerk-Treasurer, 121 Miriam St., Blasdell, NY 14219
BOCES, ERIE #1, Clifford N Crooks Svc. Ctr., 355 Harlem Rd. West Seneca NY 14224-1892
BOCES, ERIE CATTARAUGUS #2, Assistant Superintendent, 3340 Baker Rd., Orchard Park, NY 14127
BOSTON TOWN OF, Town Clerk, Town Hall, 8500 Boston State Rd., Boston, NY 14025
BRANT TOWN OF, Town Clerk, Town Hall, Brant North Collins Rd., Brant, NY 14027
BUFFALO BOARD OF EDUCATION, Purchasing Agent, 408 City Hall, Buffalo, NY 14202
BUFFALO CITY OF, Division of Purchasing, 1901 City Hall, Buffalo, NY 14202
BUFFALO MUNICIPAL HOUSING AUTHORITY, 300 Perry St., Buffalo, NY 14204-2299
BUFFALO SEWER AUTHORITY, General Manager, 1038 City Hall, Buffalo, NY 14202-3378
CHEEKTOWAGA CENTRAL SCHOOL DISTRICT, 3600 Union Rd., Cheektowaga, NY 14225
CHEEKTOWAGA-MARYVALE UNION FREE SCHOOL DISTRICT, District Clerk, 1050 Maryvale Dr., Cheektowaga, NY 14225-2386
CHEEKTOWAGA-SLOAN UNION FREE SCHOOL DISTRICT, District Clerk, 166 Halstead Ave., Sloan, NY 14212-2295
CHEEKTOWAGA TOWN OF, Town Hall, Broadway & Union Rds., Cheektowaga, NY 14227
CLARENCE CENTRAL SCHOOL DISTRICT, Business Administrator, 9625 Main St., Clarence, NY 14031-2083
CLARENCE TOWN OF, Town Clerk, 1 Town Place, Clarence, NY 14031
CLEVELAND HILL FIRE DISTRICT NO. 6, Secretary, 440 Cleveland Dr., Cheektowaga, NY 14225
CLEVELAND HILL U.F.S.D. @ CHEEKTOWAGA, Business Manager, 105 Mapleview Dr., Cheektowaga, NY 14225

COLDEN TOWN OF, Deputy Town Clerk, Town Hall, S-8812 State Rd., Colden, NY 14033
COLLINS TOWN OF, Supervisor, Town Hall, P.O. Box 420, Collins, NY 14035
CONCORD TOWN OF, Town Clerk, Town Hall, Springville, NY 14141-0187
DEPEW UNION FREE SCHOOL DISTRICT, District Clerk, 591 Terrace Blvd., Depew, NY 14043
DEPEW VILLAGE OF, Village Clerk, Municipal Building, 85 Manitou St., Depew, NY 14043
EAST AURORA VILLAGE OF, Village Clerk, Village Hall, 571 Main St., East Aurora, NY 14052
EDEN TOWN OF, Town Clerk, 2795 East Church St., Eden, NY 14057
EGGERTSVILLE FIRE DISTRICT, Secretary/Treasurer, 1880 Eggert Rd., Eggertsville, NY 14226-2233
ELLWOOD FIRE DISTRICT #1, Secretary, Town of Tonawanda, 1000 Englewood Ave., Kenmore, NY 14223
ELMA TOWN OF, Town Clerk, Town Hall, 1600 Bowen Rd., Elma, NY 14059
ERIE COMMUNITY COLLEGE, South Campus Business Office, 4041 Southwestern Blvd., Orchard Park, NY 14127-2199
ERIE COUNTY WATER AUTHORITY, Central Processing, 3030 Union Rd., Buffalo, NY 14227
EVANS TOWN OF, Town Clerk, 42 N. Main St., Angola, NY 14006
FARNHAM VILLAGE OF, Village Clerk-Treasurer, 526 Commercial St., Farnham, NY 14061
FORKS FIRE DISTRICT #3, Commissioner, Town Cheektowaga, 3330 Broadway, Cheektowaga, NY 14227
GOWANDA VILLAGE OF, Clerk/Treasurer, 27 East Main St., Gowanda, NY 14070
GRAND ISLAND CENTRAL SCHOOL DISTRICT, District Clerk, 1100 Ransom Rd., Grand Island, NY 14072
GRAND ISLAND TOWN OF, Town Clerk, 2255 Baseline Rd., Grand Island, NY 14072
HAMBURG TOWN OF, Town Clerk, S-6100 S. Park Ave., Hamburg, NY 14075
HAMBURG VILLAGE OF, Village Clerk/Treasurer, 100 Main St., Hamburg, NY 14075
HOLLAND FIRE DISTRICT #1, Town of Holland, Holland, NY 14080
HOLLAND TOWN OF, Town Clerk, 47 Pearl St., Holland, NY 14080
HOPEVALE UNION FREE SCHOOL DISTRICT, District Clerk, 3780 Howard Rd., Hamburg, NY 14075
IROQUOIS CENTRAL SCHOOL DISTRICT, Girdle Rd., Elma, NY 14059
KENILWORTH FIRE DISTRICT #2, Commissioner, Tn. Tonawanda, 84 Hawthorne Ave., Buffalo, NY 14223
KENMORE-TN OF TONAWANDA UNION FREE SCHOOL DISTRICT, District Clerk, 1500 Colvin Blvd., Buffalo NY 14223
KENMORE VILLAGE OF, Village Clerk-Treasurer, Municipal Building, Kenmore, NY 14217
LACKAWANNA CITY OF, City Clerk, Lackawanna City Hall, 714 Ridge Rd., Lackawanna, NY 14218
LAKE VIEW FIRE DISTRICT, Fire Commissioner, Lakeview & Burke Roads, Lake View, NY 14085
LANCASTER TOWN OF, Town Clerk, 21 Central Avenue, Lancaster, NY 14086
LANCASTER VILLAGE OF, Clerk-Treasurer, Municipal Building, 5423 Broadway, Lancaster, NY 14086
MARILLA TOWN OF, Marilla Town Hall, 1740 Two Rod Rd., Marilla, NY 14102
MONROE ONE BOCES, Educational Services, 41 O'Connor Rd., Fairport, NY 14450
NEWSTEAD TOWN OF, Town Clerk, Town Hall, P.O. Box 227, Akron, NY 14001
NIAGARA FRONTIER TRANSPORTATION AUTHORITY, 181 Ellicott St., Buffalo, NY 14205
NORTH COLLINS TOWN OF, Town Clerk 2015 Spruce St., North Collins, NY 14111
NORTH COLLINS VILLAGE OF, Village Clerk, 10543 Main St., North Collins, NY 14111
ORCHARD PARK CENTRAL SCHOOL DISTRICT, Asst. Supt. Bus. & Support Svcs. 3330 Baker Rd., Orchard Park, NY 14127
ORCHARD PARK TOWN OF, Town Clerk, Municipal Bldg., 4295 S. Buffalo St., Orchard Park, NY 14127
ORCHARD PARK VILLAGE OF, Clerk, Municipal Bldg., 4295 S. Buffalo St., Orchard Park, NY 14127
SARDINIA TOWN OF, Town Clerk, Town Hall, Savage Rd., Sardinia, NY 14134
SHERIDAN PARK FIRE DISTRICT NO. 4, Secretary, 738 Sheridan Dr., Tonawanda, NY 14150
SLOAN VILLAGE OF, Clerk Treasurer, 425 Reiman St., Sloan, NY 14212
SNYDER VOL. FIRE DEPT., Fire Commissioner, 4531 Main Street, Snyder, NY 14226
SOUTH LINE FIRE DISTRICT #10, Fire Commissioner, 1049 S. French Rd., S. Cheektowaga, NY 14227
SOUTH WALES FIRE DISTRICT #1, Secretary/Treasurer, P.O.Box 94, South Wales, NY 14139
SPRING BROOK FIRE DISTRICT #1, Secretary, P.O. Box 97, Spring Brook, NY 14140
SPRINGVILLE VILLAGE OF, Clerk Treasurer, Village Office, 5 W. Main St., Springville, NY 14141
SUNY ERIE COMMUNITY COLLEGE, 6205 Main St., Williamsville, NY 14221
SWEET HOME CENTRAL SCHOOL DISTRICT, Director Finance & Plant Svcs., 1901 Sweet Home Rd., Amherst, NY 14228
TONAWANDA CITY OF, Mayor, 200 Niagara St., Tonawanda, NY 14150
TONAWANDA CITY OF, Superintendent, 150 Fillmore Avenue, Tonawanda, NY 14150
TONAWANDA CITY SCHOOL DISTRICT, District Clerk, 100 Hinds St., Tonawanda, NY 14150-1815
TONAWANDA TOWN OF, Town Clerk, Municipal Building, Kenmore, NY 14217
U-CREST FIRE DISTRICT #4, Fire Commissioner, 255 Clover Place, Cheektowaga, NY 14225
UNION FREE SCHOOL DISTRICT, Dist. Clerk, Tn. Tonawanda, 1500 Colvin Blvd., Kenmore, NY 14223
WALDEN FIRE DISTRICT #2, Fire Commissioner, 20 Pine Ridge Road, Cheektowaga, NY 14211
WALES TOWN OF, Town Clerk, Big Tree Rd., Wales Center, NY 14169
WEST SENECA CENTRAL SCHOOL DISTRICT, District Treasurer, 1397 Orchard Park Rd., West Seneca, NY 14224-4098
WEST SENECA FIRE DISTRICT #4, Fire Commissioner, 100 Lein Rd., West Seneca, NY 14224
WEST SENECA FIRE DISTRICT #5, Fire Commissioner, 2801 Seneca St., West Seneca, NY 14224
WEST SENECA TOWN OF, Town Clerk, 1250 Union Road, West Seneca, NY 14224
WILLIAMSVILLE CENTRAL SCHOOL DISTRICT, District Clerk, 105 Casey Rd, PO Box 5000, East Amherst NY 14051
WILLIAMSVILLE VILLAGE OF, 5565 Main St., Williamsville, NY 14231-1557
WYOMING, COUNTY OF, Office of the Board of Supervisors, 143 N Main St., Warsaw, NY 14569

Erie County Equal Pay Certification

In order to comply with Executive Order 13 dated November 6, 2014, we hereby certify that we are in compliance with federal law, including the Equal Pay Act of 1963, Title VII of the Civil Rights Act of 1964, Federal Executive Order 11246 of September 24, 1965 and New York State Labor Law Section 194 (together "Equal Pay Law"). The average compensation for female employees is not consistently below the average compensation for male employees, taking into account mitigating factors. We understand that this certification is a material component of this contract. Violation of the provisions of Executive Order 13, which is attached hereto and made a part hereof, can constitute grounds for the immediate termination of this contract and may constitute grounds for determining that a bidder is not qualified to participate in future county contracts.

We have evaluated wages and benefits to ensure compliance with the Federal Equal Pay Law.

Signature

Verification

STATE OF _____)
COUNTY OF _____) SS:
A)

_____, being duly sworn, states he or she is the owner of (or a partner in) _____, and is making the foregoing Certification and that the statements and representations made in the Certification are true to his or her own knowledge.

B)
_____, being duly sworn, states that he or she is the Name of Corporate Officer _____, of _____, Title of Corporate Officer Name of Corporation the enterprise making the foregoing Certification, that he or she has read the Certification and knows its contents, that the statements and representations made in the Certification are true to his or her own knowledge, and that the Certification is made at the direction of the Board of Directors of the Corporation.

Sworn to before me this _____
Day of _____, 20____



COUNTY OF ERIE
MARK C. POLONCARZ
COUNTY EXECUTIVE
DIVISION OF PURCHASE

CONSTRUCTION/RECONSTRUCTION CONTRACTS

1. DISCRIMINATION. The successful bidder agrees:

(a) that in the hiring of employees for the performance of work under this contract or any subcontract hereunder, no contractor, subcontractor, nor any person acting on behalf of such contractor or subcontractor, shall by reason of race, creed, color, sex or national origin discriminate against any citizen of the State of New York who is qualified and available to perform the work to which the employment relates;

(b) that no contractor, subcontractor, nor any person on his behalf shall, in any manner, discriminate against or intimidate any employee hired for the performance of work under this contract on account of race, creed, color, sex or national origin;

(c) that there may be deducted from the amount payable to the contractor by the County of Erie under this contract a penalty of fifty dollars for each person for each calendar day during which such person was discriminated against or intimidated in violation of the provisions of the contract;

(d) that this contract may be cancelled or terminated by the County of Erie and all monies due or to become due hereunder may be forfeited, for a second or any subsequent violation of the terms or conditions of this section of the contract; and

(e) the aforesaid provisions of this section covering every contract for or on behalf of the County of Erie for the manufacture, sale or distribution of materials, equipment or supplies shall be limited to operations performed within the territorial limits of the State of New York.

(N.Y. State Labor Law Article 8 Section 220-e)

(f) Provisions of the State Law Against Discrimination also prohibit discrimination in employment because of age.

2. CONSTRUCTION, RECONSTRUCTION, OR REPAIR CONTRACTS FOR PUBLIC WORKS FACILITIES are subject to minimum wage rates, as established by the State of New York Department of Labor. The successful bidder on any contract for public works to which the provisions of the New York State Labor Law Article 8 apply agrees that:

(a) No laborer, workman or mechanic in the employ of the contractor, subcontractor or other person doing or contracting to do the whole or a part of the work contemplated by the contract shall be permitted or required to work more than eight hours in anyone calendar day or more than five days in anyone week except in cases of extraordinary emergency including fire, flood or danger to life or property. (Section 220, subd. 2, N.Y. State Labor Law)

(b) Each laborer, workman or mechanic employed by the contractor, subcontractor or other person doing or contracting to do the whole or part of the work contemplated by the contract shall be paid not less than the hourly minimum rate of wage and provided supplements not less than the prevailing supplements as designated by the New York State Industrial Commission. (Section 220, subd. 3, NY. State Labor Law)

Wage and supplement rates are on file in the Division of Purchase.

3. AFFIRMATIVE ACTION PROGRAM AFFECTING CONSTRUCTION CONTRACTS. The Erie County Legislature has adopted a resolution directing that County Construction Contracts require the contractor to take affirmative action to secure equal opportunity for minority group workers and to comply with the Affirmative Action Program of the County of Erie. The Legislative resolution provides that a contract for the purchase of equipment involving installation work by building trade employees shall be considered a construction contract if the number of such employees on the job site shall at any time exceed ten (10). If the contractor intends to have more than ten (10) such employees on the job site at any one time, it shall be the contractor's obligation to make a written request to the Director of the Division of Purchase for a copy of the special conditions pertaining to affirmative action. The contractor shall not, at any time, place more than ten (10) such employees on the job site except in compliance with the said resolution and the said special conditions.

ERIE COUNTY OFFICE BUILDING, 95 FRANKLIN STREET, BUFFALO, NY 14202 (716) 858-6395

County of Erie
DIVISION OF PURCHASE
NON-COLLUSIVE BIDDING CERTIFICATION

By submission of this bid, each bidder and each person signing on behalf of any bidder certifies, and in the case of a joint bid each party thereto certifies as to its own organization, under penalty of perjury, that to the best of his knowledge and belief:

- (1) the prices in this bid have been arrived at independently without collusion, consultation, communication, or agreement, for the purpose of restricting competition, as to any matter relating to such prices with any other bidder or any competitor;
- (2) unless otherwise required by law, the prices which have been quoted in this bid have not been knowingly disclosed by the bidder and will not knowingly be disclosed by the bidder prior to opening, directly or indirectly, to any other bidder or to any competitor; and
- (3) no attempt has been made or will be made by the bidder to induce any other person, partnership or corporation to submit or not to submit a bid for the purpose of restricting competition.

NOTICE

(Penal Law, Section 210.45)

IT IS A CRIME, PUNISHABLE AS A CLASS A MISDEMEANOR UNDER THE LAWS OF THE STATE OF NEW YORK, FOR A PERSON, IN AND BY A WRITTEN INSTRUMENT, TO KNOWINGLY MAKE A FALSE STATEMENT, OR TO MAKE A FALSE STATEMENT, OR TO MAKE A STATEMENT WHICH SUCH PERSON DOES NOT BELIEVE TO BE TRUE.

BID NOT ACCEPTABLE WITHOUT FOLLOWING CERTIFICATION:

Affirmed under penalty of perjury this _____ day of _____, 20 _____

TERMS _____ DELIVERY DATE AT DESTINATION _____

FIRM NAME _____

ADDRESS _____

_____ ZIP _____

AUTHORIZED SIGNATURE _____

TYPED NAME OF AUTHORIZED SIGNATURE _____

TITLE _____ TELEPHONE NO. _____



COUNTY OF ERIE
MARK C. POLONCARZ
COUNTY EXECUTIVE
DIVISION OF PURCHASE

MBE/WBE COMMITMENT

The Erie County Legislature enacted Local Law No.5 requiring a minority and women-owned business utilization commitment by persons or firms contracting with the County of Erie for supplies, materials, equipment, and insurance.

SECTION 1.

A. The supplier of all purchase contracts involving an expenditure of more than \$15,000.00 shall take affirmative action to utilize bona fide minority business enterprises (MBE) and women business enterprises (WBE) on all contracts with the County. Affirmative action shall include, but not limited to:

1. Utilizing a source list of MBEs and WBEs; and
2. Solicitation of bids from MBEs and WBEs; and
3. Providing MBEs and WBEs sufficient time to submit proposals in response to solicitations; and
4. Maintaining records showing utilization of MBEs and/or WBEs specific efforts to identify and utilize these companies; and
5. A goal of awarding at least ten percent (10%) of the total dollar value of the contract to MBEs and at least two percent (2%) of the total dollar value of the contract to WBEs or, for those contracts governed by federal or state regulations with respect to MBE and/or WBE hiring the prevailing percentage set forth therein, whichever is higher, subject to waiver as provided below.

B. All bidders must submit, with a bid, a list of all MBEs and WBEs from whom the supplier has solicited bids, or with whom the supplier has signed a binding contractual agreement, or with whom the contractor is presently negotiating an agreement, for the purpose of meeting the MBE and WBE utilization goals provided in subdivision (A) (5) above. A supplier's bid shall not be considered where the supplier fails to submit a list as provided for herein. A supplier's bid shall not be considered where examination of said list of MBEs and WBEs evidences failure by the supplier to comply with the affirmative action requirements provided herein, except that the County may, upon written request by the supplier, grant a complete or partial waiver of the provisions of subdivision (A) (5) where the availability of MBEs and/or WBEs in the market area of the contract is less than the ten percent (10%) MBE goal and two percent (2%) WBE goal.

C. As evidence of compliance with the goals set forth in subdivision (A) (5) above, the supplier shall submit to the Director or Purchasing, at the bid opening, a schedule for MBE and WBE participation listing the MBEs and WBEs with whom the supplier intends to utilize; specifying the agreed upon price to be paid for such goods and identifying in detail the contract item or items to be supplied by each MBE and WBE. A copy of the participating schedule will be forwarded to the Division of E.E.O. from the Division of Purchasing. Contingent upon a contract award, a letter of intent to enter into a purchase agreement, signed by both the supplier and the MBE and WBE (unless a waiver is requested in one of those categories), indicating the agreed upon price

and scope of work, shall be provided.

D. As evidence of compliance with the goals set forth in subdivision (A) (5) above, the supplier shall provide to the County Division of E.E.O., copies of all the subcontracts and/or purchase agreements with the MBEs and WBEs within fifteen (15) days of contract award.

E. For the purpose of this section, the term "minority business enterprise" shall mean a business which performs a commercially useful function, at least fifty-one percent (51 %) of which is owned by minority group members or, in the case of a publicly-owned business, at least fifty-one percent (51 %) of all stock is owned by minority group members. Such ownership shall be certified by the County Division of E.E.O.

For the purposes of this paragraph, "minority group members" are citizens of the United States who are African-American, Hispanic, Asian-American and American-Indian.

F. For the purposes of this section, the term "women-owned business enterprise" shall mean a business which performs a commercially useful function, at least fifty-one percent (51 %) of which is owned by a woman or women or, in the case of publicly-owned business, at least fifty-one percent (51 %) of all stock is owned by a woman or women. Such ownership shall be certified by the County Division of E.E.O.

NOTE:

It is the prime vendor's responsibility to obtain MBE/WBE vendors and NOT the County of Erie. However, some vendors may be obtained from:

Director
Erie County Division of E.E.O.
95 Franklin Street
6TH Floor Buffalo, NY 14202
(716) 858-7542

(01/09)

BID WILL NOT BE CONSIDERED IF THIS FORM IS NOT SUBMITTED WITH BID AS REQUIRED, REGARDLESS OF THE BID AMOUNT.

BID NO.: _____

BID DATE: _____

**ERIE COUNTY MINORITY/WOMEN BUSINESS ENTERPRISE
UTILIZATION REPORT – PART A**

COMPANY: _____

AUTHORIZED
REPRESENTATIVE: _____

ADDRESS: _____

TELEPHONE NUMBER: (____) _____

BID NAME: _____

I. List actions taken to identify, solicit, and contact Minority Business Enterprises (MBE)/Women Business Enterprises (WBE) to bid on subcontracts for this project.

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.

II. List all bona fide Minority/Women Business Enterprise subcontractors and suppliers solicited, contracted, or presently negotiating a contract in accordance with the minority business utilization goal set forth by the County of Erie. (Attach additional sheets if necessary.)

MBE/WBE OWNED FIRMS	SUPPLY/SERVICE	AMOUNT OF PROPOSAL	PRIOR CERTIFICATION	CONTRACT EXECUTED	REASON IF CONTRACT NOT AWARDED
Name: _____				YES _____	
Address: _____				NO _____	

Telephone No. _____					
IRS # _____					
Name: _____				YES _____	
Address: _____				NO _____	

Telephone No. _____					
IRS # _____					

MBE/WBE
OWNED FIRMS

SUPPLY/SERVICE

AMOUNT OF
PROPOSAL

PRIOR
CERTIFICATION

CONTRACT
EXECUTED

REASON IF
CONTRACT
NOT AWARDED

Name: _____

Address: _____

Telephone No. _____

IRS # _____

YES _____

NO _____

Name: _____

Address: _____

Telephone No. _____

IRS # _____

YES _____

NO _____

Name: _____

Address: _____

Telephone No. _____

IRS # _____

YES _____

NO _____

III. Total Dollar Amount to be subcontracted to
Minority Business Enterprise(s).
Women Business Enterprise(s).

\$

\$

IV. Total Amount of Bid

\$

V. MBE Percent (%) of Project bid

%

WBE Percent (%) of Project bid

%

VI. YOU MUST ATTACH COPIES OF RELEVANT CORRESPONDENCE
AND DOCUMENTS, INCLUDING RETURN RECEIPTS.

SIGNATURE OF AUTHORIZED REPRESENTATIVE

DATE

MBE/WBE UTILIZATION REPORT – PART B

FINAL CERTIFICATION OF EXPEDITURES TO MBEs/WBEs

(To be completed by the prime vendor and submitted to the
Erie County Division of E.E.O. when contract is complete)

Erie County reserves the right to require documentation, including,
But not limited to, cancelled checks to verify these amounts.

VENDOR:_____ BID NO._____

MBE

TOTAL AMOUNT EXPENDED

WBE

TOTAL AMOUNT EXPENDED

TOTAL OF ALL MBE SUBCONTRACTS \$ _____

TOTAL OF ALL WOMEN SUBCONTRACTS \$ _____

AMOUNT OF CONTRACT (PRIME) \$ _____

FINAL MBE PERCENTAGE \$ _____

FINAL WBE PERCENTAGE \$ _____

I _____, as an official representative of _____, do hereby
certify that the information listed above is correct and complete.

SIGNATURE

TITLE

DATE

MAIL TO: Erie County Division of E.E.O.
95 Franklin Street
6th Floor
Buffalo, NY 14202

WAIVER RECOMMENDATION

COMPANY: X _____

ADDRESS: X. _____

TELEPHONE NUMBER: (X _____) _____ BID NO.: _____

1. Vendor has made a good faith *effort* to subcontract on this bid for which minority/women's business enterprises bids could be solicited; and
2. The total percentage of the bid which could be subcontracted for which minority business enterprises bids could be solicited is less than 10% for MBEs and/or 2% WBEs.

A waiver as provided for by Erie County Local Law, is hereby requested on the grounds that there are no/insufficient (circle the appropriate term) minority/women's business enterprises in the market area of this bid.

- | | |
|----------|-----------|
| 1. _____ | 6. _____ |
| 2. _____ | 7. _____ |
| 3. _____ | 8. _____ |
| 4. _____ | 9. _____ |
| 5. _____ | 10. _____ |

(Use additional sheet if necessary.)

If a partial waiver is granted, the Vendor will make a good faith to meet the reduced goal.

DATE

SIGNATURE OF AUTHORIZED
COMPANY REPRESENTATIVE

Granted in Whole: _____

Granted in Part: _____

Comments:

DIRECTOR OF E.E.O.

DATE

County of Erie

STANDARD INSURANCE REQUIREMENTS

Vendors Insurance Classification A: Contracts Involving Construction or Maintenance

1. The contractor shall obtain, at his own cost and expense, the following insurance coverages with insurance companies licensed in the State of New York and shall provide a certificate of insurance as evidence of such coverages on the County of Erie Standard Insurance Certificate.

- A. Commercial General Liability -with a minimum combined single limit of liability for Bodily Injury and Property Damage of \$1,000,000 per occurrence and \$2,000,000 general aggregate and \$2,000,000 Products -Completed Operation Aggregate. The coverage shall include:
 - Premises and Operations
 - Products and Completed Operations
 - Independent Contractors
 - Blanket Broad Form Contractual Liability (sufficient to cover all liability assumed under contracts with the County of Erie)
 - Broad Form Property Damage
 - Explosion, Collapse and Underground Hazards (x, c, u) must NOT be excluded.
- B. Automobile Liability -with a minimum combined single limit of liability for Bodily Injury and Property Damage of \$1,000,000 each occurrence. The coverage shall include Owned, Hired, and Non-Owned Autos (Symbol "1" should be designated for Liability coverage on the Business Auto Policy).
- C. Excess "Umbrella" Liability -with a minimum limit of \$5,000,000 each occurrence /\$5,000,000 aggregate.
- D. Worker's Compensation and Employer's Liability -providing statutory coverage in compliance with the Worker's Compensation Law of the State of New York (Form C-105.2).
- E. Disability Benefits -providing statutory coverage in compliance with the New York State Disability Benefits Law (Forms DB-120.1 or DB-155).

Failure to maintain coverage herein shall constitute a material breach of this contract and the Contractor shall suspend all work immediately upon such lapse in coverage.

