CONTRACT AWARD CA2153-19

SECTIONS:

SECTION I –TERMS AND CONDITIONS

SECTION II – SPECIFICATIONS

SECTION III – PRICE SCHEDULE

CONTRACTOR:

MB Companies, Inc.

 1615 Wisconsin Avenue

New Holstein, WI 53061

Scott Scharinger

Western Sales Manager

(920) 242-4134

sscharinger@m-bco.com

Alaska Business License No: 980447

Date of Contract: January 8, 2019

Contract Expiration: January 7, 2020

Estimated Value of Initial Term: $1,300,000.00

Optional Renewals:

Renewal One Expiration: January 7, 2021

Renewal Two Expiration: January 7, 2022

CONTRACTING AUTHORITY:

State of Alaska

HQ, State Equipment Fleet

5420 Dr. Martin Luther King Jr. Avenue

Anchorage, AK 99507

CONTRACTING OFFICER:

Kristi Futrel

(907) 269-0793

Kristi.Futrel@alaska.Gov

Contracting Authority Name & Title:

Kristi Futrel, Contracting Officer III

Contractor Authority Name & Title:

Susan A. Torrison, Senior Vice President & Treasurer

# TERMS AND CONDITION

1. CONTRACT:
	1. ONE (1) YEAR CONTRACT WITH TWO (1) ONE YEAR EXTENTIONS for Purchase of Airport Improvement Project (AIP) Single Engine Blowers and Brooms for Alaska Airports.
	2. Quantities: Contingent on approval of FAA grants. Anticipate 2 unit within the first year on the contract.
	3. Funding is appropriated through the Federal Aviation Administration. All future orders are dependent upon approved yearly grants.
	4. Location of Use: Alaska Airports, Statewide
	5. Warranty locations: Anchorage
	6. In addition to the State of Alaska requirements, the Municipality of Anchorage and other Alaska political subdivisions may cooperatively purchase from the resulting contract.
		1. At no time may the contractor change the terms and conditions, alter the price to another entity, which differs from the contractual price, nor charge undisclosed administrative fees to allow cooperative purchasing.

## DELIVERY:

* 1. Pre-delivery service: Prior to delivery, each vehicle, piece of equipment or attachment shall be serviced and inspected by the dealer or his agent. Inspection must include the following (as applicable to the type of equipment):
		1. Dealer and vehicle identification.
		2. Check-off of service and inspection performed including a list of all fluids including type weight and specification that are in the equipment as delivered for all fluid compartments.
		3. The vehicle's crankcase, differential and transmission, and other fluid compartments shall be filled to the manufacturer's recommended capacity.
		4. Fuel tank shall be filled to at least register a minimum ¼ full on the fuel gauge, unless restricted by the commercial carrier, when the vehicle arrives at the delivery location.
		5. The vehicle shall be clean and free from defects when delivered and should be ready for immediate and continued use upon delivery.
		6. Units delivered in an incomplete state, or which have deficiencies per the specification, are subject to the damage charges as noted in paragraph 4.0 below.
	2. Inspections:
		1. The State's inspection of all materials and equipment upon delivery is for the sole purpose of identification. Such inspection shall not be construed as final or as acceptance of the materials or equipment if materials or equipment do not conform to Contract requirements. If there are any apparent defects in the materials or equipment at the time of delivery, the State will promptly notify the Contractor thereof. Without limiting any other rights of the State, The State at its option, may require the Contractor to:
			1. repair or replace at contractor's expense, any or all of the damaged goods,
			2. refund the price of any or all of the damaged goods, or
			3. Accept the return of any or all of the damaged goods.
		2. Costs of remedying all defects, indirect and consequential costs of correcting same, and/or removing or replacing any or all of the defective materials or equipment will be charged against the bidder.
	3. Acceptance:
		1. Units will not be considered “Accepted” until all deficiencies have been corrected. This includes item 2.5 Line Sheets/Bill of Materials, 2.6 Parts & Service Information, and 8.0 Publications.
	4. Delivery Receipt:
		1. A delivery receipt will be required. The receipt must be filled out by the vendor, and acknowledged by state receiving personnel by signature and date of actual receipt of equipment. One copy of this delivery receipt is to be given to the state-receiving agency.
		2. Vendors are cautioned and advised that such delivery forms or other receiving type documents will not in any way be construed to mean the state has formally and fully accepted unit(s) referenced thereon as complete and meeting every specification set forth. Only the Contracting Officer or designee may sign warranty documentation.
	5. Build Sheets/Bill of Materials:
		1. It is required at the time of delivery that the successful bidder provides a comprehensive listing of all components used to assemble the unit.
		2. This includes any components installed by the manufacturer or any subcontractor or the successful bidder.
		3. Information will include at a minimum, make, model serial number on items such as engines, transmissions, axles, tires, bodies, etc. The listings will be specific to each piece of equipment.
		4. PDF copies of Build Sheets/Bill of Materials must be emailed to: jonathan.skinner@alaska.gov, for archiving and sharing with the proper SOA departments.
	6. Parts & Service information
		1. It is required at the time of delivery that the successful bidder provides a comprehensive listing of parts & service information.
		2. Information will include, at a minimum, list of all required filters, list of all required oil types by compartment, quantity of oil needed, service schedule listing required service items by hours/miles and date, and a recommended parts stock list.
		3. PDF copies of Parts & Service information must be emailed to: jonathan.skinner@alaska.gov, for archiving and sharing with the proper SOA departments.