- 2. Commercial General Liability, Automobile Liability and Excess "Umbrella" Liability shall name the County of Erie and any Board, Bureau, Commission or Agency thereof as additional insureds on ISO Form CG 2010 1185 Edition. Coverage should be provided on a primary and non-contributory bases. Designated Construction Project General Aggregate Limit Per Person Endorsement CG 2503 is required. Waiver of Subrogation is required on all lines in favor of Erie County.
- 3. All policies in which the County of Erie is named as an additional insured shall provide that:
 - A. The insurance company or companies issuing the policies shall have no recourse against the County of Erie for payment of any premiums or for assessments under any form of policy.
 - B. The insurance shall apply separately to each insured (except with respect to the limit of the liability).
- 4. Prior to cancellation, non-renewal or material change of the above policies, at least forty-five (45) days advance written notice shall be given to the County of Erie, Department of Law, 95 Franklin Street, Room 1634, Buffalo, N.Y. 14202, and the Agency requesting the certificate.
- 5. All certificates of insurance shall be approved by the Erie County Department of Law prior to the inception of any work.
- 6. The "ACCORD" form certificate may be used in place of the Erie County Standard Insurance Certificate, provided that all of the requirements set forth in the instructions for the Erie County Standard Insurance Certificate are incorporated into the "ACCORD" form certificate.



County of Erie Standard Insurance Certificate

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATION HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND, OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement of this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER	CONTACT NAME	
	PHONE AC/ NO. EXT	FAX A/C NO.
	E-MAIL ADDRESS	
	PRODUCER CUSTOMER ID #	
	INSURER(S) AFFORDING COVERAGE	
	NAIC #	
INSURED	INSURER A:	
	INSURER B:	
	INSURER C:	
	INSURER D:	
	INSURER E:	
	INSURER F:	

COVERAGES

CERTIFICATE NUMBER:

REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAME ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OR SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF MM/DD/YYYY	POLICY EXP MM/DD/YYYY	LIMITS	
	GENERAL LIABILITY						EACH OCCURANCE	\$
	<input type="checkbox"/> COMMERCIAL GENERAL LIABILITY						DAMAGE TO RENTED PREMISES (Ea occurrence)	\$
	<input type="checkbox"/> CLAIMS-MADE <input type="checkbox"/> OCCUR						MED EXP (Any one person)	\$
	<input type="checkbox"/> _____						PERSONAL & ADV INJURY	\$
	<input type="checkbox"/> _____						GENERAL AGGREGATE	\$
	GEN'L AGGREGATE LIMIT APPLIES PER:						PRODUCTS COMP/OP AGG	\$
	<input type="checkbox"/> POLICY <input type="checkbox"/> PROJECT <input type="checkbox"/> LOC							\$
	AUTOMOBILE LIABILITY						COMBINED SINGLE LIMIT (Ea accident)	\$
	<input type="checkbox"/> ANY AUTO						BODILY INJURY (Per person)	\$
	<input type="checkbox"/> ALL OWNED AUTOS						BODILY INJURY (Per accident)	\$
	<input type="checkbox"/> SCHEDULED AUTOS						PROPERTY DAMAGE (Per accident)	\$
	<input type="checkbox"/> HIRED AUTOS							\$
	<input type="checkbox"/> NON-OWNED AUTOS							\$
	<input type="checkbox"/> _____							
	<input type="checkbox"/> UMBRELLA LIAB <input type="checkbox"/> OCCUR						EACH OCCURANCE	\$
	<input type="checkbox"/> EXCESS LIAB <input type="checkbox"/> CLAIMS						AGGREGATE	\$
	<input type="checkbox"/> DEDUCTIBLE							
	<input type="checkbox"/> RETENSION \$							



County of Erie Standard Insurance Certificate

WORKERS COMPENSATION AND EMPLOYER'S LIABILITY ANY PROPRIETOR/PARTNER/ EXECUTIVE OFFICE/MEMBER EXCLUDED? Y/N <input type="checkbox"/>	N/A						WC STATUTO- RY LIMITS	OTH ER	\$
							E.L. EACH ACCIDENT		\$
							E.L. DISEASE-EA EMPLOYEE		\$
							E.L. DISEASE – POLICY LIMIT		\$
DESCRIPTION OF OPERATIONS/LOCATIONS/VEHICLES (Attach ACCORD 101, Additional Remarks Schedule, if more space is required)									

CERTIFICATE HOLDER

CANCELLATION

County of Erie 95 Franklin Street Buffalo, NY	SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.
AUTHORIZED REPRESENTATIVE	

X. FOR COUNTY USE ONLY:

Name of County Dept. Requesting Certificate _____

Purchase Order or Contact Number _____

Vendor Insurance Classification _____

INSTRUCTIONS FOR COUNTY OF ERIE STANDARD INSURANCE CERTIFICATE

- I. Insurance shall be procured and certificates delivered before commencement of work or delivery of merchandise or equipment.
- II. CERTIFICATES OF INSURANCE
 - A. Shall be made to the "County of Erie. 95 Franklin St, Buffalo NY, 14202"
 - B. Coverage must comply with all specifications of the contract.
 - C. Must be executed by an Insurance company, agency or broker, which is licensed by the Insurance Department of the State of New York. If executed by a broker, notarized copy of authorization to bind or certify coverage must be attached,
- III. Forward the completed certificate to: County of Erie, (Department or Division) responsible for entering into the agreement for construction, purchase, lease or service,
- IV. Minimum coverage with limits are as follows:

[illegible]

Erie County, To Be Named Add'l Insd.	STATUTORY	STATUTORY	STATUTORY	STATUTORY	STATUTORY	STATUTORY	STATUTORY
--------------------------------------	-----------	-----------	-----------	-----------	-----------	-----------	-----------

- V. Construction contracts require excess Umbrella Liability limits of \$5,000,000
- VI. Coverage must be provided on a primary-non contributory bases.
- VII. Designated Construction Project General Aggregate Limit Per Project Endorsement CG 25 03 is required. In the event the concessionaire is required to have a N.Y.S. license to dispense alcoholic beverages an endorsement for liquor liability is required.
- VIII. Waiver of Subrogation: Required on all lines unless noted
- X. Transportation of people in buses, vans or station wagons requires \$5,000,000 excess liability,
- XI. Workers Compensation: State Workers' Compensation/Disability Benefits law

Use Applicable Certificates Below:

Workers Compensation Forms

CE-200	Exemption
C105.2	Commercial Insurer
SI-12	Self Insurer
GSI-105.2	Group Self Insured
U-26.3	New York State Insurance Fund

DBL (Disability Benefits Law) Forms

CE-200	Exemption
DB-120.1	Insurers
DB-155	Self Insurer

- XII. The "ACORD" form certificates may be used in place of the County of Erie Standard Insurance Certificate, provided that all of the above referenced requirements are incorporated into the "ACORD" form certificate.

:

Certification Regarding Debarment And Suspension

1) As required by Federal Executive Order 12549, and prescribed by federal regulations, including 48 C.F.R. Subpart 9.4, the Contractor certifies that it, and its principals:

(a) Are not presently disbarred, suspended, proposed for debarment, declared ineligible or voluntarily excluded by any Federal department or agency;

(b) Have not within a 3-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction, including any violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(c) Are not presently indicted for or otherwise criminally or civilly charged by a Government entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (b) above; and

(d) Have not within a 3-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

2) Where the Contractor is unable to certify to any of the statements in this paragraph, the Contractor shall attach an explanation to this certification.

Date: _____

Signature

Title

Business Name

Certification Regarding Drug-Free Workplace Requirements Grantees Other Than Individuals

This certification is required by regulations implementing Sections 5151-5160 of the Drug-Free Workplace Act of 1988, 41 U.S.C. § 701 et seq. See 48 C.F.R. Subpart 23.5.

The Contractor certifies that it will provide a drug-free workplace by:

(a) Publishing a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession or use of a controlled substance is prohibited in the grantee's workplace and specifying the actions that will be taken against employees for violation of such prohibition;

(b) Establishing a drug-free awareness program to inform employees about:

- (1) The dangers of drug abuse in the workplace;
- (2) The grantee's policy of maintaining a drug-free workplace;
- (3) Any available drug counseling, rehabilitation, and employee assistance programs; and,

(4) The penalties that may be imposed upon employees for drug abuse violations occurring in the workplace;

(c) Making it a requirement that each employee to be engaged in the performance of the grant be given a copy of the statement required by paragraph (a);

(d) Notifying the employee in the statement required by paragraph (a) that, as a condition of employment under the grant, the employee will:

(1) Abide by the terms of the statement; and,

(2) Notify the employer of any criminal drug statute conviction for a violation occurring in the workplace no later than five days after such conviction;

(e) Notifying the agency within ten days after receiving notice under subparagraph (d)(2) from an employee or otherwise receiving actual notice of such conviction;

(f) Taking one of the following actions, within 30 days of receiving notice under subparagraph (d)(2), with respect to any employee who is so convicted:

(1) Taking appropriate personnel action against such an employee, up to and including termination; or

(2) Requiring such employee to participate satisfactorily in a drug abuse assistance or rehabilitation program approved for such purposes by a Federal, State or local health, law enforcement, or other appropriate agency;

(g) Making a good faith effort to continue to maintain a drug-free workplace through implementation of paragraph (a), (b), (c), (d), (e) and (f).

Date: _____

Signature

Title

Business Name

Certification Regarding Lobbying Certification for Contracts, Grants, Loans, and Cooperative Agreements

The undersigned certifies, to the best of his or her knowledge and belief, that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, A Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

(3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. § 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

Date: _____

Signature

Title

Business Name

NOTE: If Disclosure Forms are required, please contact: Mr. Will Sexton, Deputy Director, Grants and Contracts Management Division, Room 341F, HHH Building, 200 Independence Avenue, SW, Washington, D.C. 20201-0001

**NOTICE TO BIDDERS
SPECIFICATIONS AND PROPOSAL FORM COVERING
VARIOUS MATERIALS
REQUIRED BY THE
ERIE COUNTY DEPARTMENT OF PUBLIC WORKS**

**FOR THE YEAR
BEGINNING SEPTEMBER 1, 2021**

1. The purpose of the attached specifications is to describe the above mentioned materials by physical and chemical requirements.
2. **Bids** are solicited on construction and maintenance materials as shown by attached specifications and proposal form.
3. **Purchase Orders** will be issued to the lowest responsible bidder after due consideration has been given to the point of delivery, the location of the job site to which the material used will be hauled, and the cost of hauling.
4. The **Purchaser** reserves the right to reject any or all bids, or to accept, either in whole or in part, any one bid or combination of bids.
5. No quantities are given. **Quotations** on all items shall be for requirements to **August 31, 2022**.
6. All references to **New York State** refer to the latest **Public Works** specifications and any revisions.
7. The bid shall be signed by bidder in proper place on the last page of this proposal.
8. In submitting this bid, the bidder declares that he is, or they are, the only person or persons interested in the said bid, that it is made without any connection with any person making another bid for the same materials; that the bid is in all respects fair and without collusion, fraud or mental reservation; and that no officer or employee of the **County** is directly or indirectly interested in said bid or in the supplies, or in any portion of the profits thereof.
 - a. Each Vendor shall also furnish the County of Erie with a Certificate of Insurance indicating he is covered by Workmen's Compensation.
 - b. All policies of insurance, together with endorsements thereon, must contain autograph countersignatures.
 - c. No bid for materials or supplies may be accepted from or contract awarded to any vendor who is in arrears to Erie County or who has defaulted on a contract or any other obligation to Erie County.
9. The Bidder hereby agrees to the provisions of Section 103-a, 103-b and 103-d, being part of Chapter 605 of the Laws of 1959 of the General Municipal Law which requires that upon the refusal of a person, when called before a grand jury to testify concerning any transaction or contract with the state, any political sub-division, thereof, a public authority or with any public department, agency or official of the state or of any political subdivision thereof or of a public authority, to sign a waiver of immunity against subsequent criminal prosecution or to answer any relevant question concerning such transaction or contract.
 - a. Such person, and any firm, partnership or corporation of which he is a member, partner, director or officer shall be disqualified from thereafter selling to or submitting bids to, or receiving awards from, or entering into any contracts with any municipal corporation or any public department, agency or official thereof, for goods, work or services, for a period of five years after such

refusal, and

- b. Any and all contracts made with any municipal corporation or any public department, agency or official thereof, since the effective date of this law, by such person, and by any firm, partnership, or corporation of which he is a member, partner, director or officer may be canceled or terminated by the municipal corporation without incurring any penalty or damages on account of such cancellation or termination, but any monies owed by the municipal corporation for goods delivered or work done prior to the cancellation or termination shall be paid, and
- c. Every contract hereafter made or awarded by a municipal corporation or any public department, agency or official thereof or by a fire district or any agency or official thereof, pursuant to bid, for work or services performed or to be performed or goods sold or to be sold, shall contain the following statement by the bidder, under penalty of perjury: Non-collusive bidding certification. The bidder certifies that:
 - 1). The bid has been arrived at by the bidder independently and has been submitted without collusion with any other vendor of materials, supplies, or equipment of the type described in the invitation or bids, and
 - 2). The content of the bid has not been communicated by the bidder, nor, to its best knowledge and belief, by any of its employees or agent of the bidder or its surety on any bond furnished herewith prior to the official opening of the bid."

County of Erie
Division of Purchase
Edward A. Rath County Office Building
95 Franklin Street, Buffalo New York 14202

The undersigned proposes to furnish to the Erie County Department of Public Works,
Division of Highways, Construction and Maintenance Materials until **August 31, 2022** at
the price shown, in quantities desired and in accordance with the specifications now on
file in the

Respectfully submitted this _____ day of _____ 20_____

Sign Here _____
Legal Firm Name

Address: _____

By _____

By _____

County of Erie
Division of Purchase
Edward A. Rath County Office Building
95 Franklin Street, Buffalo New York 14202

The undersigned proposes to furnish to the Erie County Department of Public Works, Division of Highways, Construction and Maintenance Materials until **August 31, 2022** at the price shown, in quantities desired and in accordance with the specifications now on file in the

Respectfully submitted this _____ day of _____ 20_____

Sign Here _____
Legal Firm Name

By _____

By _____

Snow Drift Control Plastic Fencing Type 1

Description:

Rhombus configuration, 50% porosity, high-density polyethylene, high visibility orange color.

Strength:

Tensile Yield:	Horizontal	3190 psi
	Vertical	3840 psi

Ultimate Tensile:	Horizontal	2200 psi
	Vertical	2600 psi

Elongation at Break:	Horizontal	90%
	Vertical	260%

Height:

Four (4') foot height – price per lineal foot

50ft. or 100ft. rolls

FOB delivered to any location in Erie County

Snow Fence Posts (Fiberglass)

Fiberglass T bar configuration

1 3/16" x 1 3/16" fiberglass reinforced polyester isophalic resin.

68% fiberglass.

6' long

8' long

Delivery must be made **within fourteen (14) days** from date of purchase.

Sand / Snow Drift Control – all Plastic Fencing Type II

Description:

Plastic grid, high density, high-density polyethylene, high visibility orange or black, nominal porosity 50%.

Strength:

Tensile Yield:	Horizontal	11000 psi
Ultimate Tensile:	Horizontal	9700 psi
Elongation @ break:	Horizontal	90% maximum

Height:

Four (4') foot height – price per lineal foot

50ft. or 100ft. rolls
FOB delivered to any location in Erie County.

Delivery must be made within **fourteen (14) days** from date of purchase.

Picket Snow Fence

Snow fence shall meet the following specifications:

Lath – Spruce 1-1/2” wide, 3/8” thick spaced on centers 3-1/2”

Wires – 12-1/2 gauge, galvanized on 4’, 13 gauge galvanized on 6’ fence

Four (4’) foot fence to have 5 cables of two wires each

Six (6’) foot fence to have 7 cables of two wires each

Height:

Four (4’) foot height – price per lineal foot

50 and 100’ rolls

FOB delivered to any location in Erie County

Six (6’) foot height – price per lineal foot

50’ rolls

FOB delivered to any location in Erie County

Snow Fence Posts

Studded T steel posts with anchor plates and no clips. Posts to weigh 1.3# per lineal foot.

FOB to any location in Erie County.

6’ long

8’ long

Delivery must be **within fourteen (14) days** from date of purchase.

Specifications for Carbide Insert Blade System Razor Product or Equal

Main Blade:

- Blade shall be high strength structural grade hot rolled flat steel.
- Dimensions: 6" High x 3/4" Thick x length [3' or 4']
- Hole size and location of holes shall be per customer's requirements.
- Tolerance between hole spacing is +/- 1/16", non-accumulative, from center to center across full length of blade.
- The groove for the carbide inserts shall be generally milled in the center of the blade edge.

Carbide Insert:

- The tungsten carbide insert shall generally comprise the following total dimensions:
 - a. Length: 1" nominal
 - b. Width: 0.36" min.
 - c. Height: 0.63" max.
 - d. Top Angle: 25° with nose radius of 0.06"
- Tungsten carbide insert shall be of a grade containing approximately 89% Tungsten and approximately 11% cobalt binder by weight.
- Original compounding specific gravity equal to 14.35-14.6 in any insert.
- The insert hardness shall be 87.5-88.8 Ra scale
- Transverse rupture strength of 351,000 PSI minimum.

Brazing:

- Each blade shall contain an approximate 1" length of carbide insert for each 1" length of blade.
- The carbide inserts shall be placed in line within the generally centered milled groove.
- The carbide inserts shall be brazed on all sides using sound brazing practice, having no evidence of voids, shims, or fillers providing approximately 70,000 PSI shear strength.

Abrasion Resistant Steel Cover Blade:

- Cover plate shall be abrasion resistant steel.
- Dimensions: 3" High x 5/8" thick.
- Includes wear indicator notches for blade change notification

Assembly Welding:

- Each carbide insert blade has a protective cover blade welded to the front surface of the main carbide blade. This weld is intended to provide adequate strength to retain the cover blade and interlock while in service.

Plow Guard Maxx:

- High impact, abrasion resistant A22 steel casting
- 3 separate pockets in guard to be fully filled with Carbide matrix
- Carbide matrix profile must be parallel and flush (plus/minus 1/32") to blade surface of guard. Carbide matrix must be fused to pocket of casting.
- Carbide matrix wear edge must demonstrate vertical stress relief checks. One relief check minimum per inch of longitudinal length.
- No longitudinal cracks at fusion zone of carbide weld to base steel. Weld repair not allowed in this area. Casting has angle on bottom to ensure guard conforms to blade wear angle
- Mounting holes are cast square holes to fit a 5/8" carriage bolt

- Plow Guards to be textured powder coat painted Bright Orange with chip and corrosion resistant paint.

Finished Product:

- Finished blade will be given one powder coat of black rust resistant paint.
- Front edge of blade will be identified to avoid improper installation.
- Finished blade shall comply with standard blade manufacturing tolerances.
- Manufacturer's literature shall be furnished as required.
- Complete plow system shall generally comprise a combination of at least (3) blade sections.

Mounting Hardware:

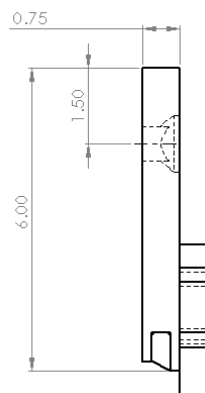
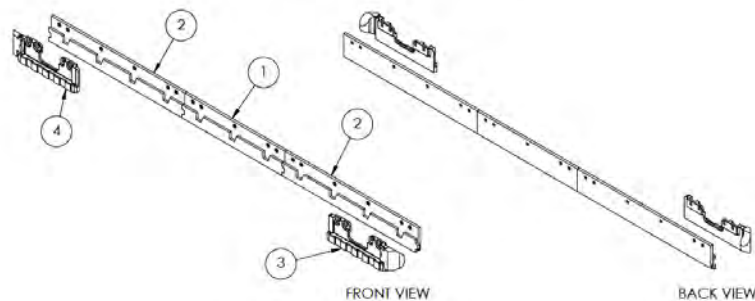
- The mounting hardware will consist of high quality thread locking components consisting of a spring steel conical, or flat, washers and all metal lock nuts in conjunction with Grade 8 extended shoulder carriage bolts.

Blade System Packaging:

- All blade system components are to be provided in a single box or crate comprising of: carbide insert blades, cover blades, Plow Guard Maxx(s), installation instructions, and Grade 8 hardware including thread locking fasteners and extended shoulder carriage bolt.
- The blade system package is to be securely banded to a pallet providing adequate protection for common freight carrier handling, transportation, and receiving.
- Packaging will provide adequate protection from the elements incurred during normal transportation and storage.

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	RZ3031522	Blade	1
2	RZ3041522	Blade	2
3	CG8000CCL	Plowguard Maxx L	1
4	CG8000CCR	Plowguard Maxx R	1
Not Shown	KT-11-SHP-CG	Bolt Kit	1

KT-11-SHP-CG includes:
 (7) 5/8" Plow Bolts
 (6) 5/8" Extended Shoulder Carriage Bolts
 (13) Lock Nuts
 (13) Washers



Specifications for Carbide Insert Blade System Razor XL Product or Equal

Main Blade:

- Blade shall be high strength structural grade hot rolled flat steel.
- Dimensions: 7" High x 3/4" Thick x length [3' or 4']
- Hole size and location of holes shall be per customer's requirements.
- Tolerance between hole spacing is +/- 1/16", non-accumulative, from center to center across full length of blade.
- The groove for the carbide inserts shall be generally milled in the center of the blade edge.

Carbide Insert:

- The tungsten carbide insert shall generally comprise the following total dimensions:
 - a. Length: 1" nominal
 - b. Width: 0.36" min.
 - c. Height: 0.75" nominal
 - d. Shape: Bull nose (full radius)
- Tungsten carbide insert shall be of a grade containing approximately 89% Tungsten carbide and approximately 11% cobalt binder by weight.
- Original compounding specific gravity equal to 14.35-14.6 in any insert.
- The insert hardness shall be 87.5-88.8 Ra scale
- Transverse rupture strength of 351,000 PSI minimum.

Brazing:

- Each blade shall contain an approximate 1" length of carbide insert for each 1" length of blade.
- The carbide inserts shall be placed in line within the generally centered milled groove.
- The carbide inserts shall be brazed on all sides using sound brazing practice, having no evidence of voids, shims, or fillers providing approximately 70,000 PSI shear strength.

Abrasion Resistant Steel Cover Blade:

- Cover plate shall be AR500 abrasion resistant steel.
- Dimensions: 4" High x 5/8" thick.
- Includes wear indicator notches for blade change notification

Heavy Duty Carbide Matrix Wear Bars:

- High impact, ASTM Grade A-36 Hot rolled bar, 1 1/8" in thickness.
- Wear bars will have a cutting edge of carbide matrix to be 7/8" min. in height for the full length of the 1 1/8" thick steel base.
- Carbide matrix must be fused to impact bar.
- Carbide matrix wear edge must demonstrate vertical stress relief checks. One relief check minimum per inch of longitudinal carbide matrix.
- No longitudinal cracks at fusion zone of carbide to base steel. Weld repair not allowed in this area. Cutting edge weld is to have a carbide bead along front edge conforming to blade wear angle.
- The Wear Bars will be manufactured in the USA from 100% USA materials.

Assembly Welding:

- Each carbide insert blade has a protective cover blade welded to the front surface of the main carbide blade. This weld is intended to provide adequate strength to retain the cover blade and interlock while in service.
- Each carbide insert blade section will have heavy duty carbide matrix weld wear bars securely welded to the back surface. This weld is intended to provide adequate strength to retain the wear bars while in service. A 3' blade section will have (2) wear bars and the 4' section will have (3) wear bars securely welded with full strength welds.

Plow Guard Maxx:

- High impact, abrasion resistant A22 steel casting
- 3 separate pockets in guard to be fully filled with Carbide matrix
- Carbide matrix profile must be parallel and flush (plus/minus 1/32") to blade surface of guard. Carbide matrix must be fused to pocket of casting.
- Carbide matrix wear edge must demonstrate vertical stress relief checks. One relief check minimum per inch of longitudinal length.
- No longitudinal cracks at fusion zone of carbide weld to base steel. Weld repair not allowed in this area. Cutting edge weld is to have a carbide matrix weld bead along front edge so guard conforms to blade wear angle.
- Mounting holes are cast square holes to fit a 5/8" carriage bolt
- Plow Guards to be textured powder coat painted Bright Orange with chip and corrosion resistant paint.

Finished Product:

- Finished blade will be given one powder coat of orange rust resistant paint.
- Front edge of blade will be identified to avoid improper installation.
- Finished blade shall comply with standard blade manufacturing tolerances.
- Manufacturer's literature shall be furnished as required.
- Complete plow system shall generally comprise a combination of at least (3) blade sections.

Mounting Hardware:

- The mounting hardware will consist of high-quality thread locking components consisting of a spring steel conical, or flat, washers and all metal lock nuts in conjunction with Grade 8 extended shoulder carriage bolts.

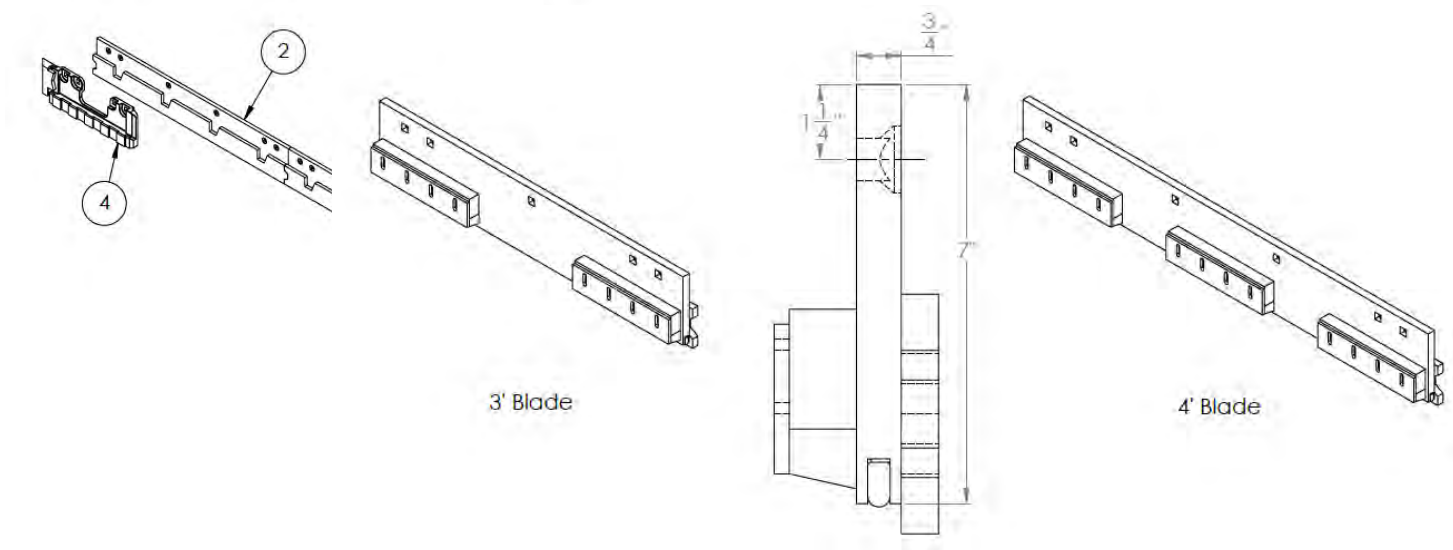
Blade System Packaging:

- All blade system components are to be provided in a single box or crate comprising of: carbide insert blades, integrated cover blades, integrated moldboard shoes, Plow Guard Maxx(s), installation instructions, and Grade 8 hardware including thread locking fasteners.
- The blade system package is to be securely banded to a pallet providing adequate protection for common freight carrier handling, transportation, and receiving.
- Packaging will provide adequate protection from the elements incurred during normal transportation and storage.

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	RZXL3031223	Blade	1
2	RZXL3041223	Blade	2
3	CG8000CCL	Plowguard Maxx L	1
4	CG8000CCR	Plowguard Maxx R	1
Not Shown	KT-11-SHP-CG	Bolt Kit	1

KT-11-SHP-CG includes:
 (7) 5/8" Plow Bolts
 (6) 5/8" Extended Shoulder Carriage Bolts
 (13) Lock Nuts
 (13) Washers

Image above shows an example of an 11 ft. system



Reference: Revised 10-4-2019

Specifications for Carbide Insert Blade System Block Buster or Equal

Main Blade:

- Blade shall be high strength structural grade hot rolled flat steel.
- Dimensions: 3/4" Thick x 7" High x length [3' or 4']
- Hole size and location of holes shall be per customer's requirements.
- Tolerance between hole spacing is +/- 1/16", non-accumulative, from center to center across full length of blade.
- The groove for the carbide inserts shall be generally milled in the center of the blade edge.

Tungsten Carbide Insert:

- The tungsten carbide insert shall generally comprise the following total dimensions:
 - a. Length: 1" nominal
 - b. Width: 0.36" min.
 - c. Height: 0.75" nominal
 - d. Shape: Bull nose (full radius)
- Tungsten carbide insert shall be of a grade containing approximately 89% by physical weight.
- Tungsten and approximately 11% cobalt binder by weight.
- Original compounding specific gravity equal to 14.35-14.6
- The insert hardness shall be 87.5-88.8 Rockwell A scale
- Transverse rupture strength of 351,000 PSI minimum.

Brazing:

- Each blade shall contain an approximate 1" length of carbide insert for each 1" length of blade.
- The carbide inserts shall be placed in line within the generally centered milled groove.
- The carbide inserts shall be brazed on all sides using sound brazing practice, having no evidence of voids, shims, or fillers providing approximately 70,000 PSI shear strength.

Abrasion Resistant Steel Cover Blade:

- Cover plate shall be abrasion resistant steel.
- Dimensions: 5/8" thick x 4" High
- Includes wear indicator notches for blade change notification

Heavy Duty Carbide Matrix Moldboard Shoes:

- Moldboard shoes are abrasion resistant cast steel having a cutting edge of carbide matrix weld.
- The shoes comprise carbide matrix weld deposited into cavity forming a wear pad embedded into the bottom of the shoe.

Assembly Welding:

- Each carbide insert blade has a protective cover blade welded to the front surface of the main carbide blade. This weld is intended to provide adequate strength to retain the cover blade and interlock while in service.
- Each carbide insert blade section will have heavy duty carbide matrix weld moldboard shoes welded to the back surface. This weld is intended to provide adequate strength to retain the moldboard shoes while in service. A 3' blade section will have one (1) moldboard shoe and the 4' section will have two (2) moldboard shoes securely welded with full strength welds.

Plow Guard Maxx:

- High impact, abrasion resistant A22 steel casting
- 3 separate pockets in guard to be fully filled with Carbide matrix
- Carbide matrix profile must be parallel and flush (plus/minus 1/32") to blade surface of guard. Carbide matrix must be fused to pocket of casting.
- Carbide matrix wear edge must demonstrate vertical stress relief checks. One relief check minimum per inch of longitudinal length.
- No longitudinal cracks at fusion zone of carbide weld to base steel. Weld repair not allowed in this area. Casting has angle on bottom to ensure guard conforms to blade wear angle
- Mounting holes are cast square holes to fit a 5/8" carriage bolt
- Plow Guards to be textured powder coat painted Bright Orange with chip and corrosion resistant paint.
- Plow Guards to be textured powder coat painted Bright Orange with chip and corrosion resistant paint.

Finished Product:

- Finished blade will be given one powder coat of orange rust resistant paint.
- Front edge of blade will be identified to avoid improper installation.
- Finished blade shall comply with standard blade manufacturing tolerances.
- Manufacturer's literature shall be furnished as required.
- Complete plow system shall generally comprise a combination of at least (3) blade sections.

Mounting Hardware:

- The mounting hardware will consist of high quality thread locking components consisting of a spring steel conical, or flat, washers and all metal lock nuts in conjunction with Grade 8 extended shoulder carriage bolts.

Blade System Packaging:

- All blade system components are to be provided in a single box or crate comprising of: carbide insert blades, integrated cover blades, integrated moldboard shoes, Plow Guard Maxx(s), installation instructions, and Grade 8 hardware including thread locking fasteners and extended shoulder carriage bolts.
- The blade system package is to be securely banded to a pallet providing adequate protection for common freight carrier handling, transportation, and receiving.
- Packaging will provide adequate protection from the elements incurred during normal transportation and storage.

ITEM NO.	PART ID	DESCRIPTION	QTY.
1	BBH3031223UNIV	Blade	1
2	BBH3041223UNIV	Blade	2
3	CG8000CCL	Plowguard Maxx L	1
4	CG8000CCR	Plowguard Maxx R	1
Not Shown	KT-11-SHP-CG	Bolt Kit	1

KT-11-SHP-CG includes:
 (7) 5/8" Plow Bolts
 (6) 5/8" Extended Shoulder Carriage Bolts
 (13) Lock Nuts
 (13) Washers

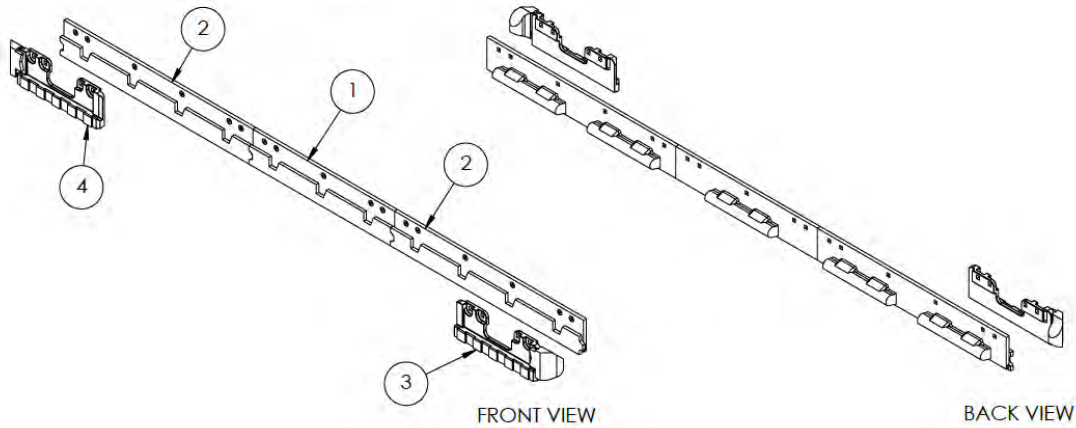
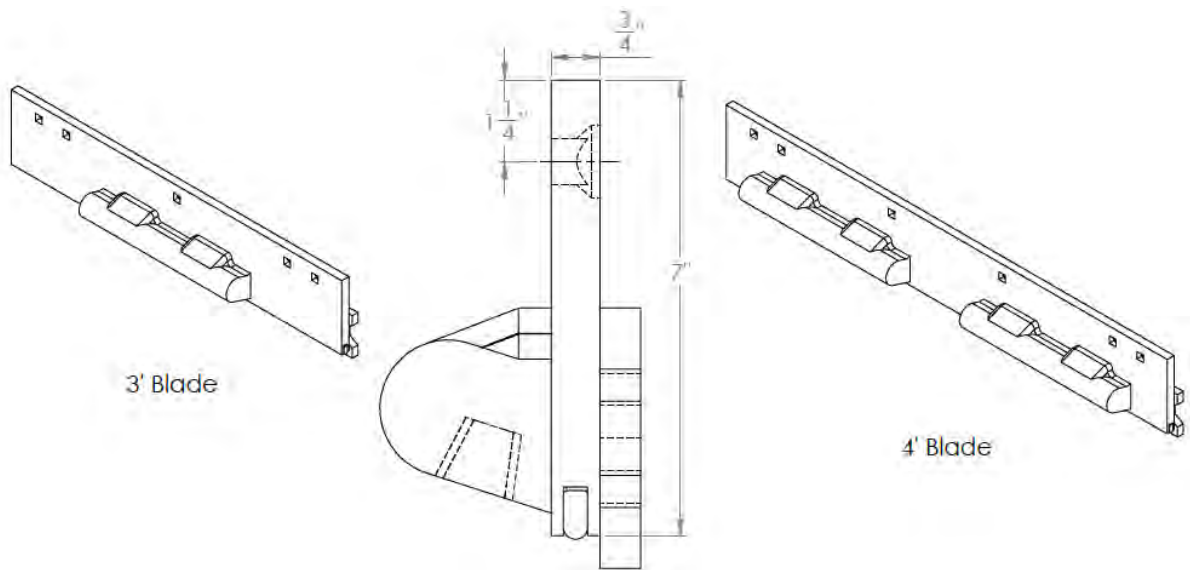


Image above shows an example of an 11 ft. system



Reference: Revised 10-4-2019

Specifications for Plow Guard Curb Cast or Equal

Product Specification:

STEEL: High impact, ASTM Grade A-36 Hot rolled bar, 1 1/8" in thickness, 21" in length and 6" or 8" Height.

IMPACT BAR: High impact, carbon steel bar running the full length of the front carbide cutting edge. Bar must be welded to the top front surface of guard with a continuous fillet weld.

BOLT HOLES: Drilled 11/16" diameter, then counter-sunk and square punched to accept 5/8" Plow Bolts for flush mounting to blades.

PAINT: Bright Safety Orange -- chip and corrosion resistant.

CARBIDE CUTTING EDGE DIMENTIONS: 5.2 lbs. min. total carbide weight on PlowGuard-Curb Cast Carbide cutting edge matrix to be 7/8" min. in height for the full length of the 1 1/8" thick steel base. Carbide matrix profile must be parallel and flush (plus/minus 1/32") to blade side of guard. Carbide matrix must be fused to front impact bar.

CARBIDE RELIEF CHECKS: Carbide Wear edge must demonstrate vertical stress relief checks. One relief check minimum per inch of longitudinal carbide matrix. No longitudinal cracks at fusion zone of carbide weld to base steel. Weld repair not allowed in this area.

CUTTING EDGE ANGLE: Cutting edge weld is to have a carbide weld bead along front edge so guard conforms to blade wear angle.

CURB CASTING: The curb casting is to be made from high strength A-22 cast steel. Casting weight is to be approximately 11 lbs. The height is to be 6" and extend from mounting surface a minimum of 3.5".

LABELS: Label guard as to manufacturer and phone.

Specifications for Plow Guard Jr. or Equal

Product Specification:

STEEL: High impact, ASTM Grade A-36 Hot rolled bar, 1 1/8" in thickness, 9" or 11" in length and 6" or 8" Height.

IMPACT BAR: High impact, carbon steel bar running the full length of the front carbide cutting edge. Bar must be welded to the top front surface of guard with a continuous fillet weld.

BOLT HOLES: Drilled 11/16" diameter, then counter-sunk and square punched to accept 5/8" Plow Bolts for flush mounting to blades.

PAINT: Bright Safety Orange -- chip and corrosion resistant.

CARBIDE CUTTING EDGE DIMENSIONS: 2.2 lbs. min. total carbide weight for Plow Guard Jr., or equal. Carbide cutting edge matrix to be 7/8" min. in height for the full length of the 1 1/8" thick steel base. Carbide matrix profile must be parallel and flush (plus/minus 1/32") to blade side of guard. Carbide matrix must be fused to front impact bar.

CARBIDE RELIEF CHECKS: Carbide Wear edge must demonstrate vertical stress relief checks. One relief check minimum per inch of longitudinal carbide matrix. No longitudinal cracks at fusion zone of carbide weld to base steel. Weld repair not allowed in this area.

CUTTING EDGE ANGLE: Cutting edge weld is to have a carbide weld bead along front edge so guard conforms to blade wear angle.

LABELS: Label guard as to manufacturer and phone.

Specifications for Plow Guard Straight or Equal

Product Specification:

STEEL: High impact, ASTM Grade A-36 Hot rolled bar, 1 1/8" in thickness, 21" in length and 6" or 8" Height.

IMPACT BAR: High impact, carbon steel bar running the full length of the front carbide cutting edge. Bar must be welded to the top front surface of guard with a continuous fillet weld.

BOLT HOLES: Drilled 11/16" diameter, then counter-sunk and square punched to accept 5/8" Plow Bolts for flush mounting to blades.

PAINT: Bright Safety Orange -- chip and corrosion resistant.

CARBIDE CUTTING EDGE DIMENSIONS: 5.2 lbs. min. total carbide weight on Plow Guard Straight, or equal. Carbide cutting edge matrix to be 7/8" min. in height for the full length of the 1 1/8" thick steel base. Carbide matrix profile must be parallel and flush (plus/minus 1/32") to blade side of guard. Carbide matrix must be fused to front impact bar.

CARBIDE RELIEF CHECKS: Carbide Wear edge must demonstrate vertical stress relief checks. One relief check minimum per inch of longitudinal carbide matrix. No longitudinal cracks at fusion zone of carbide weld to base steel. Weld repair not allowed in this area.

CUTTING EDGE ANGLE: Cutting edge weld is to have a carbide weld bead along front edge so guard conforms to blade wear angle.

LABELS: Label guard as to manufacturer and phone.

Specifications for Additional Catalog Carbide Inserts Plow Blades, Plow Guards and Accessories or Equal

Product Specification:

Provide pricing with discount off of List Pricing and Estimated Delivery for any Misc. items not already called out by material specification.

Attach catalog with Price each, per system or item with description \$ _____

Specifications for Frame Shoe, Moldboard Shoe and Mushroom Shoe or Equal

Product Specification:

- ☐ Steel shoes are abrasion resistant A22 cast steel, with a hardness of 38-42 HRC, having a cutting or wear edge of carbide matrix weld.
- ☐ The shoes comprise carbide matrix weld deposited into cavities forming a wear pad embedded into the bottom of the shoe.

Mounting Hardware:

- ☐ The mounting hardware will consist of high quality thread locking components consisting of spring steel flat washers and all metal lock nuts in conjunction with S.A.E. Grade 8 plow bolts.

Specifications for Carbide Combination Blade

Acceptable Brand, Kuper TUCA SX Wave or equal (see attached drawing)

I. Description

- This specification covers snowplow blades with tungsten carbide inserts free floating in vulcanized rubber with the configuration of – STEEL-RUBBER-STEEL WITH CARBIDE INSERTS INSIDE THE RUBBER

II. Materials

- Steel Plates
 - Front and rear steel plates
 - Thickness: .32 in (8mm)
 - Hardness: 400 HB (43 Rockwell C, 114 Rockwell B)
 - Tensile Strength: U.T.S. = 1300 MPa
 - Yield Point – Y.P.: 1000 MPa
 - Material: Hardox 400 (Dilidur 400v)
 - Shape: Front plate to be formed in a “wave” shape in order to better deflect snow into the mold-board of the plow. Front plate to have triangular openings as wear indicator and to permit snow to cool the carbide.
- Steel Carbide Holder
 - Thickness: .6 in (15mm)
 - Height: 2.04 in (51mm)
 - Length: 9.72 in (243mm) nominal length, varies to match length of blade piece
 - Steel Grade: AISI 1075 (C75)

III. Tungsten Carbide Inserts

- Tungsten carbide inserts shall be centrically embedded on the lower end of a steel plate (steel carbide holder)
- The inserts shall be a high shock WC Grade of tungsten and shall meet Virgin Tungsten Carbide quality specifications and the following requirements
 - Hardness: 1100-1300 HV10 ISO 3878 Vickers Hardness Test
 - Bending Strength: 2700 N/mm (squared) ISO 3327
 - Average Grain size: 5-7 um
 - Density: 14.40 g/cm³ ISO 3369
 - Traverse Rupture Strength: 391,000 psi (2700N/mm² ISO 3327)
 - Inserts per section of steel holder: Equivalent to full length of holder (99.6% of length)
 - Insert Dimensions:
 - Height .7 in (17.5 mm)
 - Width: .32 in (8 mm)
 - The groove for the carbide shall be milled in the center of the steel carbide holder. The groove shall be milled to a depth that will allow the inserts to be brazed flush with the bottom edge of the carbide holder.
 - Each insert shall be max. two inches nominal length
 - The inserts shall be brazed on all contact surfaces consistent with sound brazing practice with no evidence of voids or use of shims. Brazing shall be of such strength and quality as required to prevent movement or loss of the inserts during use.

IV. Rubber Matrix

- The blade shall have a wear resistant rubber body, vulcanized between the two steel plates with tungsten carbide holders and inserts embedded within the rubber.

V. Finished Blades

- Overall Blade Dimensions
 - Thickness = 1.6 in (40 mm)
 - Height = 7.48 in (187 mm)
 - Lengths = 3ft and 4ft
 - Weight = 19.8 lbs. per foot
- Physical Requirements
 - All blades shall be straight and free from flaws and injurious defects, and shall have workmanlike finish.
 - Tungsten carbide holders shall be placed free-floating in the rubber body. There has to be a slight gap between two holders in order for the holders to act independently of one another and “flex”. In length carbide inserts shall cover no less than 90% of the total length of the blade.
 - Triangular shape cooling holes in front face, round cooling holes in rear face.
 - Mounting Holes – 11/16” in square punch holes; standard AASHTO. Details, location, and spacing of the holes shall be to customer requirements.
 - Blade punching will be of such accuracy, both for the spacing between holes and for the spacing between the end hole and the end of the blade, that the blades will fit the moldboards, thus making the blade sections interchangeable.
 - Blades shall be painted and any paint used to coat the blades shall be dry prior to shipment and shall not smear or track during handling.
 - Each blade element should provide the name of the manufacturer and a serial number for quality control.
 - Finished blade sections shall be provided in units of 3 foot, 4 foot and any other measure in length.
 - The finished blade section shall be fully assembled by the manufacturer and require no additional assembly, no additional parts or hardware, and no mounting hardware other than bolts and nuts.

VI. Drawing

Figure 1: Blade Dimensions

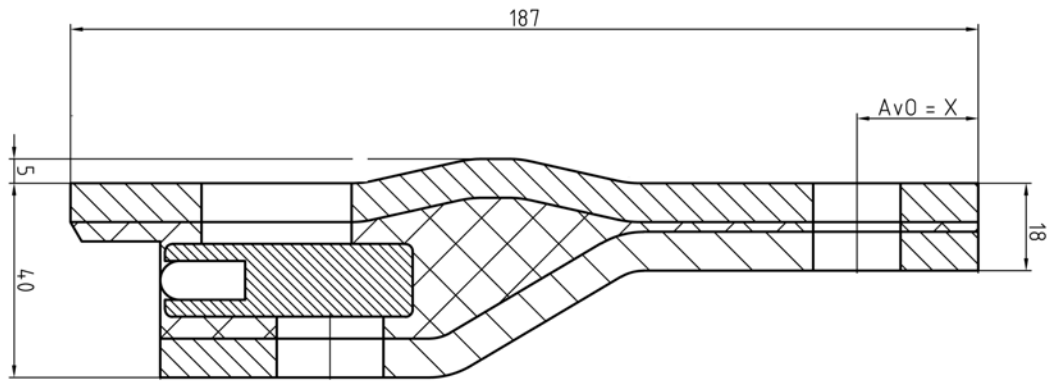
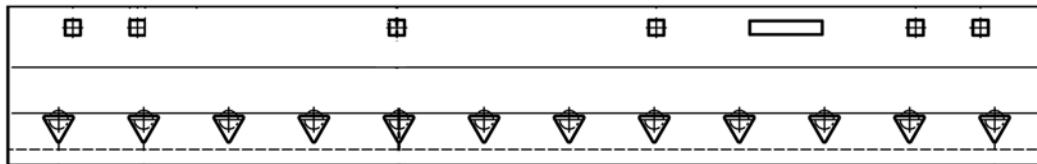


Figure 2: AASHTO Hole Positioning (4')



Delivery must be made **within twenty (20) days** from date of purchase order.

Specifications for Kuper (or equal) Accessory Products

Cast Nihard Moldboard Shoes:

Nihard Specifications

Gray iron:

C: 2.9~3.2% Si: 1.4~1.7%

Hardness: 190HB min

Hi chrome iron:

C: min 2.7 - max 3.2

Mn: max 1.5

Ni: min 0.2 – max 0.5

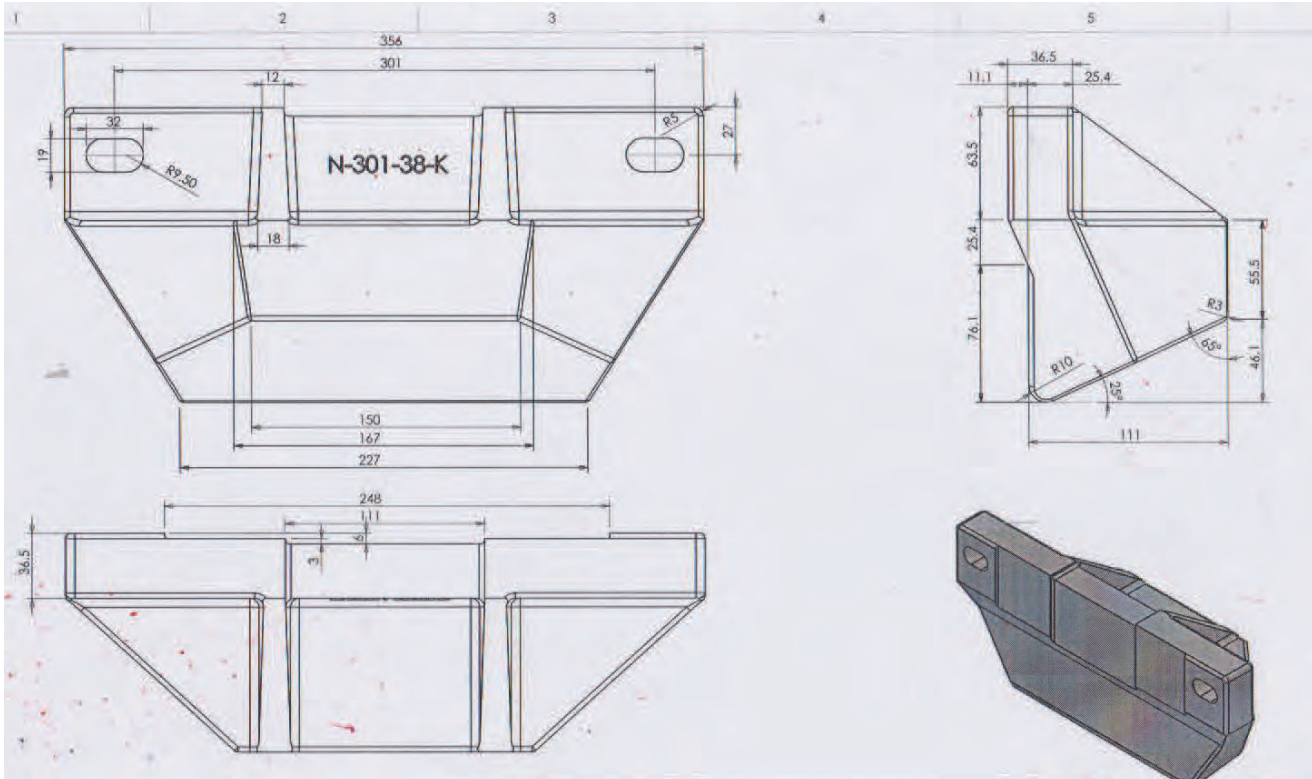
P+S: max 0.1

Si: min 0.4 - max 1.0

Cr: min 12 Hardness : min 500HB

Nihard Moldboard Shoe (#N301-38K) See drawing below

- 65 Degree, 12” punch, to receive a 5/8” diameter bolt



Specifications for Kuper (or equal) Accessory Products

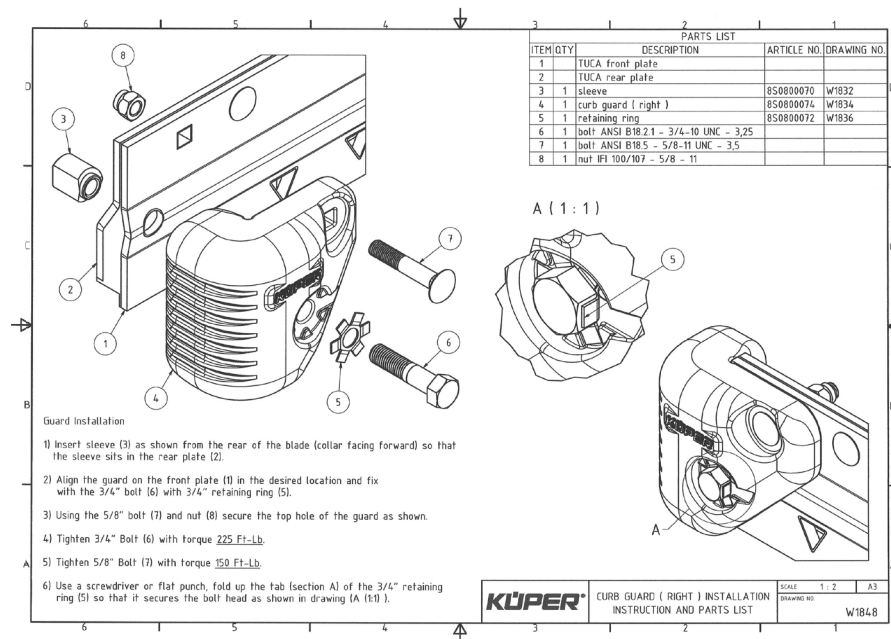
Cont'd

Cast Iron Curb Protector / Blade Savers (Left, Right and Center):

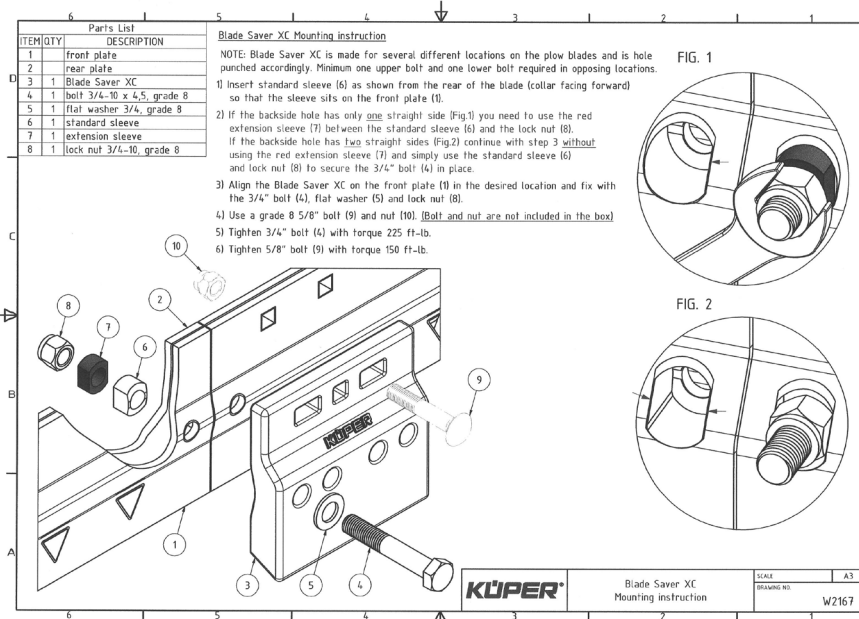
Curb Protector / Blade Savers See drawing below

(Right) (#KUP8Z8000011)

(Left) (#KUP8Z8000010)



(Center) (#KUP8Z8000008)



Specifications for Carbon Steel Cutting Edge For Plow – Wing – Grader

Cutting edges must be made of carbon steel having the following analysis

Carbon	0.80 – 1.00
Manganese	0.50 – 0.90
Phos. Maximum	0.05
Sulphur Maximum	0.05
Silicon Maximum	0.30
Brinell Hardness	250 to 350
Rockwell "C" Hardness	25 to 28

All cutting edges shall be sheared, mitered, and punched (hole type, size and spacing) to conform with current Erie County Division cutting edges.