## F.O.B. POINT:

* 1. The F.O.B. point is as listed in Section IV, Bid Schedule. Ownership of and title will remain with the contractor until delivery is complete to final destination and accepted by the State. Equipment is not to be driven on the Alcan Highway without prior written approval from the contracting officer.
	2. The cost of shipping and delivery for orders beyond the limits of Seattle/Tacoma dock will be handled as follows. The contractor will prepay the shipping and delivery charges to any destination named by the State in its order. The contractor will charge-back those shipping and delivery charges to the State as a separate line item on the State’s invoice.
	3. All shipping charges over $100 must be documented by a copy of the actual shipping invoice and received with the invoice charge to the State.
	4. Shipping must be consolidated for the best possible price. Shipping items separately must be pre-approved by the Contracting Officer PRIOR to shipment. For example, GP Bucket or Spare Tire not being shipped with host unit must be pre-approved.

## DAMAGES FOR LATE DELIVERY AND NON-CONFORMING GOODS:

* 1. Time is of the essence in this contract. The Bidder is expected to deliver goods that conform in all material respects to the contract specifications on or before the date provided therein, as may be amended by written agreement of the parties.
	2. In the event that the equipment is delivered late or does not conform to the contract specifications, the State shall be entitled to offset against the Contract Price, as liquidated damages and not as a penalty, an amount equal to the cost of renting like equipment, multiplied by the number of calendar days elapsing between the delivery date provided in the bid schedule and the delivery date to the State. In the case of equipment in this this class, that daily rental fee is determined to be $580.00. The number of days for which liquidated damages shall apply shall include, in the case of non-conforming goods, the time reasonably necessary for the State to perform inspection.
	3. These liquidated damages represent a reasonable estimate of amounts necessary to compensate the State for loss of use of the goods during the period in which the goods would have been available to the State if conforming goods had been timely delivered.