Price includes punching where required, less bolts, delivered to any location in Erie County.

Delivery must be **within twenty (20) days** from date of purchase.

Specifications for Hardened Cutting Edges Snow Plow Blades

Cutting edges must be made of 1" x 8" SAE 1074 steel with the following analysis:

Carbon	0.70 – 0.80
Manganese	0.50 – 0.90
Sulphur	0.05 max.
Phosphorous	0.05 max.
Silicone	0.30 max.
Rockwell Hardness	62 c on wearing portion of blade

Each blade shall have a legibly identifying mark indicating a flame-hardened blade.

Cutting edges shall be sheared, mitered, and punched (hole type, size, spacing) to conform with current Erie County Division of Highway cutting edges.

Each blade shall include SAE grade 8 bolts and heavy hex nuts (1 1/16" across flat).

Price per linear inch, ready for mounting, delivered to any location in Erie County.

SAE Grade 8 Bolts & Nuts to be bid separately.

Delivery must be made **within twenty (20) days** from date of purchase order.

Specifications for Hardened Cutting Edges For Grader Blades

Cutting edges must be made of 5/8" to 7/8" x 8" double bevel curved SAE 1074 steel with the following analysis:

Carbon	0.70 to 0.80
Manganese	0.50 to 0.90
Sulphur	0.05 max.
Phosphorous	0.05 max.
Silicone	0.30 max.
Rockwell Hardness	62 c on wearing portion of blade

Each blade shall have a legibly identifying mark indicating a flame hardened type blade.

Cutting edges shall be sheared, mitered, and punched (hole type, size, spacing) to conform current Erie County Division of Highways cutting edges.

Each blade shall include SAE grade 8 bolts and heavy hex nuts (1 1/16" across flat).

Price per linear inch, ready for mounting, delivered to any location in Erie County.

SAE Grade 8 Bolts & Nuts to be bid separately

Delivery must be made **within twenty (20) days** from date of purchase order.

Specifications for Hardened Cutting Edges For Serrated Grader Blades

Cutting edges must be made of 3/4" x 8" heat treated thru hardened steel with the following analysis:

Carbon	0.28 to 0.36
Manganese	0.80 to 1.50
Phosphorous	0.04 max
Sulphur	0.05 max.
Silicon	0.15 to 0.30
Boron	0.0005 to 0.003
Rockwell Hardness	43c

Serrated grader blades shall have teeth 1 3/4" wide x 2 3/8" deep with a 1 1/4" space between teeth.

Cutting edges shall be sheared, mitered, and punched (hole type, size, spacing) to conform with current Erie County Division of Highways cutting edges.

Each blade shall include SAE grade 8 bolts and heavy hex nuts (1 1/16" across flat).

Price per linear inch, ready for mounting, delivered to any location in Erie County

SAE Grade 8 Bolts & Nuts to be bid separately.

Delivery must be made **within twenty (20) days** of date of purchase order.

Specifications for Carbon Flat Single Bevel Cutting Edges For Loader Bucket

Cutting edges must meet the following analysis:

Carbon	0.55 to 0.70
Manganese	0.60 to 0.90
Phosphorous	0.04 max
Sulphur	0.05 max.
Silicone	0.03 max.
Rockwell “C” Hardness	15 to 28
Brinell Hardness	201 - 271

Specifications for Heat Treated Flat Single Bevel Loader Edges:

Edges to be manufactured from the highest quality hot rolled **Boron** steel and shall be thru-hardened Rockwell C scale 42-50, Brinnell hardness 400 – 480

Price per linear inch delivered to any location in Erie County.

Carbon Steel Blade

Heat Treated Blade

½” x 6”

½” x 6”

¾” x 6”

¾” x 6”

¾” x 8”

¾” x 8”

1” x 8”

1” x 8”

1” x 9”

1” x 9”

1 3/8” x 10”

1 3/8” x 10”

1 ½” x 12”

1 ½” x 12”

Specifications for Rubber Snow Plow Blade

Rubber snow plow blades shall be manufactured from highly abrasion resistant 60 Duro natural rubber stock 1 ½” thick x 10” wide with the following characteristics:

Tensile Strength	2400 lbs./sq.in
Shore “A” Hardness	60
Specific Gravity	1,165
Typical Elongation	400

Punching shall conform to current Erie County Division of Highways blades

Price per linear foot delivered to any location in Erie County.

Delivery must be made **within twenty (20) days** from date of purchase order.

Specifications for Flexible Plow Blade

System:

The plow blade system shall consist of an assembly of mounting, flexing, wearing and fastening components to satisfy the following requirements:

1. **Reduce Vibration:** Wear parts must be isolated from the rest of the system with no metal to metal contact permitted.
2. **Conform to uneven road surface:** Wear parts must be segmented into sections no longer than 12" (254mm) to conform to an uneven wear surface.
3. **Reusable components:** All mounting, flexing and fastening components must be easily disassembled to be reused.
4. **Safe Handling:** Wear parts requiring regular replacement must be less than 15lb (7Kg).
5. **Fail Safe:** Each wear part must be secured by no less than 2 fasteners. These fasteners must secure the wear part in the event of flexible component failure.
6. **Environmentally safe disposal:** Any rubber components must be easily disassembled from steel to be safely disposed of accordingly. Rubber bonded to steel is not permitted.

Mounting Components:

Holder Blade: 0.625" X 6" flat single bevel 10B30 steel with 2 rows of holes. One row of holes shall adapt the holder to the plow using standard highway punching (3",3",12",12"...12",3",3") to accommodate 5/8" #3 Plow bolts. A second row of holes shall accommodate the flexing and wear components (3",6",6"...6",3") to accommodate 5/8" bolt clearance. Stop blocks shall be welded to the holder blade to prevent over travel of the securing angle. Powder coated gloss black. Securing angle: 0.375" X 1.875" X 4" A36 steel angle with one row of holes to accommodate 5/8" carriage bolts. Powder coated gloss black. Steel Spacer: 1" X 1.625" ASTM1026 drawn over mandrel tubing, case hardened to 50 HRc .030" deep. Hole to accommodate 5/8" bolt clearance. Rubber bonded to steel is not permitted.

Flexing Components:

Rubber bushing: 0.75" X 2.188" X 1.5" rubber bushing with a hole to accommodate the steel spacer, must be easily disassembled to be reused. Rubber bonded to steel is not permitted.

Rubber housing: 1.625" X 4" X 11.875" with 2 holes to accommodate the steel spacers and the wear part, must be easily disassembled to be reused. Rubber bonded to steel is not permitted.

Rubber Specification:

Type: EPDM (ethylene propylene diene terpolymer)

Ultimate elongation: 530%

Tensile strength: 10.6Mpa

Hardness: 60 Shore A durometer

Tear strength: 27kN/M

Compression set: 27% (70°C X 22hrs)

Brittleness: @40°C

Wearing components: (Carbide tipped steel wear segment)

Steel segment: 1.125" X 5.125" X 11.875" forged ASTM 5140 steel segment heat treated, quenched and tempered to 4244HRc with holes to accommodate the rubber bushings and a slot to accommodate the carbide inserts.

Tungsten carbide insert: 0.365" X 0.813" X 1.169" 73.5 grams "double bullnose" high impact tungsten carbide. Each segment shall have 10 inserts.

Tungsten Carbide Specifications.

Composition: 89% WC, 11% CO, 100% virgin material

Specific gravity: 14.5 (ASTM B 311)

Hardness: 88 HRA (ASTM B 294)

Transverse rupture strength: >2800N/mm² (ASTM B 4060)

Braze: Inserts shall be brazed on all sides with no visible gaps or voids, shims or fillers are not permitted.

Carbide inserts shall be brazed on all sides in contact with the steel segment.

Finish: Carbide tipped steel wear segments must be electroplated with a corrosion resistant coating.

Fastening Components:

Assembly Hardware:

Systems shall be fully assembled including all assembly hardware torqued to the recommended specification.

Bolts: 5/8"11

UNC grade 5 carriage bolt

Washers: 5/8" hardened flat washers

Nuts: 5/8"11

UNC "stover" style locking nut

Attachment Hardware:

Systems shall ship complete with an attachment hardware "kit" including all hardware and instructions for proper installation.

Bolts: 5/8"11

UNC grade 8 #3 plow bolt

Washers: 5/8" hardened flat washers

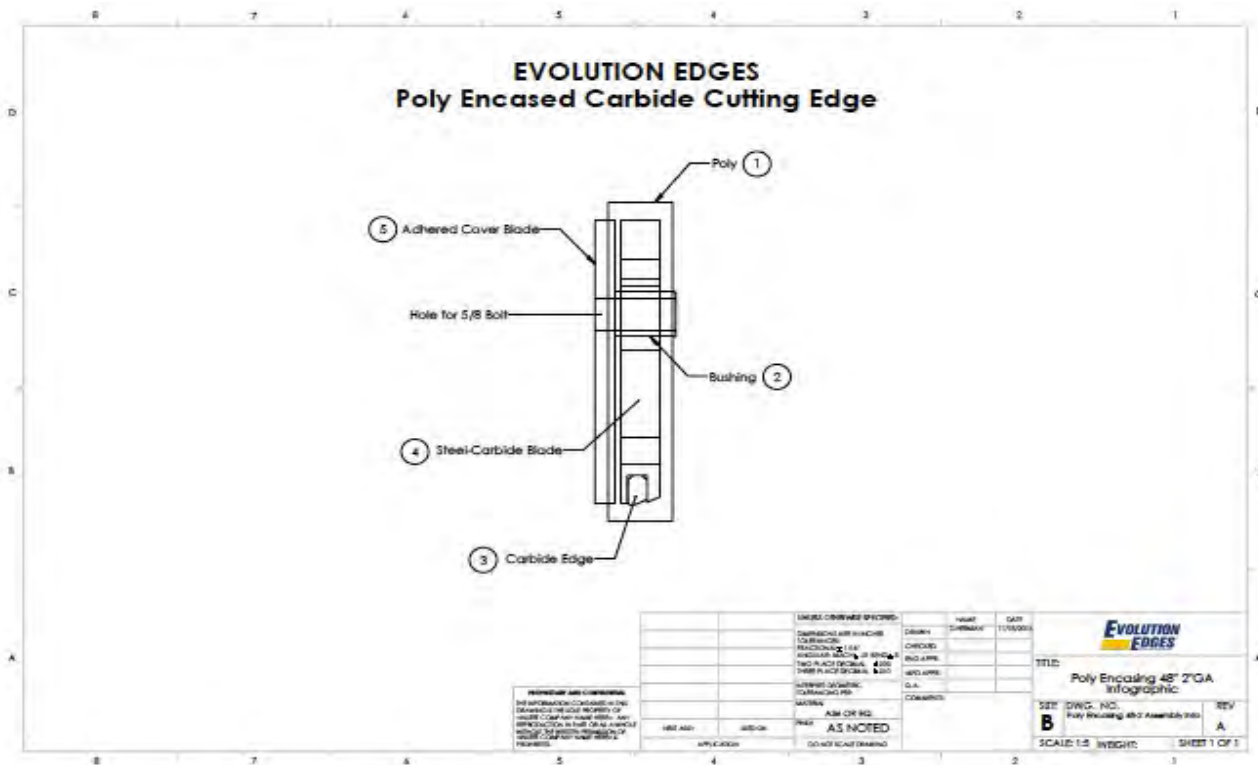
Nuts: 5/8"11

UNC "stover" style locking nut

Specifications for Evolution Edges – VST (Vibration Suppression Technology) Blade or Equal:

The following specifications are being utilized by EVOLUTION EDGES in the manufacturing process of superior quality carbide tipped snowplow cutting edge assemblies (36" & 48" Lengths) that are fully encased with a proprietary polyurethane molding process for complete adhesion to the steel blade. The **EVOLUTION EDGES – VST (Vibration Suppression Technology)** is a Poly Encased Carbide Cutting Edge designed to decrease the amplitude and frequency of vibration to the road surface, snow plow truck and plow driver. A summary of the **EVOLUTION EDGES - VST (Vibration Suppression Technology)** Poly Encased Carbide Cutting Edge specifications and complete assembly of components are described in the infographic illustrated below. All individual component drawings on this summary document can be requested as individual PDF files as needed.

INFOGRAPHIC of the EVOLUTION EDGES – VST Poly Encased Carbide Cutting Edge



(1) EVOLUTION EDGES – Proprietary Polyurethane Material Encase Carbide Blade

NOTE: Reference Attachment 1 - Titled: (Poly Encasing 48” 1.5” GA Assembly).

- a. Hardness – 85 Shore A
- b. Tensile Strength – 7000 psi
- c. 100% Modulus – 900 psi
- d. Bashore Rebound – 40%
- e. Tear Strength per ASTM D-470 – 130 pli
- f. Compression Set (Method B – 22 hrs at 158F) – 30%

(2) EVOLUTION EDGES – Proprietary Polyurethane Material Adhered Bushing

NOTE: Reference Attachment 2 - Titled: (.94 x 1.19 Bushing)

Steel Bushing is adhered into place to accept a 5/8 Inch Carriage Bolt

(3) EVOLUTION EDGES - Tungsten Carbide Tipped Snow Plow Blades

NOTE: Reference Attachment 3 - Titled: (Carbide Edge 5/8” INSERT 1.0 CHAMFERD).

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. The end user will determine hole locations.
- 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. The density of the carbide shall be 14.2 minimum to 14.6 maximum.
- c. The hardness of the carbide shall be 88.0 minimum to 89.0 maximum
- d. The transverse rupture strength shall be 350,000-psi minimum.
- e. Porosity shall conform to A06, B00, C00
- f. The individual product shall determine the shape and size of the insert. The tolerance on each dimension shall be as follows:
 - 1. 0.635 Height +/- .005”
 - 2. 0.365 Width +/- .005”

3. Length 1" nominal
4. Bottom Angle = 25 degrees, with a nose radius of 1/16 inch, minimum

3. **Brazing**

- a. Brazing material shall be a high strength high temp alloy type.
- b. Inserts will be placed next to each other in the milled slot along the entire length of the cutting edge. Inserts shall be braised on all sides consistent with sound brazing practice with no evidence of voids or use of shims.
- c. 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 .635" +/- .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.
-

(4) EVOLUTION EDGES - Steel Blade Specifications and Tolerances

NOTE: Reference Attachment 1 - Titled: (3/4" x 6" x 48" Carbide Blade).

Also available in 3/4" x 6" x 36".

Blade Material:

A36 or 1026 flat hot rolled steel. Brinell hardness range is 140-160.

Material Composition:

Carbon	.80 - .86
Manganese	.60 - .80
Phosphorous	.03 maximum
Sulfur	.04 maximum
Silicon	.35 maximum

The blade will have a minimal Brinell hardness of 140-160.

1. **General Blade Tolerances:**

Width: Width tolerance for 6" width or less: +1/16" (.125")/-3/32 (-.094") from defined blade width.

Width tolerance for 8" width or more: +1/16" (.125")/-3/16" (.188")

Blade Length: Overall Blade length will be held $\pm 1/8"$ ($\pm .125"$) from defined blade length.

Straightness: $1/4"$ ($.250"$) over a 5' length.

Flatness: $1/4"$ ($.250"$) over a 5' length.

Cutoff: Cutoff to be square, measured over the width of the blade, to:
For 6" width or less: $1/16"$ ($.063"$).
For greater than 8" widths: $1/8"$ ($.125"$).

Square Holes: $11/16"$ ($.688"$) or $9/16"$ ($.563"$) square holes

Punched holes to be placed in the blade at locations defined by the punch pattern.

Position of Holes: From The Top: Print dimension $\pm 1/16"$ ($\pm .063"$)

From Left Side: punched hole: print dimension $+0/-1/16"$ ($-.063"$)

First punched hole is to be measured from the left edge of the blade.

Balance of punched holes: print dimension $\pm 1/16"$ ($\pm .063"$)

Balance of punched holes to be measured from the actual position of the first hole. The print tolerance is not cumulative between holes.

Counter-Sink: Depth of the counter-sink hole shall be adequate so the top of the bolt is flush or slightly under the surface of the blade.

(5) EVOLUTION EDGES - Polyurethane Material To Adhered Cover Blade

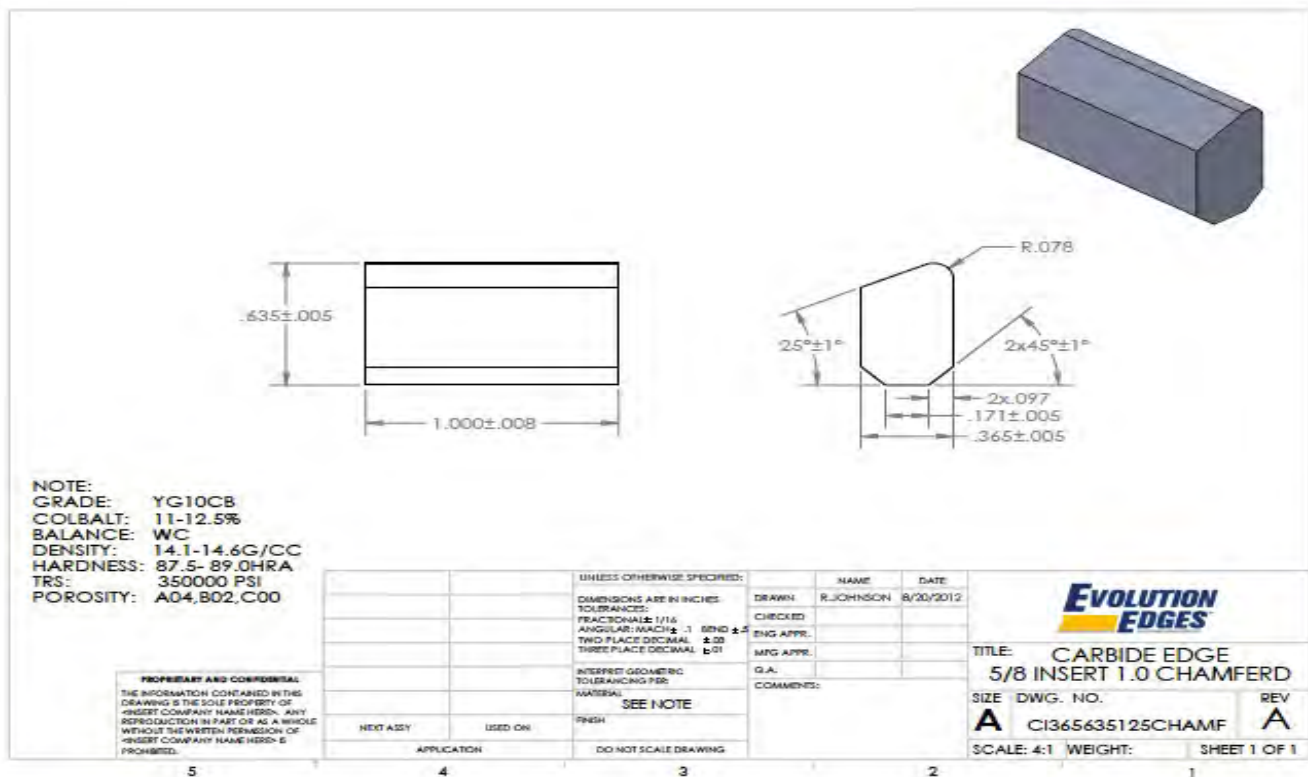
NOTE: Reference Attachment 5 - Titled: (3/8" x 6" x 47.5" 2" GA Cover Blade)

Cover Blade – 3/8" x 6 x 47.5" 2" Adhered in position by proprietary polyurethane material

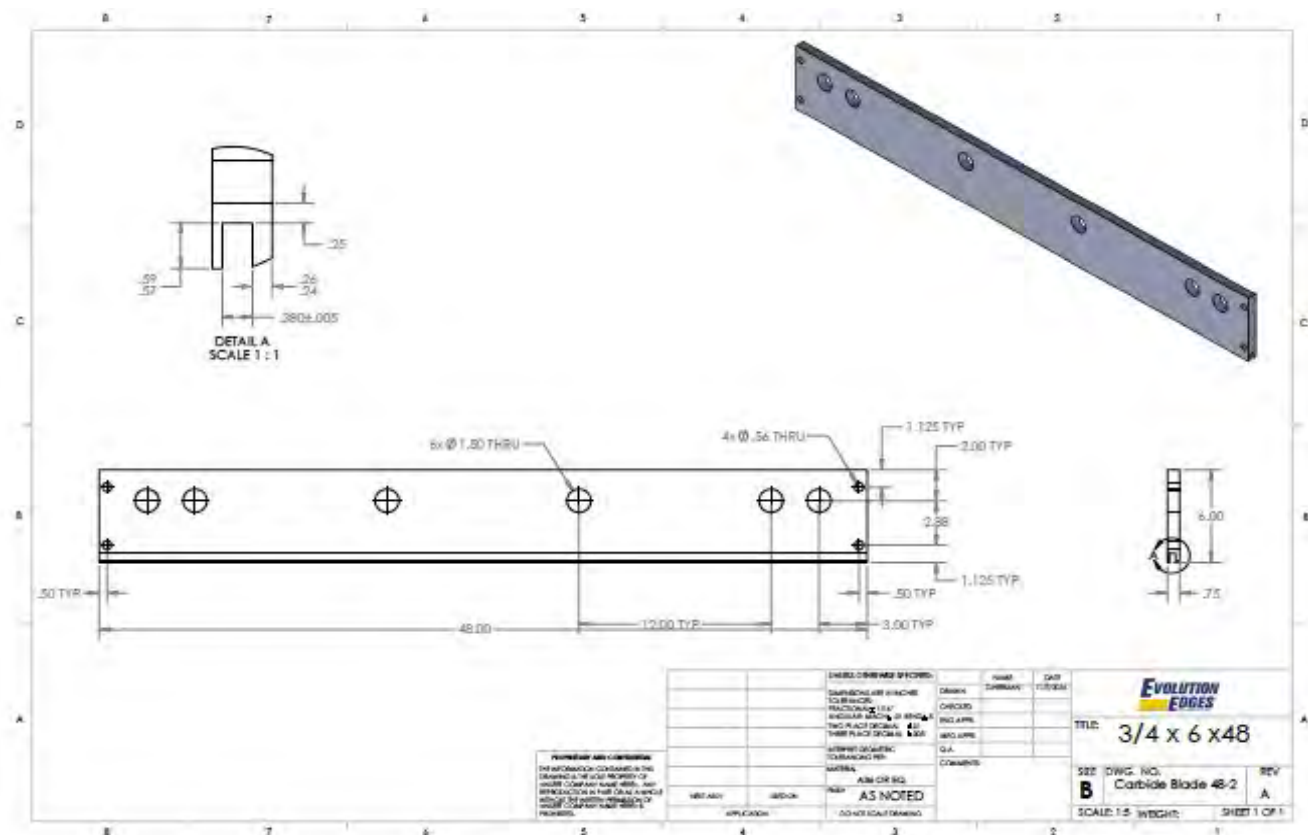
Technical drawing of a 1.25 x 6.75 x 48 inch Poly Encasing. The drawing includes a top view showing a rectangular profile with six holes, a side view showing the thickness and hole placement, and a detail view of the hole. Dimensions include a total length of 48.00, a hole spacing of 3x12.00, and a hole diameter of .94 THRU. The drawing is labeled 'Evolution Edges' and 'Poly Encasing 48-2'.

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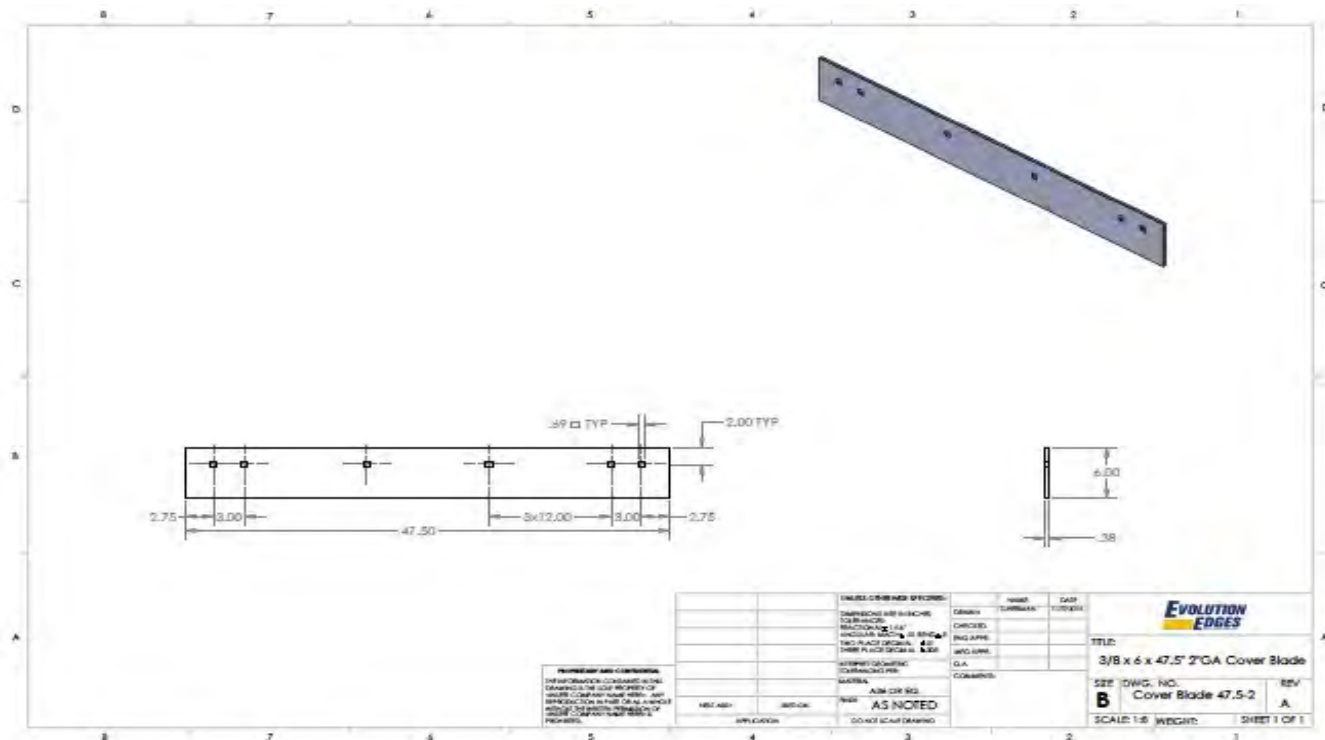
ATTACHMENT 3 – TITLE: Carbide Edge 5/8 Insert 1.0 CHAMFERD



ATTACHMENT 4 – TITLE: (3/4" x 6" x 48" Steel-Carbide Blade)



ATTACHMENT 5 – TITLE: (3/8" x 6" x 47.5" 2" GA Cover Blade)



General Marketing Description:

EVOLUTION EDGES™ – VST™ (Vibration Suppression Technology) Blade: Is a revolutionary, innovative designed snowplow cutting edge featuring a recessed secondary front cover blade with the primary steel carbide cutting edge encased and adhered with a proprietary polyurethane elastomer, the technology driven EVOLUTION EDGES™ – VST™ is design and manufactured as one complete single blade unit which improves blade lifespan by suppressing vibration caused by contact with the road surface. The result, decreased damage to the road and plow.

Technical Specification Description:

Snowplow cutting edge available in three-foot and four-foot lengths with a secondary recessed adhered front cover blade and bushing. The primary steel carbide cutting edge is fully encased and adhered by a polyurethane elastomer designed and manufactured as one complete single blade unit.

Additional Information: Please contact Daren R. Lynch – Director, Business Development for EVOLUTION EDGES. Cell: 315-663-6529 | Email: DLynch@EvolutionEdges.com

Specifications for Single Edge Carbide Blade

THICKNESS: .750 inches subject to standard steel mill tolerances
WIDTH: 6.00 inches subject to standard steel mill tolerances
LENGTH: Various to suit all types of snow plows
HOLES: .6875 inches square or .8125 inches square with countersink to suit #3 Head Plow or Scraper Bolt

TUNGSTEN CARBIDE TIPS

MATERIAL: Standard Rock Drill Grade, 88% Carbide - 12% Cobalt to 89% Carbide – 11% Cobalt Composition
SHAPE: “Trapezoid” Twenty Five Degree
THICKNESS: .365 inches - .005 inches
HEIGHT: .635 inches minimum
LENGTH: 1.125 inches maximum - .500 inches minimum, Nominal .995 inches
HARDNESS
RATING: 88.2 Rockwell A
TRAVERSE RUPTURE
STRENGTH: 370,000 PSI

TUNGSTEN CARBIDE TIP INSERTION

Tips are to be inserted in groove, suitably prepared in metal blade, using electric induction heating; brazing solder alloy to the following metallurgical specification:

Cu	58%	
Zn	38%	Minimum Bend Rupture Strength
Mn	4%	of 70,000 PSI
Co	4%	

Heat application and control information is confidential. Tips are to be soldered on all sides and ends except the area forming Bull Nose and the space between tips shall not exceed .010 inches.

Differences between highest and lowest point in carbide edge shall not exceed .025 inches.

Note: Carbide Edge completely flush with steel edge.

Price per linear inch including necessary bolts delivered to any location in Erie County

Delivery must be made **within twenty (20) days** from date of purchase order.

Specifications for Single Edge Carbide Blade

Acceptable Brand, Kennametal ONLY

Kennametal Carbide Blades

Acceptable brands/part #'s or latest version thereof; Kennametal PB136 & PB148

A. Blade

- The blade shall be flat hot-rolled finished steel to meet or exceed specifications for A36 or 1020 type steels.
- Punching shall be 11/16" square holes with countersink to receive 5/8" diameter plow bolts. Location and spacing of the holes shall be as specified by the user
- The groove for the carbide inserts shall be milled in the center of the blade edge.
- Center of holes shall be in line within 1/32" of established horizontal centerline and 1/16" of established vertical centerline.

B. Tungsten Carbide Inserts

- The inserts shall be a high shock WC grade of tungsten carbide with (11 to 12 1/2) percent cobalt content.

Density: 14.1 Minimum to 14.6 Maximum
Hardness: 87.5 Minimum to 89.0 Maximum Re "A" Scale
Traverse Rupture Strength (psi): 350,000 Minimum
Porosity: (Based on testing in accordance with ASTM designation B276-79)
A06
B02
C00

- The inserts shall be a trapezoid design of the following dimensions
 - Height: .635" +/- .005 (long side)
 - Width: .365" +/- .010
 - Length 1" Nominal
 - Bottom Angle: 25 Degrees with a nose radius of 1/16" minimum
- A metallurgical evaluation of the carbide insert shall show no evidence of cross grade contamination. Evaluation to be based on a photomicrograph of a polished and etched specimen at 500x magnification.

Specifications
For Type “B” Carbide Insert Snow Plow Cutting Edge
Acceptable Blade, Kennametal ONLY, cont’d

C. Brazing

- The brazing material shall be a high strength alloy type.
- The tungsten carbide inserts shall be positioned in the milled groove at approximately .010 between the inserts the entire length of each cutting edge section.
- The inserts shall be brazed on all sides consistent with sound brazing practice with no evidence of voids or use of shims.
- Each blade section to contain one insert, one inch nominal length for each inch of blade section length. Due to the thickness of the braze joints between inserts it may be necessary for several inserts to be slightly shorter or longer than the nominal 1” length to insure the carbide insert runs the entire length of the blade without protruding from the end of the steel body.

D. Specific Requirements

- The difference between the highest and lowest tip point (on any two adjacent inserts) not to exceed 1/32” on any given blade assembly.
- The finished blade section shall be free of warpage and longitudinal deviation not to exceed 1/8” in a four foot blade section.
- Each blade section shall be identified with manufacturer’s identification stamp.
- The finished blade sections shall have marking showing the front edge of the blade to avoid improper mounting.

Price per linear inch delivery to any location in Erie County

Delivery must be made **within twenty (20) days** from date of purchase order.

Kennametal Accessories

Curb Protectors

Kencast Curb Protector

Kencast Hardness Properties

Hardness ranges for composite ingredients:

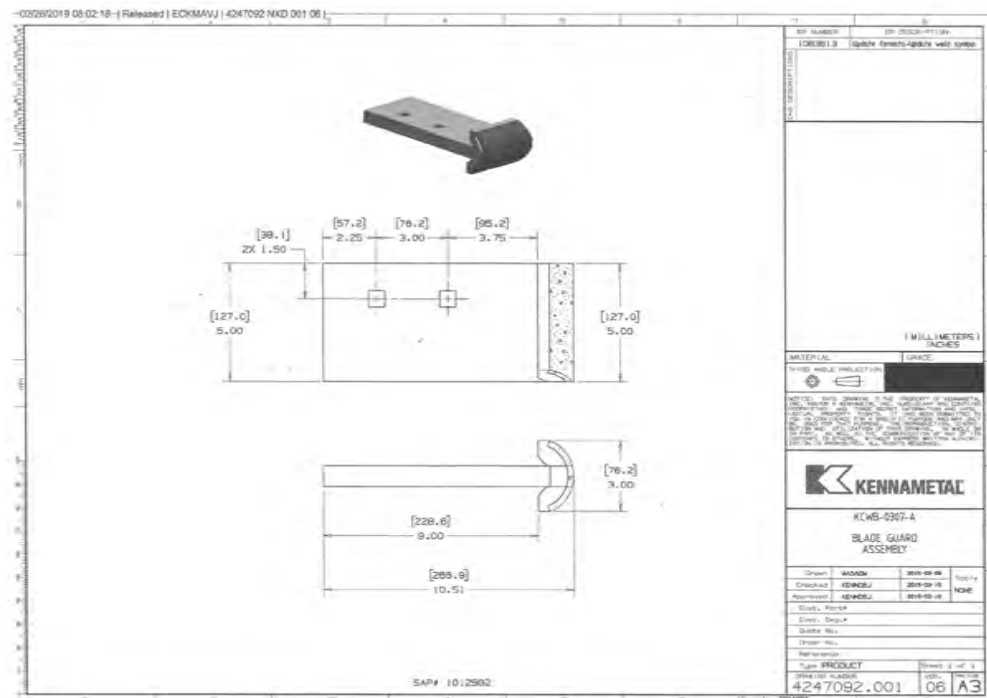
- Tungsten carbide = 86-91 HRA
- Matrix steel = 52-58 HRC
- Base steel = 38-50 HRC

Steel matrix composition:

- Carbon = .28-.35
- Manganese = 1.5-2.0
- Silicon = 1.3-1.7
- Aluminum = .08-.15
- Nickel = 1.0-2.0
- Chrome = .80-1.2
- Molybdenum = .20-.30

#1 Kencast Curb Protector (#KCWB-0307A or equal) See drawing below

- End protector will be made out of Kencast material spec provided



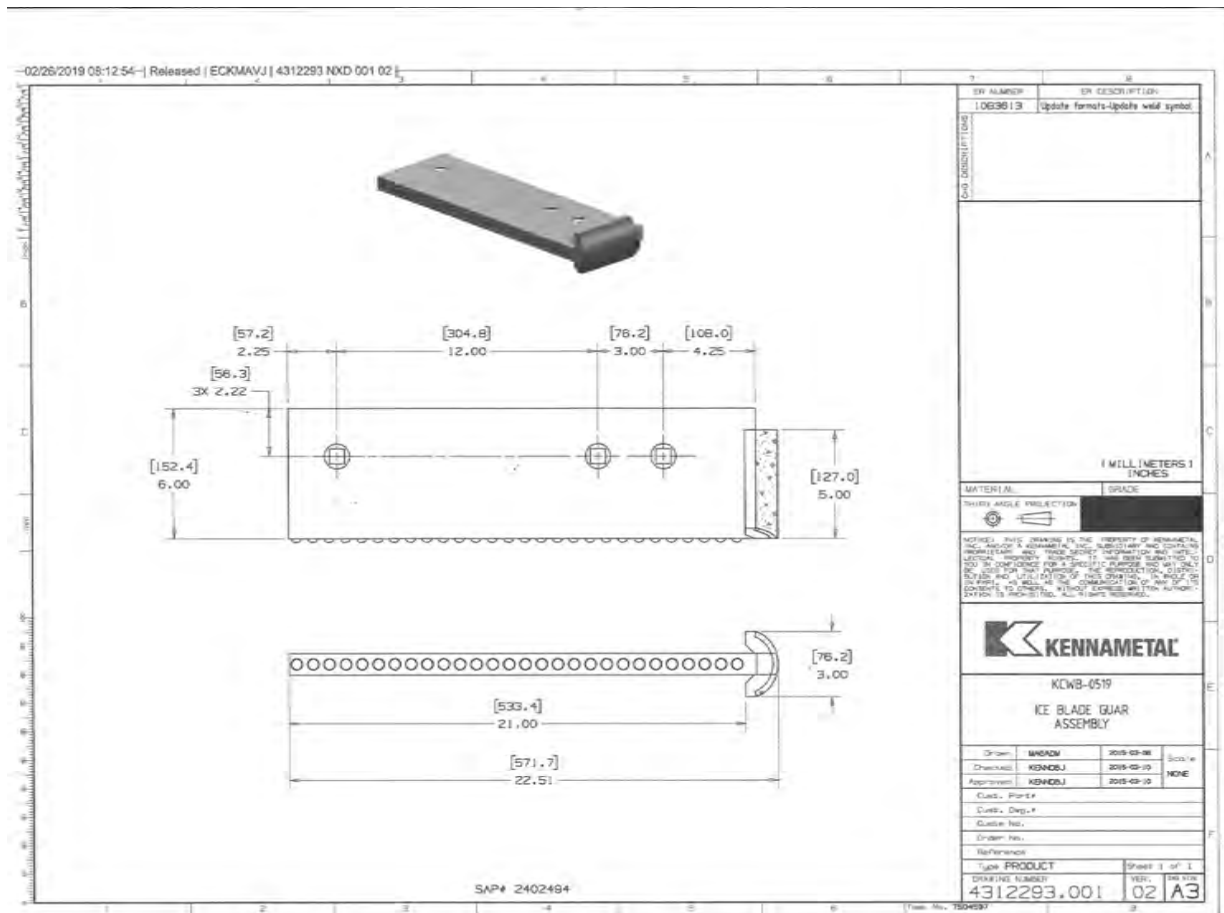
- End protector will be made out of Kencast material spec provided



#3 Kencast Curb Protector w/ I.C.E. carbide inserts (#KCWB-0519 or equal)

See drawing below

- End protector will be made out of Kencast material spec provided
- Individual carbide inserts totaling 28 will be brazed into the bottom



Specifications for Kennametal XT Blade

Carbide Blade Specification:

Kennametal Carbide Blade

Acceptable brands/part #'s or latest version thereof; Kennametal PB136 & PB148

A. Blade

- The blade shall be flat hot-rolled finished steel to meet or exceed specifications for A36 or 1020 type steels.
- Punching shall be 11/16" square holes with countersink to receive 5/8" diameter plow bolts. Location and spacing of the holes shall be as specified by the user
- The groove for the carbide inserts shall be milled in the center of the blade edge.
- Center of holes shall be in line within 1/32" of established horizontal centerline and 1/16" of established vertical centerline.

B. Tungsten Carbide Inserts

- The inserts shall be a high shock WC grade of tungsten carbide with (11 to 12 1/2) percent cobalt content.

Density: 14.1 Minimum to 14.6 Maximum

Hardness: 87.5 Minimum to 89.0 Maximum Re "A" Scale

Traverse Rupture Strength (psi): 350,000 Minimum

Porosity: (Based on testing in accordance with ASTM designation B276-79)

A06

B02

C00

- The inserts shall be a trapezoid design of the following dimensions
 - Height: .635" +/- .005 (long side)
 - Width: .365" +/- .010
 - Length 1" Nominal
 - Bottom Angle: 25 Degrees with a nose radius of 1/16" minimum
- A metallurgical evaluation of the carbide insert shall show no evidence of cross grade contamination. Evaluation to be based on a photomicrograph of a polished and etched specimen at 500x magnification.

C. Brazing

- The brazing material shall be a high strength alloy type.
- The tungsten carbide inserts shall be positioned in the milled groove at approximately .010 between the inserts the entire length of each cutting edge section.
- The inserts shall be brazed on all sides consistent with sound brazing practice with no evidence of voids or use of shims.

- Each blade section to contain one insert, one inch nominal length for each inch of blade section length. Due to the thickness of the braze joints between inserts it may be necessary for several inserts to be slightly shorter or longer than the nominal 1'' length to insure the carbide insert runs the entire length of the blade without protruding from the end of the steel body.

D. Specific Requirements

- The difference between the highest and lowest tip point (on any two adjacent inserts) not to exceed 1/32'' on any given blade assembly.
- The finished blade section shall be free of warpage and longitudinal deviation not to exceed 1/8'' in a four foot blade section.
- Each blade section shall be identified with manufacturer's identification stamp.
- The finished blade sections shall have marking showing the front edge of the blade to avoid improper mounting.

Welded Plate Material Specification:

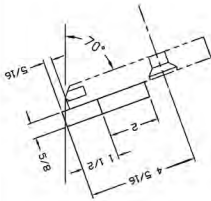
A. AR500 Plating Material, 5/8'' thick

- Properties Brinnell Hardness – 475/535 BHN
Tensile Strength – 255,000 PSI
Yield Strength – 200,000 PSI
Grain Type – Temp. Martensite
Carbon Equivalency -54
Elongation -. 15%
Reduction of Area – 41%

Price per linear inch delivery to any location in Erie County

Delivery must be made **within twenty (20) days** from date of purchase order.

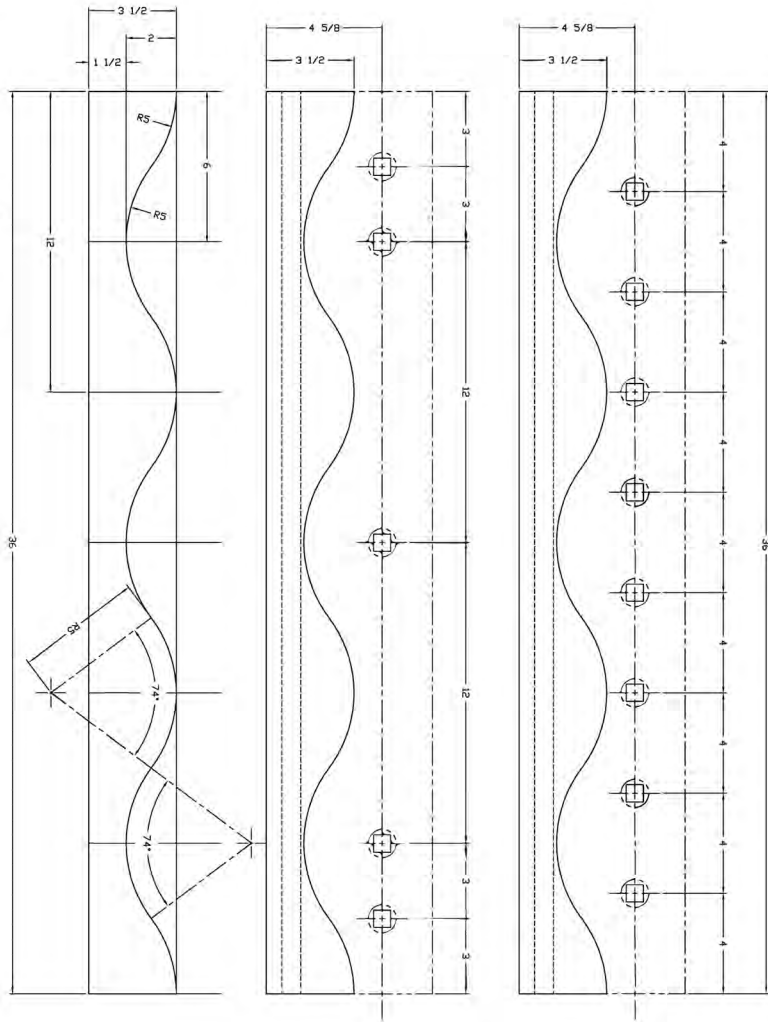
XT-36 & XT-48 Specifications

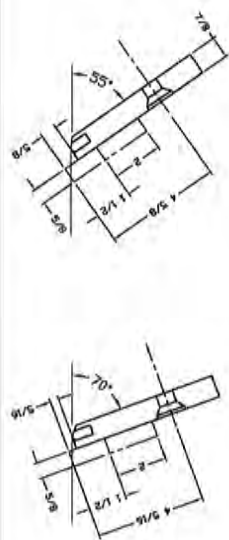
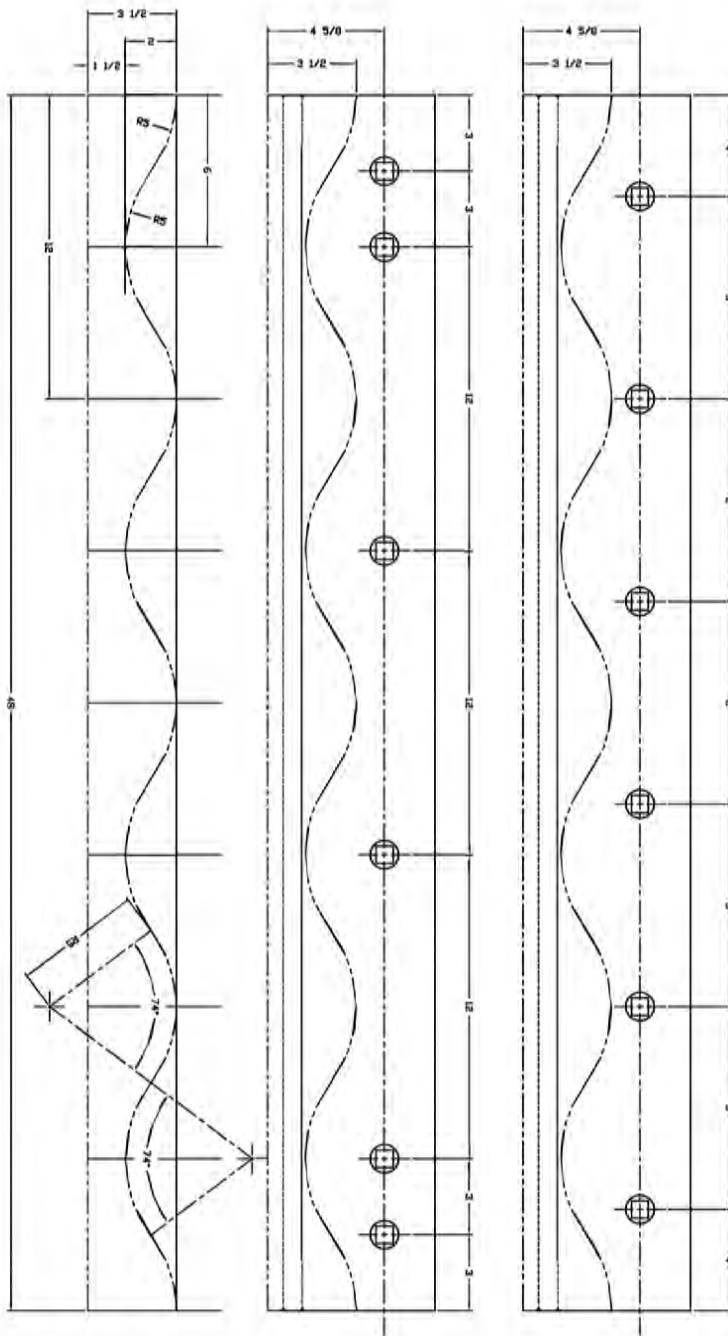


1. ALL DIM ARE IN INCHES
2. TOL. U.D.S. ±1/16

[illegible]

PART# XT-36





NOTES:

1. ALL DIM. ARE IN INCHES
2. TOL. UNLESS STATED

NOTE		REVISION	
THIS DRAWING IS THE PROPERTY OF	1	1	1
AND SHOULD NOT BE REPRODUCED	2	2	2
WITHOUT THE WRITTEN PERMISSION	3	3	3
OF THE COMPANY.	4	4	4
ALL DIMENSIONS ARE IN INCHES	5	5	5
UNLESS OTHERWISE SPECIFIED	6	6	6
AND DECIMALS ARE TO TWO	7	7	7
PLACES.	8	8	8
ALL DIMENSIONS ARE TO BE	9	9	9
MAINTAINED WITHIN THE	10	10	10
TOLERANCES SPECIFIED.	11	11	11
ALL DIMENSIONS ARE TO BE	12	12	12
MAINTAINED WITHIN THE	13	13	13
TOLERANCES SPECIFIED.	14	14	14
ALL DIMENSIONS ARE TO BE	15	15	15
MAINTAINED WITHIN THE	16	16	16
TOLERANCES SPECIFIED.	17	17	17
ALL DIMENSIONS ARE TO BE	18	18	18
MAINTAINED WITHIN THE	19	19	19
TOLERANCES SPECIFIED.	20	20	20

PART #XT48

Standard XT Alloyed Grade Steel

VOLVED COVER PLATE FOR

ANCHORED STEEL/CONCRETE SLABS

AS PER AISC 308

100-1000-01

Specifications
Kennametal XT Blade, fabricated to fit Western or Fisher Straight
Plows and V-Plows

Kennametal XT Blade specifications provided in previous section:

Straight Western & Fisher Plows:

- Blades shall be punched and cut to proper plow specifications including total length, hole size, hole spacing and gauge

Delivery to any location in Erie County, priced per liner inch

V-Plows Western & Fisher:

- Blades shall be punched to proper plow specifications including total length, hole size, hole spacing and gauge
- Nose pieces shall be welded onto each blade

Price per linear inch, price will include welded on nose pieces, delivery to any location in Erie County

Specifications for Plow & Wing Replacement Parts

Cast Nihard Moldboard Shoes:

Nihard Specifications

Gray iron:

C: 2.9~3.2% Si: 1.4~1.7%

Hardness: 190HB min

Hi chrome iron:

C: min 2.7 - max 3.2

Mn: max 1.5

Ni: min 0.2 – max 0.5

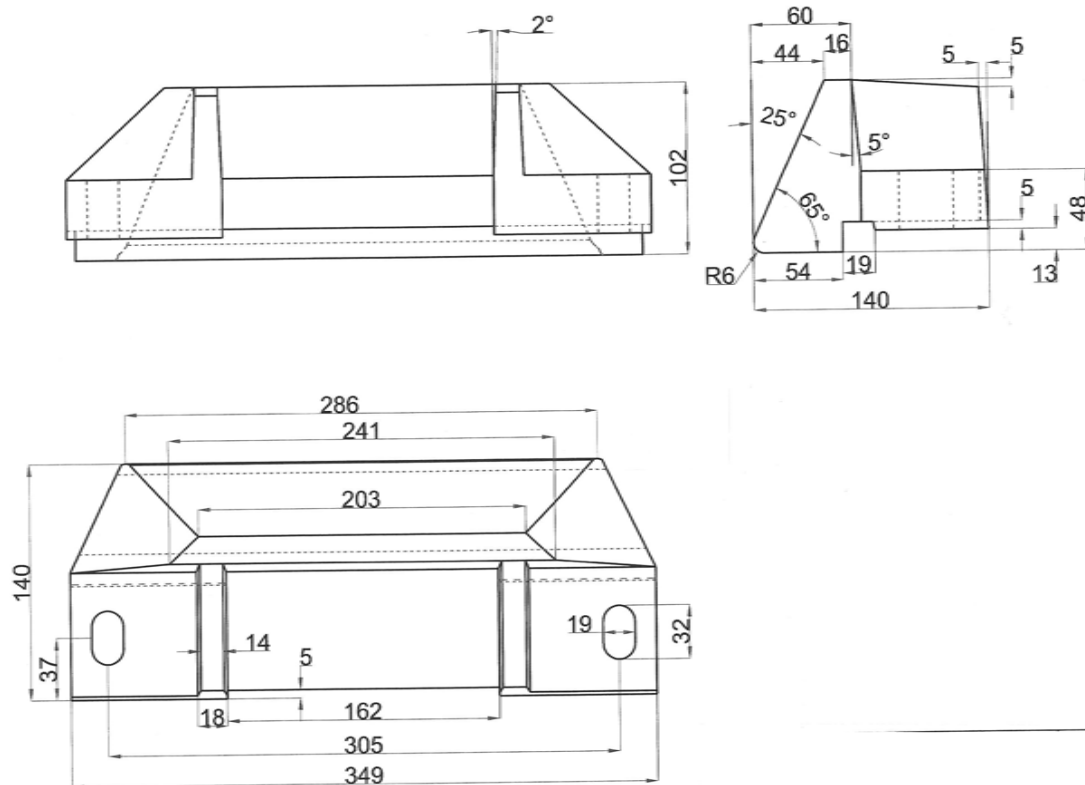
P+S: max 0.1

Si: min 0.4 - max 1.0

Cr: min 12 Hardness : min 500HB

Nihard Moldboard Shoe (#N301-34A) See drawing below

- 65 Degree, to fit 6'' top punch blade, 12'' punch, to receive a 5/8'' diameter bolt



Specifications for Plow & Wing Replacement Parts Continued

Nihard Specifications

Gray iron:

C: 2.9~3.2% Si: 1.4~1.7%

Hardness: 190HB min

Hi chrome iron:

C: min 2.7 - max 3.2

Mn: max 1.5

Ni: min 0.2 – max 0.5

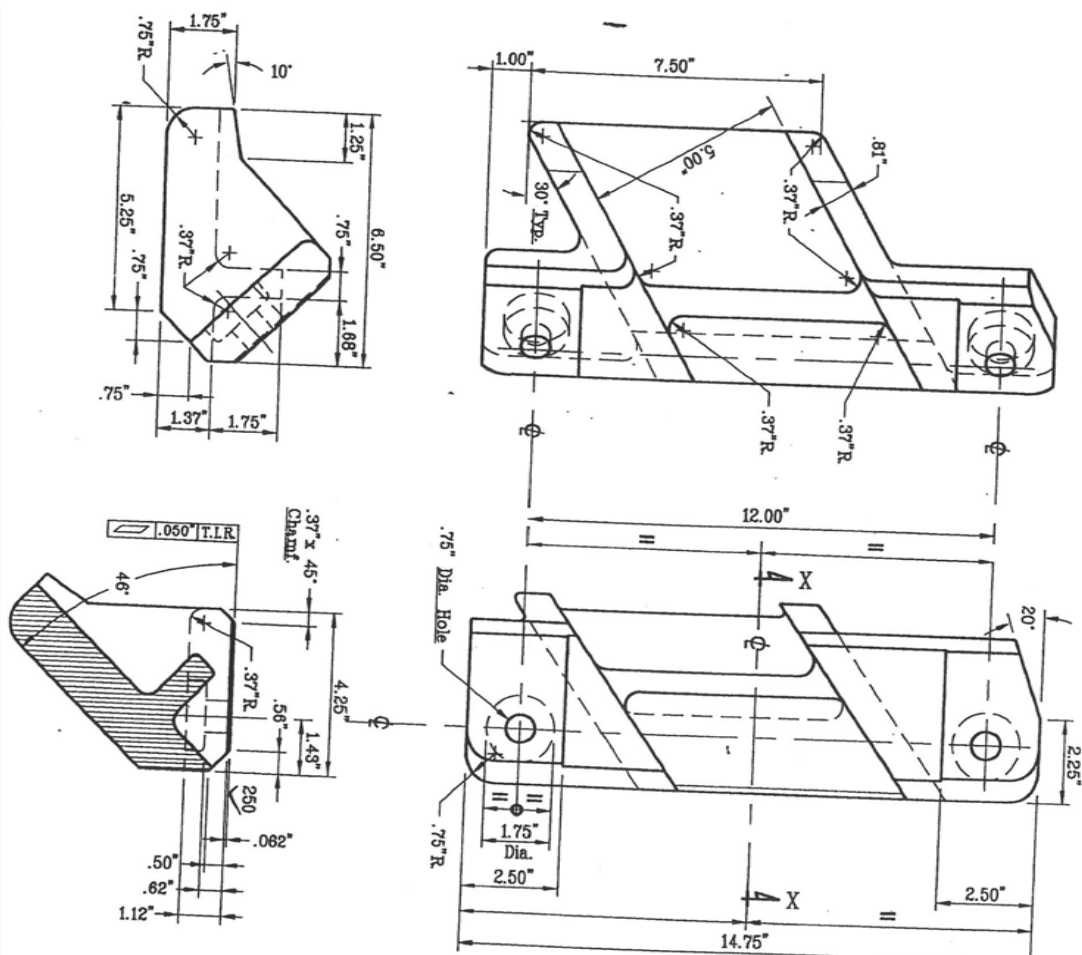
P+S: max 0.1

Si: min 0.4 - max 1.0

Cr: min 12 Hardness : min 500HB

Nihard Moldboard Shoe (#N301-29A) See drawing below

- 55 Degree, to fit 6'' top punch blade, 12'' punch, to receive a 5/8'' diameter bolt



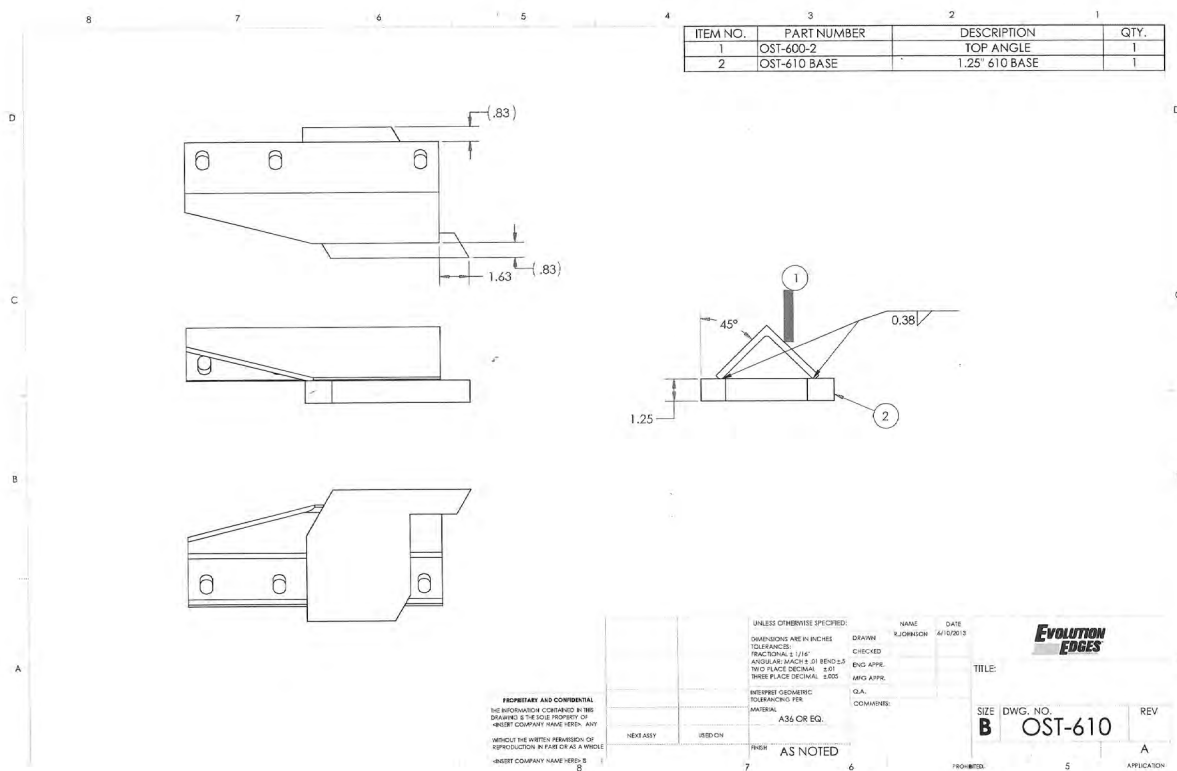
Specifications for Plow & Wing Replacement Parts Continued

Cast Steel moldboard shoes 12" center to fit 6" top punch blade for:

To fit Everest, Frink, Viking & Tenco plows

Steel moldboard shoes 8" or 12" center to fit 6" top punch, part # OST-610 or equal: See drawing below

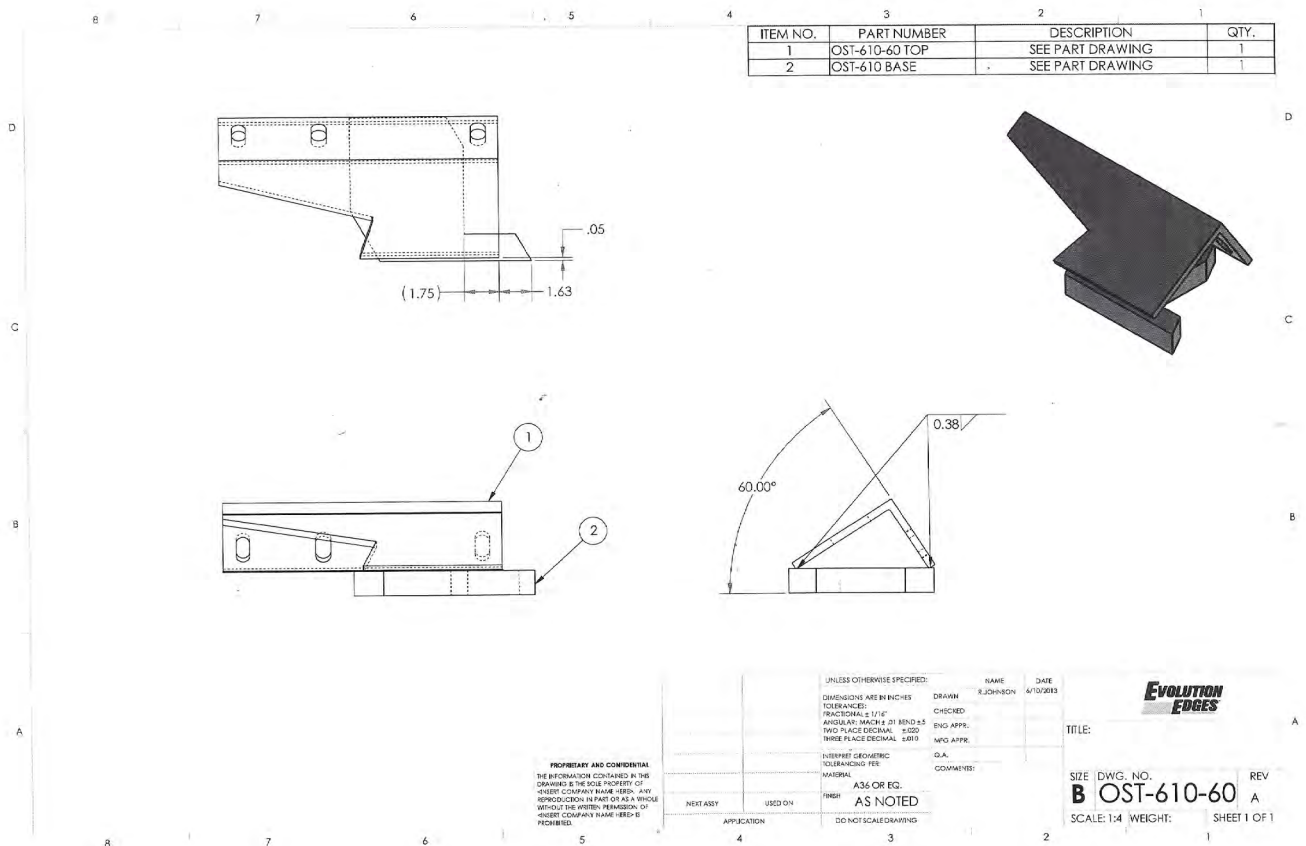
To fit Everest, Frink, Viking & Tenco plows



Specifications for Plow & Wing Replacement Parts Continued

Steel moldboard shoes 8" or 12" center to fit 6" top punch, part # OST-610-60 or equal: See drawing below

To fit Everest, Frink, Viking & Tenco plows



Specifications for Plow & Wing Replacement Parts Continued

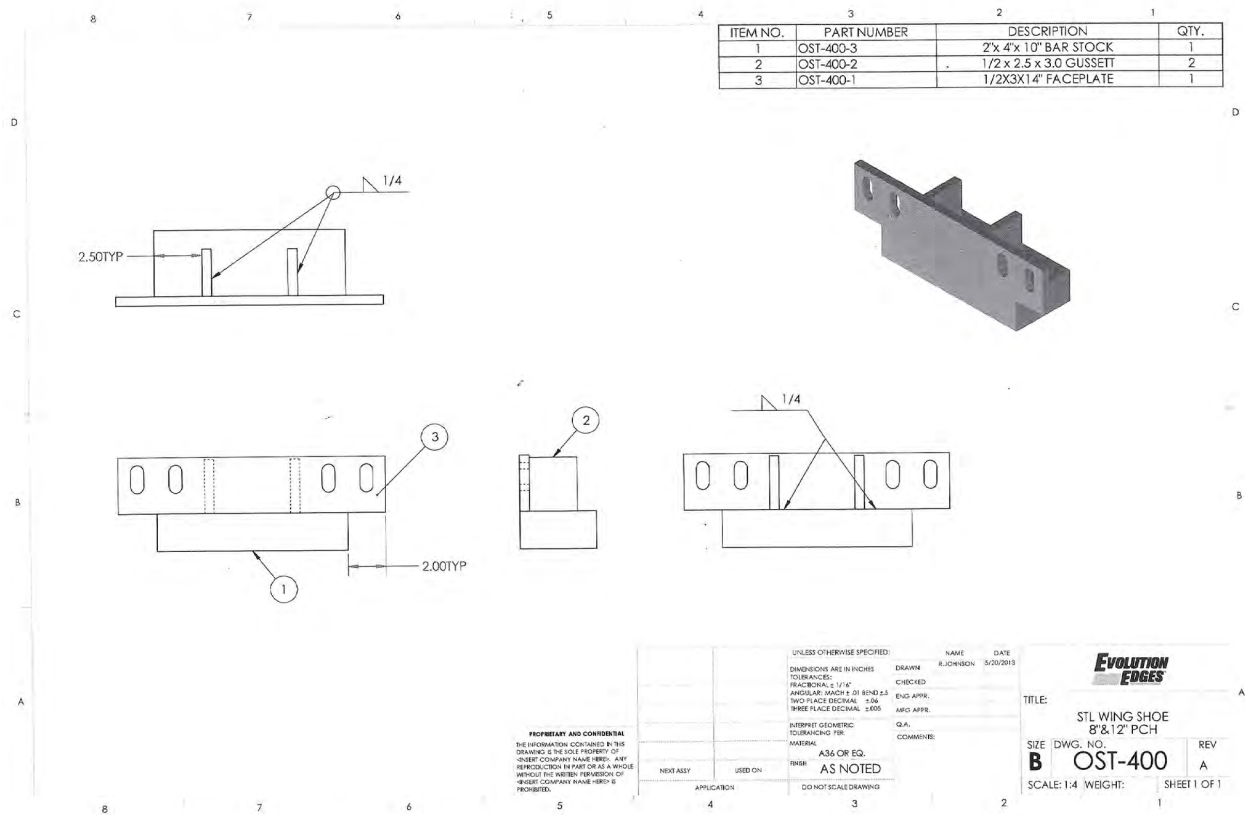
Wing Shoes:

Cast Steel wing shoes 12" center to fit 6" top punch blade for:

To fit Everest, Frink, Viking & Tenco plows

Steel wing shoes 8" or 12" center to fit 6" top punch blade for approved part # OST-400 or equal, See drawing below:

To fit Everest, Frink, Viking & Tenco plows



Specifications for Plow & Wing Replacement Parts Continued

Cast Nihard Wing Shoes:

Nihard Specifications

Gray iron:

C: 2.9~3.2% Si: 1.4~1.7%

Hardness: 190HB min

Hi chrome iron:

C: min 2.7 - max 3.2

Mn: max 1.5

Ni: min 0.2 – max 0.5

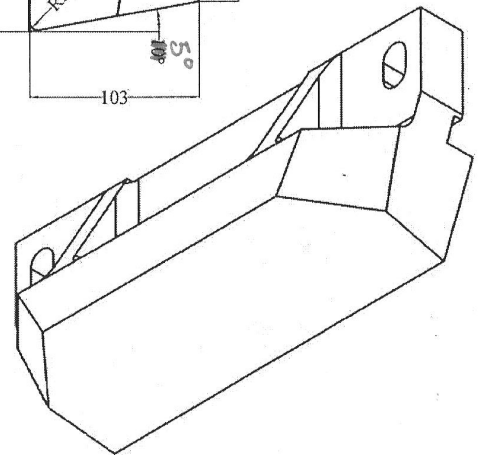
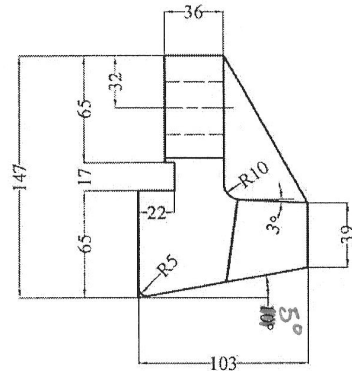
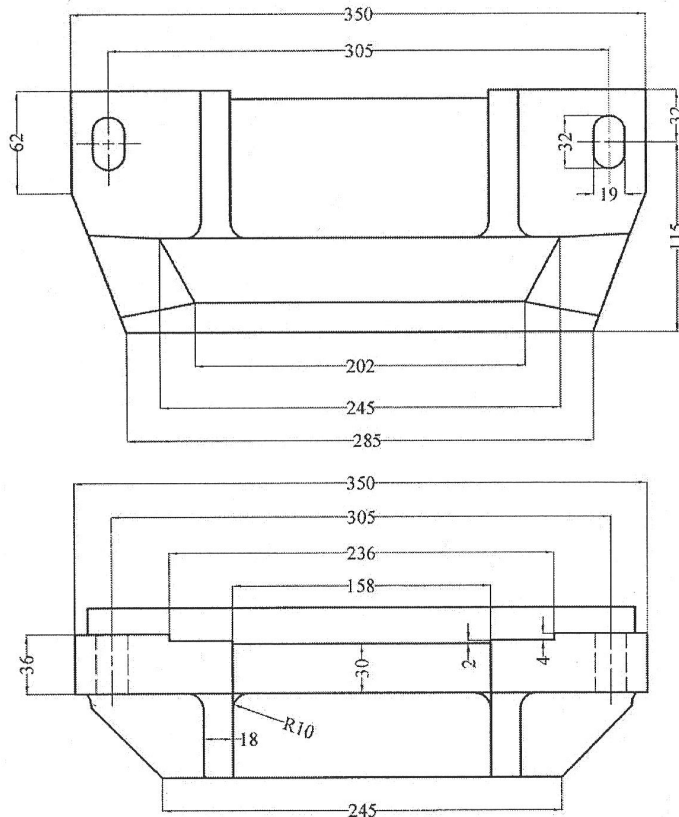
P+S: max 0.1

Si: min 0.4 - max 1.0

Cr: min 12 Hardness : min 500HB

Nihard Wing Shoe (#N301-39) See drawing below

- 85 Degree, to fit 6'' top punch blade, 12'' punch, to receive a 5/8'' diameter bolt



Specifications for Plow & Wing Replacement Parts Continued

Nihard Specifications

Gray iron:

C: 2.9~3.2% Si: 1.4~1.7%

Hardness: 190HB min

Hi chrome iron:

C: min 2.7 - max 3.2

Mn: max 1.5

Ni: min 0.2 – max 0.5

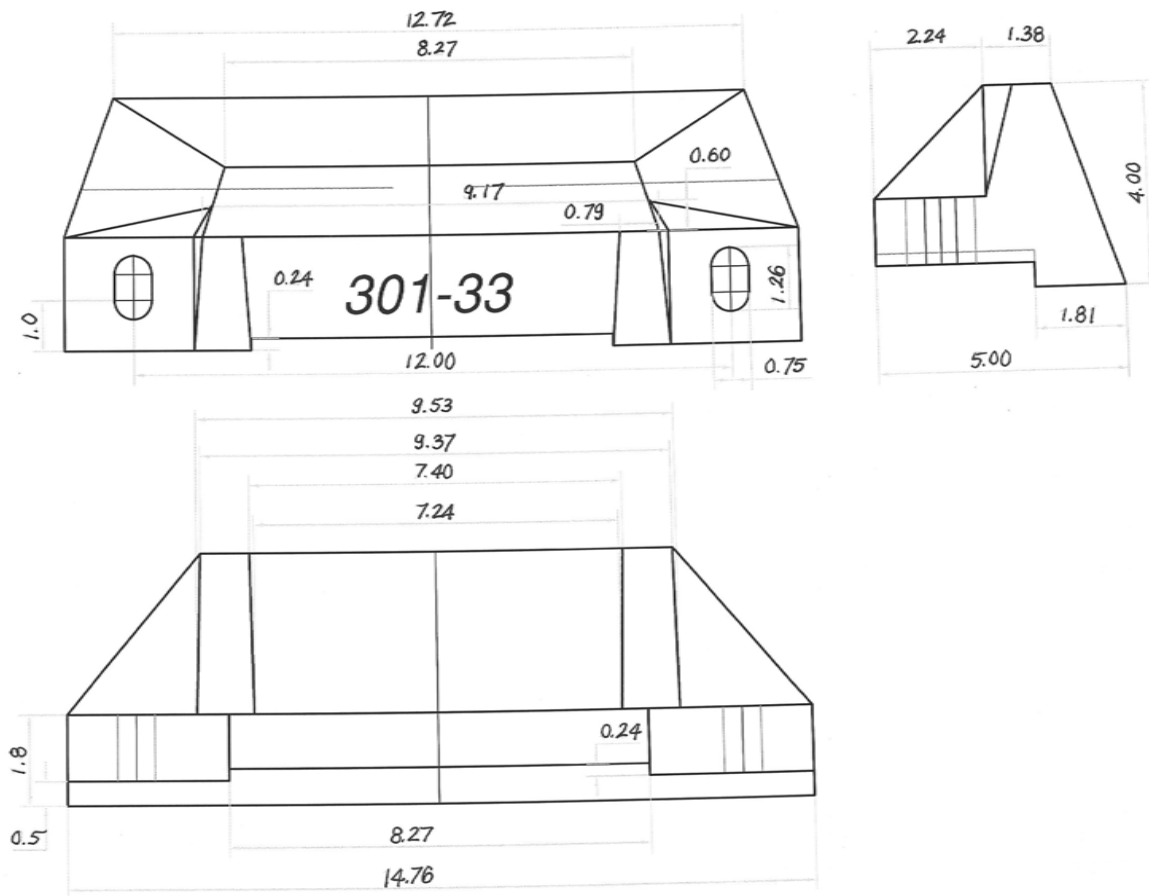
P+S: max 0.1

Si: min 0.4 - max 1.0

Cr: min 12 Hardness : min 500HB

Nihard Wing Shoe (#N301-33) See drawing below

- 75 Degree, to fit 6'' top punch blade, 12'' punch, to receive a 5/8'' diameter bolt



Specifications for Plow & Wing Replacement Parts Continued

Nose Shoes:

Steel nose shoe to fit 6" top punch blade

To fit Everest, Frink, Viking & Tenco plows

Steel nose shoe to fit 8" top punch blade

To fit Everest, Frink, Viking & Tenco plows

Specifications for Plow & Wing Replacement Parts Continued

Plow Frame Shoes:

Cast flat frame shoe 6" on center @ 30 lbs

With carbide insert

Cast flat frame shoe 6" on center @ 40 lbs.

With carbide insert

Cast boat shoe 16 1/2" on center @ 68 lbs

With carbide insert

Cast mushroom shoe 6" on center @ 49 lbs

With carbide insert

Plow Frame Shoes continued:

Steel flat frame shoe 6" on center @ 50 lbs.

With carbide insert

Steel boat frame shoe 1" x 7" x 22"; 16 ½"
on center @ 46 lbs.

With carbide insert

Shoe adapter bracket

Specifications for Plow & Wing Replacement Parts Continued

Kencast Carbide Frame Shoe

Kencast Hardness Properties

Hardness ranges for composite ingredients:

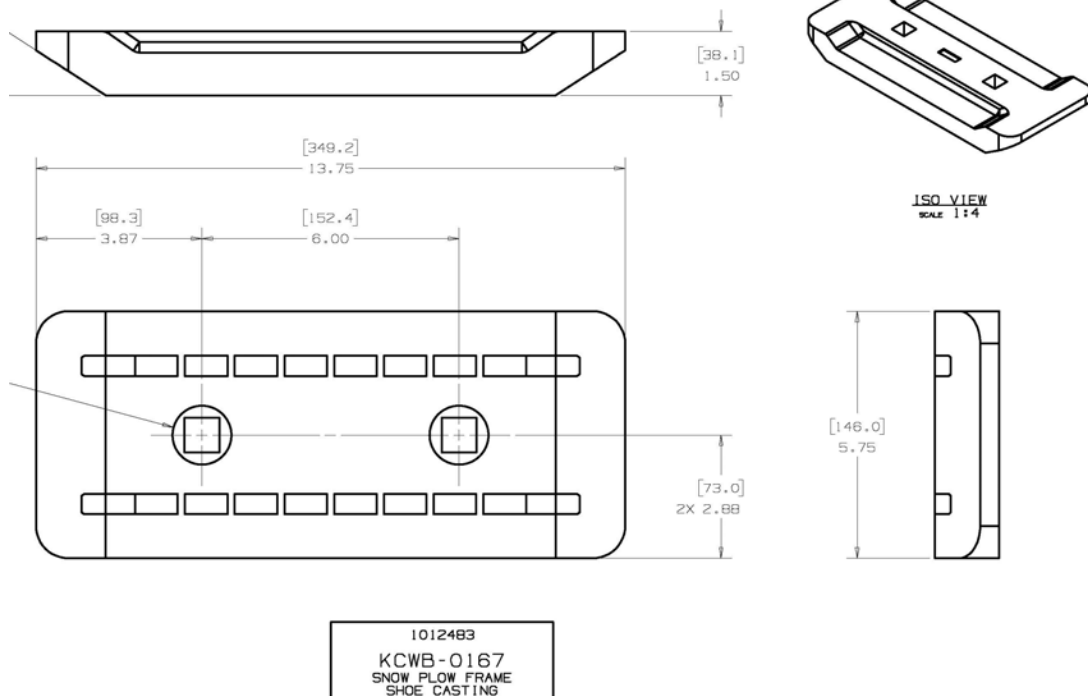
- Tungsten carbide = 86-91 HRA
- Matrix steel = 52-58 HRC
- Base steel = 38-50 HRC

Steel matrix composition:

- Carbon = .28-.35
- Manganese = 1.5-2.0
- Silicon = 1.3-1.7
- Aluminum = .08-.15
- Nickel = 1.0-2.0
- Chrome = .80-1.2
- Molybdenum = .20-.30

Kencast Frame Shoe (#KCWB-0167 or equal) See drawing below

- Shoe will be made out of Kencast spec'd material with a minimum of 10 carbide inserts on each side of the shoe (total of 20 carbide inserts), going vertically.



Specifications for Plow & Wing Replacement Parts Continued

Cast Nihard Frame Shoes:

Nihard Specifications

Gray iron:

C: 2.9~3.2% Si: 1.4~1.7%

Hardness: 190HB min

Hi chrome iron:

C: min 2.7 - max 3.2

Mn: max 1.5

Ni: min 0.2 – max 0.5

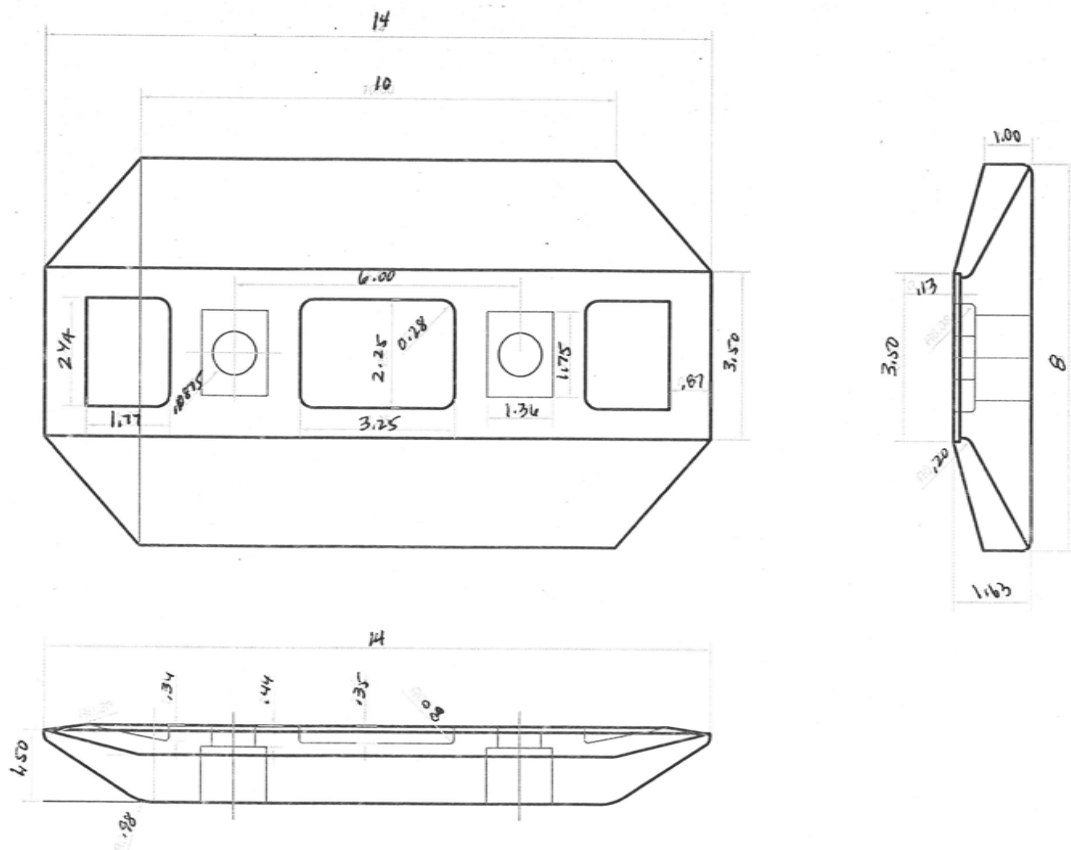
P+S: max 0.1

Si: min 0.4 - max 1.0

Cr: min 12 Hardness : min 500HB

Nihard Frame Shoe (#N301-11-3) See drawing below

- Receives a $\frac{3}{4}$ " Hex Head Bolt



Specifications for Plow & Wing Replacement Parts Continued

Cast Nihard Frame Shoes:

Nihard Specifications

Gray iron:

C: 2.9~3.2% Si: 1.4~1.7%

Hardness: 190HB min

Hi chrome iron:

C: min 2.7 - max 3.2

Mn: max 1.5

Ni: min 0.2 – max 0.5

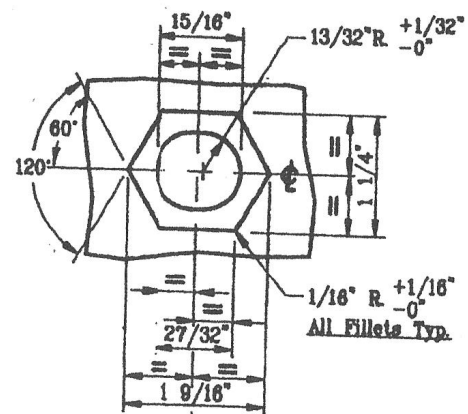
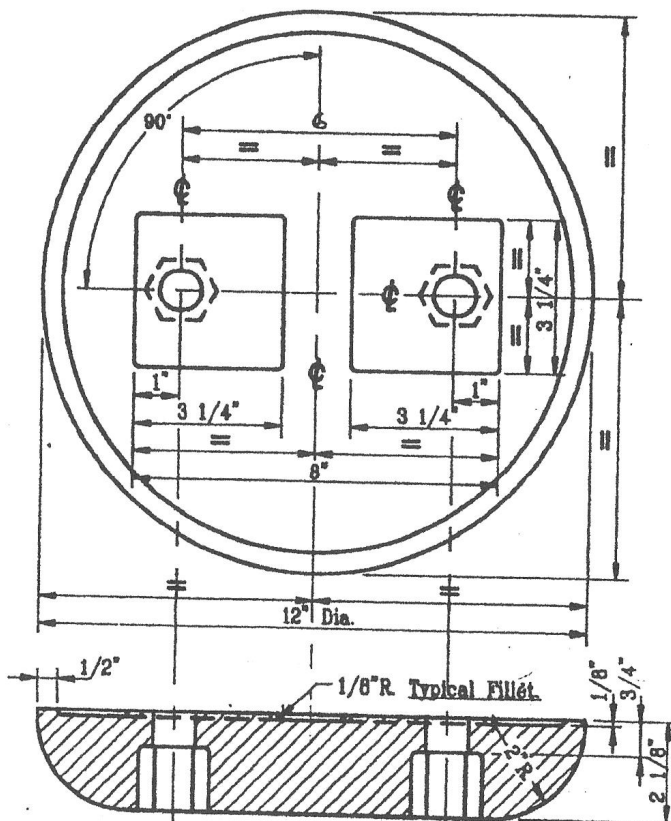
P+S: max 0.1

Si: min 0.4 - max 1.0

Cr: min 12 Hardness : min 500HB

Nihard Mushroom Shoe (#N301-105-3) See drawing below

- Receives a $\frac{3}{4}$ " Hex Head Bolt



Scale 1/1
Cored Hole Details.
Tol. for Cored Hole Only $\pm 1/32$ "

Specifications for Plow & Wing

Replacement Parts Continued

Cast Nihard Frame Shoes:

Nihard Specifications

Gray iron:

C: 2.9~3.2% Si: 1.4~1.7%

Hardness: 190HB min

Hi chrome iron:

C: min 2.7 - max 3.2

Mn: max 1.5

Ni: min 0.2 – max 0.5

P+S: max 0.1

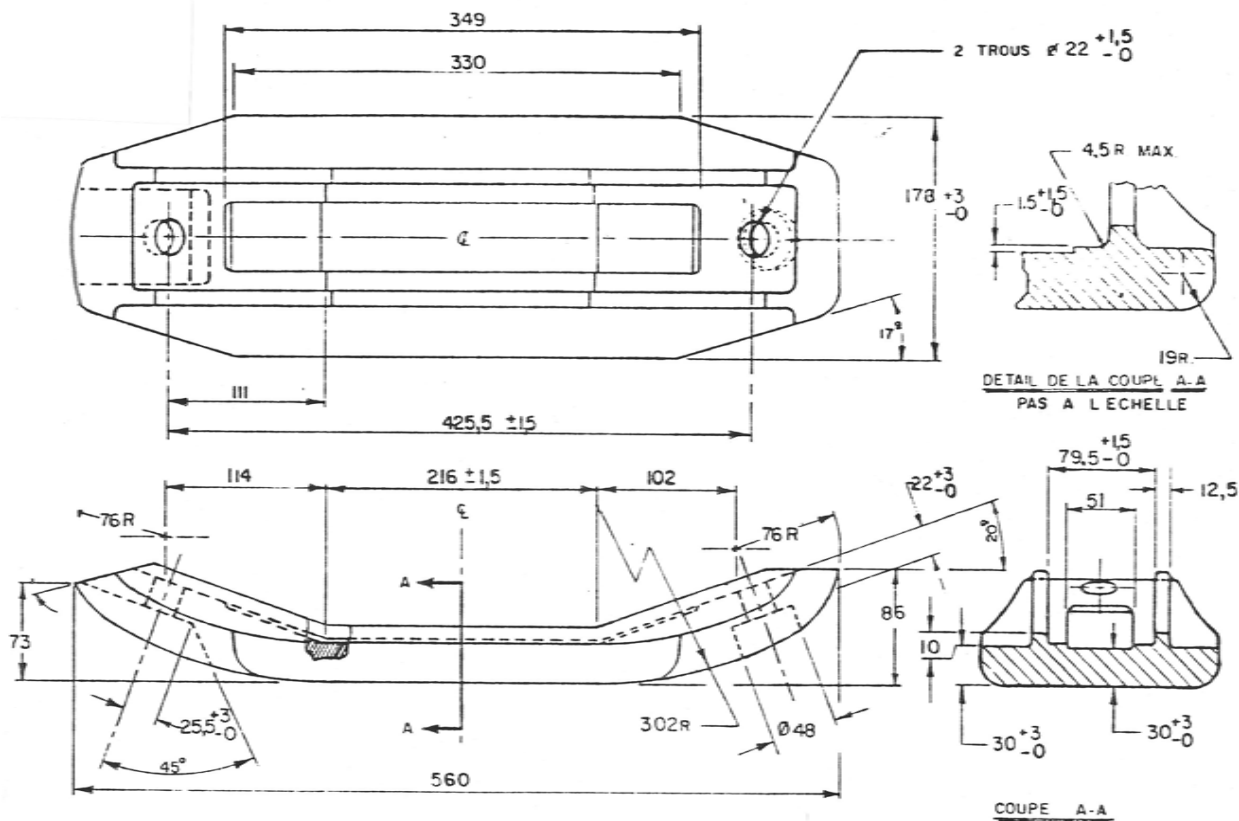
Si: min 0.4 - max 1.0

Cr: min 12 Hardness : min 500HB

Nihard Boat Shoe (#N301-3-2) See drawing below

- Receives a 3/4" Hex Head or Square Bolt

\$_____price each



Specifications for Plow & Wing

Replacement Parts Continued

Plow Parts:

Bid on plow parts to be the percent deducted from the plow manufacturers list price.
Manufacturer's list price must be submitted with this bid

Specifications for Sander Parts

Sander Parts:

Sander Chain	per foot
Hydraulic motor to drive apron chain	per each
Hydraulic motor to drive spinner	per each
Spinner with hub	
Poly 18"	per each
Poly 20"	per each
Steel 18"	per each
Steel 20"	per each
Stainless Steel 18"	per each
Stainless Steel 20"	per each

Miscellaneous Sander parts:

Bid on miscellaneous sander parts to be the percent deducted from the sander/spreader manufacturer's list price. Manufacturer's list price must be submitted with this bid. Please state manufacturer.

Manufacturer_____	% off list
SaltDogg Sanders_____	% off list

Spreader Controls:

Bid on spreader controls to be the percent deducted from the spreader controls manufacturer's list price. Manufacturer's list price must be submitted with this bid.

Comp-U-Spread	% off list
Dickey John	% off list

SECTION E402 – HOT MIX ASPHALT PAVEMENTS ADDITIVES

E402-1 DESCRIPTION. This specification includes the addition of a fiber reinforcement material to the Hot Mix Asphalt Items within this contract. The fibers shall be added in accordance to the specifications herein.

E402-2 MATERIALS.

E402-2.01 Provide a high tensile strength synthetic fiber blend formulated to reinforce asphalt mixes. This material assists to control and reduce thermal cracking, reflective cracking, and rutting. The fiber blend contains aramid and polyolefin fibers. Aramid fibers will not melt in the asphalt mix and are known for their strength and durability in both high and low temperature climates. The materials shall meet the specifications of Forta-Fi or approved equal.

Fiber Reinforcement. Provide fibers conforming to the requirements below. Do not alter the final asphalt mix design for the addition of fiber at the plant. Use the fiber type specified at the rate of 1.0 pounds/ton of total mix. Submit certified test data for the fibers to be used on the project prior to their use.

E402-2.02 The fibers shall be an approved blend of the materials as defined in the table below:

Aramid Fibers:	Polyolefin Fibers:
Length.....3/4”(19mm)3/4” (19mm)
Form.....Monofilament	Fibrillated
Acid/Alkali Resistance.....Inert	Inert
Tensile Strength.....400,000 p.s.i.	N/A*
Specific Gravity.....1.44	0.91
Operating Temperatures.....-100°F to 800°F	N/A*

* Fibers will melt or become plastically deformed during asphalt mix production.

E402-3 CONSTRUCTION DETAILS.

E402-3.01 Quality Control. The Contractor is responsible for Quality Control (QC). QC is defined as all activities required to add the fibers to the Hot Mix Asphalt that meets all specification requirements. Perform all sampling and testing in accordance with procedures supplied by or approved by the material manufacturer.

E402-3.02 Production Control.

Procedure for the addition of the fibers must be approved by the Manufacturer’s representative.

- A. When a batch plant is used, add the fiber to the aggregate in the weight hopper and increase both dry and wet mixing times. Ensure that the fiber is uniformly distributed before the injection of asphalt cement into the mixture.
- B. When a drum plant is used, do not allow the fibers to become entangled in the exhaust system. If there is any evidence of clumps of fibers at the discharge chute, increase the mixing time and/or intensity.

Store fiber in a dry environment.

E402-3.03 Manufacturer’s Representative is to be at the Asphalt Plant at time of the mixing of the fibers with the asphalt. The representative shall verify the correct procedure of mixing and also the amount of material used per asphalt load.

E402-4 METHOD OF MEASUREMENT.

The quantity is the number of actual pounds used in the producing of the Hot Mix Asphalt. Actual count of number of bags used per load is to be certified by the plant and verified by the Manufacturer’s Representative. Measure or calculate the quantity based on the measured amount and report to the nearest 0.1 of a pound.

E402-5 BASIS OF PAYMENT. The unit price per pound shall include the cost of all material, labor and equipment necessary to complete the work.

Payment will be made under:

Item No.	Item	Pay Unit	
E402.098	Fiber Additive for Hot Mix Asphalt	Pound	_____

SECTION E405 – COLD PATCH MIX ASPHALT PAVEMENTS ADDITIVES

E405-1 DESCRIPTION. This specification includes the addition of a fiber reinforcement material to Item E405.01 Standard Cold Patch Material within this contract. The fibers shall be added in accordance to the specifications herein.

E405-2 MATERIALS.

E405-2.01 Provide a high tensile strength synthetic fiber blend formulated to reinforce asphalt mixes. This material assists to control and reduce thermal cracking, reflective cracking, and rutting. The fiber blend contains aramid and polyolefin fibers. Aramid fibers will not melt in the asphalt mix and are known for their strength and durability in both high and low temperature climates. The materials shall meet the specifications of Forta-Fi or approved equal.

Fiber Reinforcement. Provide fibers conforming to the requirements below. Do not alter the final asphalt mix design for the addition of fiber at the plant. Use the fiber type specified at the rate of 1.0 pounds/ton of total mix. Submit certified test data for the fibers to be used on the project prior to their use.

E405-2.02 The fibers shall be an approved blend of the materials as defined in the table below:

Aramid Fibers:	Polyolefin Fibers:
Length.....3/4”(19mm)3/4” (19mm)
Form.....Monofilament	Fibrillated
Acid/Alkali Resistance.....Inert	Inert
Tensile Strength.....400,000 p.s.i.	N/A*
Specific Gravity.....1.44	0.91
Operating Temperatures.....-100°F to 800°F	N/A*

* Fibers will melt or become plastically deformed during asphalt mix production.

E405-3 CONSTRUCTION DETAILS.

E405-3.01 Quality Control. The Contractor is responsible for Quality Control (QC). QC is defined as all activities required to add the fibers to the Hot Mix Asphalt that meets all specification requirements. Perform all sampling and testing in accordance with procedures supplied by or approved by the material manufacturer.

E405-3.02 Production Control.

Procedure for the addition of the fibers must be approved by the Manufacturer’s representative.

- A. When a batch plant is used, add the fiber to the aggregate in the weight hopper and increase both dry and wet mixing times. Ensure that the fiber is uniformly distributed before the injection of asphalt cement into the mixture.
- B. When a drum plant is used, do not allow the fibers to become entangled in the exhaust system. If there is any evidence of clumps of fibers at the discharge chute, increase the mixing time and/or intensity.

Store fiber in a dry environment.

E405-3.03 Manufacturer’s Representative is to be at the Asphalt Plant at time of the mixing of the fibers with the asphalt. The representative shall verify the correct procedure of mixing and also the amount of material used per asphalt load.

E405-4 METHOD OF MEASUREMENT.

The quantity is the number of actual pounds used in the producing of the Hot Mix Asphalt. Actual count of number of bags used per load is to be certified by the plant and verified by the Manufacturer's Representative. Measure or calculate the quantity based on the measured amount and report to the nearest 0.1 of a pound.

E405-5 BASIS OF PAYMENT. The unit price per pound shall include the cost of all material, labor and equipment necessary to complete the work.

Payment will be made under:

Item No.	Item	Pay Unit
E405.05	Fiber Additive for Cold Mix Asphalt	Pound

Specifications for Item 403.01 Hot Mix for Winter Use
Asphalt Concrete – Type

Mixing Method:

Hot Mix two courses as required for the item 403.01 with the following exceptions.

- 1) The bitumen shall be item 618.01 instead of item 618.02
- 2) The mix upon delivery shall be within the temperature range of 285° to 325° F. and may be supplied directly from the pug mill or from approved hot storage bin. It shall be in the hot storage bin no longer than 72 hours.

Price per ton

Specifications for High Intensity Prismatic Reflective Sheeting-Rolls-

High Intensity Prismatic Reflective Sheeting

ASTM TYPE III & ASTM TYPE IV, COMPARABLE TO 3M 3930 OR APPROVED EQUAL.

USAGE: TRAFFIC SIGNS

FIELD PERFORMANCE: 10 YEARS

APPLICATION SURFACE: ALUMINUM

ADHESIVE: PRESSURE SENSITIVE

SPECIFICATIONS: PRISMATIC SHEETING TO MEET OR EXCEED ASTM TYPES III & IV.

COLORS: ALL STANDARD/AVAILABLE

ROLL SIZE: LENGTH: 50 YARDS

WIDTHS: 1" TO 48"

PRICE PER SQUARE FOOT

MINIMUM SPECIFICATIONS FOR NEW AND UNUSED VIKING SNOW PLOW , WING and BRACE ARMS

One Way Moldboard Specifications

The moldboard shall be 13'-7" long overall and not less than 139" at the cutting edge and nose piece.....[][]

The moldboard shall be 35" high at the intake side and flare outward to 64".....[][]

It shall cut a 9' path at a fixed angle of 37°, and shall include an integral snow deflector that extends a minimum of 12" fore of the cutting.....[][]

The moldboard shall be brake formed (not rolled) from not less than 8 gauge H.R.M.S. sheet steel.....[][]

It shall include an integral formed channel at the leading top edge of the snow deflector, so to provide rigidity.....[][]

The moldboard shall be supported by not less than (8) 1/2" thick vertical ribs, (6) of which serve as pushframe connection points.....[][]

Holes for pin connections shall be reinforced with not less than 1/2" thick bosses.....[][]

Additional moldboard support shall be provided by a lower horizontal member from not less than 5" x 3-1/2" x 3/4" structural angle, which includes a minimum of (10) triangular shaped gussets.....[][]

This angle shall also serve as the cutting edge attachment member, and shall be punched with 11/16" diameter holes to AASHTO standards, so to accommodate either single or multiple cutting edges.....[][]

Rubber Deflector Specifications (11ft)

Snow deflector shall be made of 3/8" x 12" x 132" rubber,[][]

and shall be held in place with an 8 gauge steel retaining strap and no less than 3/8" grade 5 hex head bolts washers and locknuts.....[][]

60° Fabricated Nose Piece

The replaceable nose piece shall be fabricated from 3/4" plate steel..... [][]

The nose piece shall be designed to run at a 60° attack angle..... [][]

The nose piece shall attach to the intake side of the moldboard and be in line with the cutting edge... [][]

The nose piece shall be fastened to the moldboard with 5/8" grade 5 bolts and locknuts.....[][]

Steel Cutting Edge (12" punched for 9ft path)

The primary cutting edge to be Steel Cutting Edge System[][]

All edges shall be punched with 11/16" square holes on 12" centers to AASHTO standards.....[][]

Attaching hardware shall be not less than 5/8" grade 5 carriage bolts with locknuts.....[][]

Compression Spring Oneway Pushframe

The oneway pushframe shall have a main drive member of 6" x 6" x 1/2" structural angle boxed in with a 1/4" steel plate..... [][]

The truss members connecting the drive angle to the rear plate shall be 5" x 5" x 1/4" wall square structural steel tubing.....[][]

The rear mounting plate shall be made from 1" steel plate.....[][]

There shall be mounting brackets at each end of the main drive member with slotted holes

for mounting and adjusting the pushframe shoe brackets with (2) 3/4" grade 5 bolts.....[][]

Welded to the front of the drive angle there shall be (3) 45° slotted hinge lugs made from 1 1/4" steel plate, [][]
Center Roller Not Acceptable.....[][]

The pushframe shall be connected to the moldboard using 1-1/4" grade 5 bolts at the (3) slotted hinge lugs.....[][].

The moldboard shall be held in place with a telescopic adjusting arm.....[][]

The Moldboard shall trip against (2) compression spring assemblies at the slotted hinge lugs.....[][]

The (2) compression spring assemblies shall consist of: sliding weldment, 1-1/4" dia threaded rod and nut for spring pressure adjustment, spring pressure plate, and a 5-1/4" x 14" long compression spring from 11/16" diameter wire with ten (10) coils.....[][]

30 1/2" Swivel / Coupler Specifications

The rear of the plow drive frame shall be fitted with a quick couple swivel bar.....[][]

It shall oscillate about a 1 1/2" on a grade 5 bolt allowing the plow to follow the contour of the plowing surface.....[][]

It shall consist of a 7" structural channel x 35" fitted with two spring loaded clamp mechanism on 30 1/2" centers[][]

The clamp mechanisms are constructed to automatically couple and latch to special flared attaching lugs at the bottom of the truck mounted attachment hitch.....[][].

Included shall be a manual de-latch handle to accommodate uncoupling of the plow[][]

Inner Arm Specifications

Inner arm weldment shall be made from 2" diameter hot rolled steel.....[][]

Inner arm weldment shall be drilled with (7) 11/16" holes for attack angle adjustment.[][]

Arm shall be able to adjust the 2654 oneway moldboard to 40, 45, 50, 55, and 60°.....[][]

Arm is able to adjust the 3564 oneway moldboard to 45, 47, 50, 55, and 60°.....[][]

65# Pushframe Shoe Specification (Carbide)

Pushframe shoes shall be cast steel with carbide inserts and have 63 square inches of bearing surface.....[][]

The carbide inserts shall have a minimum Rockwell "A" hardness of 86.0 and a maximum of 91.....[][]

The steel body of the shoe shall have a minimum Rockwell "C" hardness of 38 and a maximum of 58.....[][]

Pushframe shoes shall be secured with (2) 3/4" grade 5 square bolts and grade 8 locknuts.....[][]

Moldboard Shoe Specifications (60°)

Moldboard shoe shall be of welded design. Mounting plate shall be no less than 1/2" steel plate supported by (2) 1/2" thick steel gussets.....[][]

Moldboard shoe shall be secured with (2) 5/8" grade 5 carriage bolts and locknuts.....[][]
The wear plate on the moldboard shoe shall be made from no less than 3/4" abrasion resistant plate...[][]

Plow Marker for Oneway Moldboard

Plow Marker shall be fluorescent orange, flexible and 36" long.....[][]
[][]

Wing Moldboard Specifications RH

The wing shall have an overall length of 12 feet, a nose height of 29", and a discharge height of 40-1/4".....[][]
The moldboard shall be fabricated from 8 gauge H.R.M.S. sheet, the top of which shall incorporate an integral channel shaped continuation of the same so to enhance rigidity.....[][]
The Heel end of the top of the wing will be shortened to glide under a standard mailbox.....[][]
The bottom cutting edge reinforcement shall be from not less than 6" x 4" x 3/4" structural angle with not less than (8) 1/2" reinforcing gussets welded along its entire length
The moldboard shall be provided with not less than (5) vertical reinforcing ribs from 1/2" thick plate.....[][]
Located between the two (2) outside vertical ribs, at the discharge end of the moldboard, shall be four (4) horizontal ribs also from 1/2" thick plate (two (2) upper and two (2) lower); all with a series of vertically punched holes to provide a selection of attachment points for the upper and lower stand-off arms.....[][]
Additionally, the front nose portion of the wing shall include a selection of two (2) 1-9/16" diameter holes through a 1" thick steel plate for attachment to the hinge...[][]
Included at the discharge end shall be a moldboard shoe.....[][].
Two additional moldboard shoes will also be installed.....[][]
The wear plate shall be of 1-1/2" steel plate.....[][]
A mounting plate and gussets from 1/2" plate steel shall be welded to the top of the wear plate to allow a 10° attack angle when the shoe is flat on the ground.....[][]
Cutting Edge to be Winter Blockbuster Classic Carbide System or Equal.....[][]

Standoff Arms HD Full Trip with Cushion Spring

The stand-off arms shall be of the full moldboard tripping style with the inner arms fabricated from 2-1/8" solid bar stock, and the outer arms fabricated from 2-1/2" schedule 80 pipe.....[][]
The upper arm shall be equipped with a swivel with a grease fitting to prevent damage to the arms when the wing is lifted to the carry position.....[][]
Both arms shall be adjustable in length from 61" to 76", offering four (4) positions of adjustment with 5/8" cold rolled steel pins.....[][]
The lower arm shall be equipped with a compression spring so to provide a shock absorber.
The upper arm shall be fitted with a suspension spring not less than 3-1/4" outside diameter x 28-3/4" long from 19/32" diameter alloy wire.....[][]
This spring will allow for spring loaded telescopic action of the top arm, whenever the wings cutting edge encounters surface obstructions, and when used in conjunction with a 7/8" diameter wire x 3-3/4" outside diameter alloy torsion spring loaded hinge at the front mast full tripping capability of the wing moldboard is possible.....[][]

Both the rear suspension spring and the front torsion spring shall be load adjustable,
and shall be equipped with lock-out pins so to provide a rigid wing when shelving
operations so dictate.....[][]
The arms shall attach to the rear mast and to the wing with 1-1/4" grade 5 bolts and
locknuts.....[][]

EVEREST EQUIPMENT Product Specifications for a W-144-HD Wing

Moldboard:

The wing plow moldboard skin plate shall be a one-piece paneled curvature of not less than 7 gauge material. It shall include two mounting locations at the nose for a 1-½" pivot (slider) bolt to attach to the front post of the chassis mounted wing system. The pivot bolt holes shall pass through the 1" thick nose plate and shall be reinforced with a ½" plate washer welded to the skin plate. The moldboard shall be supported by four (4) flame cut ½" thick plate ribs. The top edge of the moldboard is supported by a 3" by 3" by ¼" HSS tube with intermediate supports of ½" by 4" flat bar and two (2) ½" by 4" by 4" angle arm bracket supports. The base angle shall be a 6" by 4" by ¾" angle and shall be available with both 12" and 8" center-to-center punch hole patterns and gusseted as required with 3/8" triangular plate gussets. The discharge end of the skin plate shall have a ¾" round stock reinforcement. There shall be an attachment point at the discharge end for the travel position safety chain and an intake end safety chain shall be supplied.

Cutting Edge and Wear Shoes:

A ½" thick by 8" wide one-piece C-1085 steel reversible cutting edge with coped corners on the intake end shall be standard. There shall be two cast iron wear shoes bolted behind and through the base angle. Both edge and wear shoes shall be secured with 5/8" grade 5 plated carriage bolts.

Intake Height: 32"

Discharge Height: 40"

Blade Length: 132"

Overall Height: 144"

EVEREST EQUIPMENT INC. Product specifications: OWSK9-CT

Intake Height: 26" **Discharge Height:** 54"

Cutting edge length: 132" **Overall length:** 164"

Actual path cleared: 108" **Weight:** 2260 lbs

Plow Skinplate:

The skinplate shall be break formed for additional rigidity. It shall be of a high-speed curvature to eliminate blow back. The actual moldboard extension ahead of the cutting edge shall be 20" @ 45 degrees. The top edge of the moldboard will be reinforced with an angle section of 3"x 2-1/2" x 1/4" wall thickness. The lower moldboard support angle shall be constructed from 6" x 4" x 3/4" angle.

Plow Ribs:

The plow ribs shall vertical support the moldboard. There shall be flame cut 1/2" grade 44W steel plate. There shall be a total of 8 ribs attached to the moldboard.

Nose Plate:

The nose plate shall be constructed from 1/4" grade 44W steel plate and will be welded to the moldboard.

Blade:

The blade shall be 1/2" by 8" wide by 132" long. All plows are punched to accept 12" or 8" punch center cutting edges.

Shoes:

There shall be two moldboard shoes and one nose shoe per plow. The shoes will be constructed from die-cast iron.

Pushframe:

The pushframe shall be a tubular pushframe with parallelogram design. It shall have a quick jaw oscillating pushbar set-up. The pushframe will align the plow 35 degrees from the bulldoze position.

Main Drive Tubes:

They shall be constructed from HSS tube of 5" x 5" x 1/4" wall thickness.

EVEREST EQUIPMENT INC. Product specifications: OWSK9-CT

Lateral Drive Angle:

This shall be constructed from 6" x 6" x 3/4" thick angle. It shall be boxed in with a 1/2" grade 44W steel plate. The drive angle shall have connecting brackets at three places to attach moldboard assembly.

Rear Pushbar:

The oscillating pushbar shall be flame cut from a 1" x 9" thick grade 44W steel plate. The pivot bolt shall be a 1-1/4" diameter grade 5 bolt with a nylok fastener.

Pushframe Shoes:

There shall be two frame mushroom shoes with vertical adjustment provided.

Compression Trip:

The compression trip shall be a designed to provide a trip action, which minimizes shock impacts. There shall be two compression springs, radially mounted and wound from 5/8" wire to a 5-1/4" diameter and have 10 active coils. It shall have adjustable retainers allowing for custom tension settings as required. The moldboard connects to the push bar via two 1-1/4" diameter pins. A roller will be installed at the mid point of the pushframe and moldboard. The pins shall travel on an inclined plane throughout the trip cycle.

EVEREST EQUIPMENT INC.

Product specifications: OWSK9-CT

Intake Height: 26"

Discharge Height: 54"

Cutting edge length: 132"

Overall length: 164"

Actual path cleared: 108"

Weight: 2260 lbs

Plow Skinplate:

The skinplate shall be break formed for additional rigidity. It shall be of a high-speed curvature to eliminate blow back. The actual moldboard extension ahead of the cutting edge shall be 20" @ 45 degrees. The top edge of the moldboard will be reinforced with an angle section of 3"x 2-1/2" x 1/4" wall thickness. The lower moldboard support angle shall be constructed from 6" x 4" x 3/4" angle.

Plow Ribs:

The plow ribs shall vertical support the moldboard. There shall be flame cut 1/2" grade 44W steel plate. There shall be a total of 8 ribs attached to the moldboard.

Nose Plate:

The nose plate shall be constructed from 1/4" grade 44W steel plate and will be welded to the moldboard.

Blade:

The blade shall be 1/2" by 8" wide by 132" long. All plows are punched to accept 12" or 8" punch center cutting edges.

Shoes:

There shall be two moldboard shoes and one nose shoe per plow. The shoes will be constructed from die-cast iron.

Pushframe:

The pushframe shall be a tubular pushframe with parallelogram design. It shall have a quick jaw oscillating pushbar set-up. The pushframe will align the plow 35 degrees from the bulldoze position.

Main Drive Tubes:

They shall be constructed from HSS tube of 5" x 5" x 1/4" wall thickness.

EVEREST EQUIPMENT INC.

Product specifications: OWSK9-CT

Lateral Drive Angle:

This shall be constructed from 6" x 6" x $\frac{3}{4}$ " thick angle. It shall be boxed in with a $\frac{1}{2}$ " grade 44W steel plate. The drive angle shall have connecting brackets at three places to attach moldboard assembly.

Rear Pushbar:

The oscillating pushbar shall be flame cut from a 1" x 9" thick grade 44W steel plate. The pivot bolt shall be a 1-1/4" diameter grade 5 bolt with a nylok fastener.

Pushframe Shoes:

There shall be two frame mushroom shoes with vertical adjustment provided.

Compression Trip:

The compression trip shall be a designed to provide a trip action, which minimizes shock impacts. There shall be two compression springs, radially mounted and wound from 5/8" wire to a 5-1/4" diameter and have 10 active coils. It shall have adjustable retainers allowing for custom tension settings as required. The moldboard connects to the push bar via two 1-1/4" diameter pins. A roller will be installed at the mid point of the pushframe and moldboard. The pins shall travel on an inclined plane throughout the trip cycle.

EVEREST EQUIPMENT

Product Specifications for a W-144-HD Wing

Moldboard:

The wing plow moldboard skin plate shall be a one-piece paneled curvature of not less than 7 gauge material. It shall include two mounting locations at the nose for a 1-½" pivot (slider) bolt to attach to the front post of the chassis mounted wing system. The pivot bolt holes shall pass through the 1" thick nose plate and shall be reinforced with a ½" plate washer welded to the skin plate. The moldboard shall be supported by four (4) flame cut ½" thick plate ribs. The top edge of the moldboard is supported by a 3" by 3" by ¼" HSS tube with intermediate supports of ½" by 4" flat bar and two (2) ½" by 4" by 4" angle arm bracket supports. The base angle shall be a 6" by 4" by ¾" angle and shall be available with both 12" and 8" center-to-center punch hole patterns and gusseted as required with 3/8" triangular plate gussets. The discharge end of the skin plate shall have a 3/4" round stock reinforcement. There shall be an attachment point at the discharge end for the travel position safety chain and an intake end safety chain shall be supplied.

Cutting Edge and Wear Shoes:

A ½" thick by 8" wide one-piece C-1085 steel reversible cutting edge with coped corners on the intake end shall be standard. There shall be two cast iron wear shoes bolted behind and through the base angle. Both edge and wear shoes shall be secured with 5/8" grade 5 plated carriage bolts.

<u>Intake Height:</u>	32"
<u>Discharge Height:</u>	40"
<u>Blade Length:</u>	132"
<u>Overall Height:</u>	144"

SECTION E15402 - COLD MIX BITUMINOUS PAVEMENT (OPEN GRADED)

ITEM 15402.2010 - STOCKPILE PATCHING MATERIAL

DESCRIPTION:

Stockpile patching material is a mixture composed of aggregate and bituminous material. The material shall be capable of storage in a stockpile and remain uniform, workable and have satisfactory setting properties at the time of delivery.

MATERIALS REQUIREMENTS:

A. Aggregates

Fine aggregate shall conform to Section 703-01, Fine Aggregate. Coarse aggregate shall conform to Section 703- 02, Coarse Aggregate. Crushed stone, crushed gravel, or approved crushed slag may be used.

B. Mineral Filler

Mineral filler, if used, shall conform to the requirements of Section 703-08, Mineral Filler.

C. Bituminous Material

The bituminous material shall conform to the requirements of Section 702, Bituminous Materials, or the Producer may elect to use an alternative bituminous material with or without modifying agents. Prior approval for the use of alternative materials shall be obtained from the Director, Materials Bureau, or agency authorized representative. For any bituminous material not listed in Section 702, the Producer shall provide specifications for the alternative material to the Materials Bureau.

D. Anti-Stripping Mixtures

An anti-stripping agent, approved by the Director, Materials Bureau, or agency authorized representative, shall be used as needed to meet the stripping test requirements. This may be incorporated with the bituminous material at the terminal or at the mixing plant.

COMPOSITION OF MIXTURES:

The aggregate gradation and bituminous material quantities shall meet the requirements noted in Table 1 (see below). The Producer shall submit a Job Mix Formula to the Department's Regional Materials Engineer, or agency authorized representative, who has jurisdiction over the plant in which the material is to be produced. An approved Job Mix Formula must be received by the Producer prior to production. The following information shall be provided with the Job Mix Formula submission:

1. Aggregate gradation band and aggregate types.
2. Bituminous Material - amount and type.
3. Description and quantities of additives.
4. Temperature ranges for material preparation

SECTION E15402 - COLD MIX BITUMINOUS PAVEMENT (OPEN GRADED)

TABLE 1 - STOCKPILE PATCHING MATERIAL						
GENERAL LIMITS AND JOB MIX FORMULA TOLERANCES						
Sieve Size	Coarse Mix		Intermediate Mix		Fine Mix	
	% Passing	Tolerance ⁽¹⁾	% Passing	Tolerance ⁽¹⁾	% Passing	Tolerance ⁽¹⁾
1 inch	100	-	-	-	-	-
1/2 inch	95-100	-	100	-	100	-
1/4 inch	55-75	±5	90-100	-	90-100	-
1/8 inch	15-40	±6	12-40	±6	35-60	±6
No. 80	0-5	±2	0-5	±2	2-10	±3
No. 200	-	-	-	-	0-5	±2
Bituminous Material % ⁽²⁾	4.0 - 7.5	±0.4	4.0 - 8.0	±0.4	5.5 - 8.0	±0.4

⁽¹⁾ All aggregate percentages are based on the total weight of the aggregate.

⁽²⁾ Bituminous Material (asphalt residue) percentage is based on the total weight of the mix and shall include any additives.

PREPARATION OF MIXTURES:

Stockpile patching material shall be produced using one of the following methods:

A. Hot Mix Asphalt Batch Plant

Material shall be provided in accordance with the specifications for Section 401 - Plant Production of the New York State Department of Transportation, Standard Specifications, except as modified herein. Aggregate shall be introduced into the pugmill at a temperature which eliminates free moisture on the aggregate surface. The mixture temperature shall be no greater than 212°F. Automatic batch proportioning and recording equipment is not required.

B. Portable Pugmill

Material shall be provided in accordance with the specifications for Section 302 - Bituminous Stabilized Course of the New York State Department of Transportation, Standard Specifications, except as modified herein.

The moisture content requirement shall be waived.

INSPECTION, TESTING & ACCEPTANCE:

The Producer shall contact the Regional Materials Engineer, or agency authorized representative, to arrange for inspection of the preparation of mixtures. If inspection is not performed at the time of mixture preparation, samples from the stockpile will be tested by the Department, or agency authorized representative, to determine the acceptability of the mixture prior to use for patching.

The following stripping test shall be conducted on the plant mixed material:

A. Stripping Test

A suitable size sample of the stockpile patching material shall be permitted to cure at normal laboratory temperature for at least 24 hours after which it shall be placed in a glass jar, fitted with a tight cover, and completely covered with distilled water. The jar and contents shall then be allowed to stand for a period of 24 hours at normal laboratory temperature (approximately 70°F). The sample shall then be shaken vigorously for a period of 15 minutes. The water shall then be poured from the jar and the sample removed to a flat surface and be permitted to air dry after which it shall be visually examined for stripping of the bituminous film from the aggregate. The aggregate surface shall be at least 90 percent coated with the bituminous film.

SECTION E15402 - COLD MIX BITUMINOUS PAVEMENT (OPEN GRADED)

- B. The initial approval of a mixture or the initial acceptance of material shall in no way preclude further examination and testing if unsatisfactory results are achieved. The acceptance at any time shall not bar its future rejection.

SECTION E15402 - COLD MIX BITUMINOUS PAVEMENT (OPEN GRADED)

ITEM 15402.2030 – MODIFIED STOCKPILE PATCHING MATERIAL

DESCRIPTION:

Modified stockpile patching material is a mixture composed of aggregate and modified bituminous material. The material shall be capable of storage in a stockpile and remain uniform, workable and have satisfactory setting properties at the time of delivery.

MATERIALS REQUIREMENTS:

E. Aggregates

Fine aggregate shall conform to Section 703-01, Fine Aggregate. Coarse aggregate shall conform to Section 703- 02, Coarse Aggregate. Crushed stone, crushed gravel, or approved crushed slag may be used.

F. Mineral Filler

Mineral filler, if used, shall conform to the requirements of Section 703-08, Mineral Filler.

G. Bituminous Material

The bituminous material shall be one of the brand names identified on the Department's Approved List for Materials and Equipment. This list can be found on the Department's website, www.nysdot.gov under Publications.

H. Anti-Stripping Mixtures

An anti-stripping agent, approved by the Director, Materials Bureau, or agency authorized representative, shall be used as needed to meet the stripping test requirements. This may be incorporated with the bituminous material at the terminal or at the mixing plant.

COMPOSITION OF MIXTURES:

The aggregate gradation and bituminous material quantities shall meet the requirements noted in Table 2 (see below). The Producer shall submit a Job Mix Formula to the Department's Regional Materials Engineer, or agency authorized representative, who has jurisdiction over the plant in which the material is to be produced. An approved Job Mix Formula must be received by the Producer prior to production. The following information shall be provided with the Job Mix Formula submission:

1. Aggregate gradation band and aggregate types.
2. Bituminous Material - amount and type, including any additives.
3. Description and quantities of additives.
4. Temperature ranges for material preparation

TABLE 2 – MODIFIED STOCKPILE PATCHING MATERIAL		
GENERAL LIMITS AND JOB MIX FORMULA TOLERANCES		
Sieve Size	General Limits	Job Mix Formula
	% Passing	Tolerance ⁽¹⁾
1/2 inch	100	-
1/4 inch	90-100	-
1/8 inch	12-37	±6
No. 80	2-10	±3
No. 200	0-2	-
Bituminous Material %⁽²⁾	5.0 – 7.0	±0.4

⁽¹⁾ All aggregate percentages are based on the total weight of the aggregate.

⁽²⁾ Bituminous Material (asphalt residue) percentage is based on the total weight of the mix and shall include any additives

SECTION E15402 - COLD MIX BITUMINOUS PAVEMENT (OPEN GRADED)

PREPARATION OF MIXTURES:

Modified stockpile patching material shall be produced using one of the following methods:

C. Hot Mix Asphalt Batch Plant

Material shall be provided in accordance with the specifications for Section 401 - Plant Production of the New York State Department of Transportation, Standard Specifications, except as modified herein. Aggregate shall be introduced into the pugmill at a temperature which eliminates free moisture on the aggregate surface. The mixture temperature shall be no greater than 212°F. Automatic batch proportioning and recording equipment is not required.

D. Portable Pugmill

Material shall be provided in accordance with the specifications for Section 302 – Bituminous Stabilized Course of the New York State Department of Transportation, Standard Specifications, except as modified herein. The moisture content requirement shall be waived.

INSPECTION, TESTING & ACCEPTANCE:

The Producer shall contact the Regional Materials Engineer, or agency authorized representative, to arrange for inspection of the preparation of mixtures. If inspection is not performed at the time of mixture preparation, samples from the stockpile will be tested by the Department, or agency authorized representative, to determine the acceptability of the mixture prior to use for patching.

The following stripping test shall be conducted on the plant mixed material:

B. Stripping Test

A suitable size sample of the plant mixed material shall be permitted to cure at normal laboratory temperature for at least 24 hours after which it shall be placed in a glass jar, fitted with a tight cover, and completely covered with distilled water. The jar and contents shall then be allowed to stand for a period of 24 hours at normal laboratory temperature (approximately 70°F). The sample shall then be shaken vigorously for a period of 15 minutes. The water shall then be poured from the jar and the sample removed to a flat surface and permitted to air dry after which it shall be visually examined for stripping of the bituminous film from the aggregate. The aggregate surface shall be at least 90 percent coated with the bituminous film.

The initial approval of a mixture or the initial acceptance of material shall in no way preclude further examination and testing if unsatisfactory results are achieved. The acceptance at any time shall not bar its future rejection.

SECTION E15402 - COLD MIX BITUMINOUS PAVEMENT (OPEN GRADED)

ITEM 15402.2040 – FIBER REINFORCED STOCKPILE PATCHING MATERIAL

DESCRIPTION:

Fiber reinforced stockpile patching material is a mixture composed of aggregate, polymer fibers and bituminous material. The material shall be capable of storage in a stockpile and remain uniform, workable and have satisfactory setting properties at the time of delivery.

MATERIALS REQUIREMENTS:

A. Aggregates

Fine aggregate shall conform to Section 703-01, Fine Aggregate. Coarse aggregate shall conform to Section 703- 02, Coarse Aggregate. Crushed stone, crushed gravel, or approved crushed slag may be used.

B. Mineral Filler

Mineral filler, if used, shall conform to the requirements of Section 703-08, Mineral Filler.

C. Bituminous Material

The bituminous material shall conform to the requirements of Section 702, Bituminous Materials, or the Producer may elect to use an alternative bituminous material with or without modifying agents. Prior approval shall be obtained from the Director, Materials Bureau, or agency authorized representative, for the use of alternative materials. For any bituminous material not listed in Section 702, the Producer shall provide specifications for the alternative material to the Materials Bureau.

D. Polymer Fiber

The polymer fiber shall be one of the brand names identified on the Department's Approved List for Materials and Equipment. This list can be found on the Department's website, www.nysdot.gov under Publications. Polymer fiber material shall be ¼ inch (nominal) long and be incorporated into the mix at the mixing plant in the quantities noted below.

E. Anti-Stripping Mixtures

An anti-stripping agent approved by the Director, Materials Bureau, or agency authorized representative, shall be used as needed to meet the stripping test requirements. This may be incorporated with the bituminous material at the terminal or at the mixing plant.

COMPOSITION OF MIXTURES:

The aggregate gradation, fiber and bituminous material quantities shall meet the requirements noted in Table 3 (see next page). The producer shall submit a Job Mix Formula to the Department's Regional Materials Engineer, or agency authorized representative, who has jurisdiction over the plant in which the material is to be produced. An approved Job Mix Formula must be received by the producer prior to production. The following information shall be provided with the Job Mix Formula submission:

1. Aggregate gradation band and aggregate types.
2. Bituminous Material - amount and type.
3. Fiber Material - description and quantity.
4. Description and quantities of additives.
5. Temperature ranges for material preparation.

SECTION E15402 - COLD MIX BITUMINOUS PAVEMENT (OPEN GRADED)

TABLE 3 – FIBER REINFORCED STOCKPILE PATCHING MATERIAL						
GENERAL LIMITS AND JOB MIX FORMULA TOLERANCES						
Sieve Size	Coarse Mix		Intermediate Mix		Fine Mix	
	% Passing	Tolerance ⁽¹⁾	% Passing	Tolerance ⁽¹⁾	% Passing	Tolerance ⁽¹⁾
1 inch	100	-	-	-	-	-
1/2 inch	95-100	-	100	-	100	-
1/4 inch	55-75	±5	90-100	-	90-100	-
1/8 inch	15-40	±6	12-40	±6	35-60	±6
No. 80	0-5	±2	0-5	±2	2-10	±3
No. 200	-	-	-	-	0-5	±2
Bituminous Material % ⁽²⁾	4.0 – 7.5	±0.4	4.0 – 8.0	±0.4	5.5 – 8.0	±0.4
Fiber % ⁽³⁾	0.3	-	0.3	-	0.3	-

⁽¹⁾ All aggregate percentages are based on the total weight of the aggregate.

⁽²⁾ Bituminous Material (asphalt residue) percentage is based on the total weight of the mix and shall include any additives

⁽³⁾ Fiber percentage is based on the total weight of the mix.

PREPARATION OF MIXTURES:

Fiber reinforced stockpile patching material shall be produced using a hot mix asphalt batch plant in accordance with the specification for Section 401 - Plant Production of the New York State Department of Transportation, Standard Specifications, except as modified herein.

Aggregate shall be introduced into the pugmill at a temperature which eliminates free moisture on the aggregate surface. The mixture temperature shall be no greater than 212°F. Automatic batch proportioning and recording equipment is not required.

The fibers shall be pre-weighed and pre-packaged according to batch size, and added in whole units directly into the pugmill before the asphalt is discharged into the pugmill. The net mixing time shall be sufficient to insure uniform coating after all materials are in the pugmill.

INSPECTION, TESTING & ACCEPTANCE:

The Producer shall contact the Regional Materials Engineer, or agency authorized representative, to arrange for inspection of the preparation of mixtures. If inspection is not performed at the time of mixture preparation, samples from the stockpile will be tested by the Department, or agency authorized representative, to determine the acceptability of the mixture prior to use for patching.

The following stripping test shall be conducted on the plant mixed material:

A. Stripping Test

A suitable size sample of the plant mixed material shall be permitted to cure at normal laboratory temperature for at least 24 hours after which it shall be placed in a glass jar, fitted with a tight cover, and completely covered with distilled water. The jar and contents shall then be allowed to stand for a period of 24 hours at normal laboratory temperature (approximately 70°F). The sample shall then be shaken vigorously for a period of 15 minutes. The water shall then be poured from the jar and the sample removed to a flat surface and permitted to air dry after which it shall be visually examined for stripping of

SECTION E15402 - COLD MIX BITUMINOUS PAVEMENT (OPEN GRADED)

the bituminous film from the aggregate. The aggregate surface shall be at least 90 percent coated with the bituminous film. Fibers stripped of bituminous material shall not be included as part of the determination of bituminous material stripping from aggregate surfaces. The initial approval of a mixture or the initial acceptance of material shall in no way preclude further examination and testing if unsatisfactory results are achieved. The acceptance at any time shall not bar its future rejection.

METHOD OF MEASUREMENT. The bituminous cold mix pavement shall be measured by the number of tons of compacted aggregate and bituminous material supplied **(F.O.B. Trucks)** in accordance with the specifications.

BASIS OF PAYMENT. The unit price bid per ton shall include the cost of furnishing all the aggregate, the mixing, delivery **(F.O.B. Trucks)** and all labor and equipment necessary to complete the work.

Payment will be made under:

Item No.	Item	Pay Unit
E15402.2031	Modified Mix - QPR	Ton
E15402.2032	Modified Mix - UPM	Ton

Division of Purchase
95 Franklin Street
Buffalo, New York 14202

The undersigned proposed to furnish to the Erie County Department of Public Works, Division of Highways, various materials until 31 August 2020 at the prices shown, in the quantities desired and in accordance with the Specifications now on file in the office of the Division of Purchase and Central Services.

The vendor hereby agrees to the provisions of Section 103-a,b, and d of the General Municipal Law.

Respectfully submitted this _____ day of _____ 2019

Sign Here _____
Legal Name of Firm

Address: _____

By: _____

By: _____