## EQUIPMENT RELIABILITY:

* 1. Reliability of equipment is of paramount importance to the State. It is the policy of SEF to require minimum levels of reliability from owned or leased equipment for it to be considered acceptable. Equipment offered for this bid must be capable of meeting the acceptable reliability standard stated below.
	2. Acceptable Reliability: The State will monitor equipment reliability. Acceptable reliability for this contract is achieved when a machine achieves or maintains a Reliability Ratio (RR) equal to or exceeding the following:
		1. .90 (90 percent) PR during any consecutive 12-months (365 days) during the warranty period.
		2. .75 (75 percent) PR per operational month (recognizing operational as subject to weather and being defined by calendar days) during the consecutive 12-month period.
		3. PR below the state percentages do not meet minimum reliability requirements for state owned equipment.
	3. Machine Failure and Downtime:
		1. Machine Failure is any and all loss of capability to perform fully, as specified, which is not attributed to Conditioned Failure. Machine Failure resulting in the unit being out of service is defined as Downtime.
		2. Conditioned Failure is any Machine Failure attributable to accident, operator abuse or other external cause not attributable to a defect in the machine itself.
		3. Downtime is the actual number of days or fractions of days that the equipment is in a state of Machine Failure. Downtime does not count time used for scheduled maintenance (including preventative maintenance and scheduled major overhauls), time lost for repair maintenance and scheduled major overhauls, time lost for repair of damage as a result of operator abuse or machine misapplication; or time lost as a result of accident or an act of God. Downtime includes:
			1. Actual shop hours (and/or field repair hours) required to return unit to full operational status following machine failure, including trouble-shooting, repair, necessary replacement of parts, and necessary adjustments, plus
			2. Time lost waiting for parts and/or vendor assistance. “Waiting downtime” also applies if need for parts/assistance is discovered during routine maintenance and return to service is deemed counterproductive. In this case, “waiting time” clock begins with notice of need to vendor. Allowance may be considered in “waiting time” calculations if arrival of parts/assistance is delayed by transportation shutdown, to include verifiable transportation scheduling difficulties such as infrequent flights as long as all reasonable alternatives have been exhausted. Parts and assistance are to be provided by the quickest means reasonably possible to avoid unnecessary delays and downtime.
		4. Out of Service Report (OSR): Downtime resulting from machine failure is the actual number of hours a machine is out of service as recorded on the OSR or in the Equipment Maintenance Management System (EMS).
			1. The State will record all downtime on an OSR or EMS work order, which will be originated for each occurrence of downtime. The document will show the date and time a unit went down, the location where the machine was based, the reason the machine is down, date and time the vendor was notified (if applicable), the date and time the machine was returned to service, and the total hours of downtime.
				1. The Contract Manager will finalize and approve the OSR or EMS work order. Both are available for contractor review.
		5. Reporting Downtime: The Contracting Officer will maintain documentation of all Downtime, and shall send copies of such documentation to the contractor.
		6. Calculation of Reliability Ratio: RR is the mathematical ration of operated time (uptime) to out of service time (downtime). The RR will be calculated according to the following formula:

RR = Days in a Month – Days Out of Service\* = DM - DO

 Days in a Month \*\* DM

 Note \* : Fractional Days apply, i.e., a unit is out of service 8 hours in a 24 hour period equals 1/3 or .33% of a day.

 Note \*\*: A day is allocated as 24 consecutive hours from 12:00 AM to 12:00 PM.

 Example: 30 days DM with 2 days and 8 hours DT would result in:

 RR = 30 - 2.33 = .92

 30

* + 1. Unacceptable Reliability: If an item of equipment fails to perform at an acceptable level of reliability during the warranty period, the Contracting Officer will notify the contractor and request immediate remedy. Failure to remedy the piece of equipment within 30 days for failure will result in a breach of contract and the immediate return of the equipment and reimbursement of the Guaranteed Value (V) of the unit:

Original Cost of the unit less (-) Freight = $\_\_\_\_\_\_\_\_\_\_ (V)

Guaranteed Value (V) less (-) the Cost of Operation as listed in the Equipment Rental Rate Blue Book or comparable equipment or the current Federal Fixed Usage Rate for the Class for the State of Alaska (a, b or c per hour) times (X) the number of hours used = \_\_\_\_\_\_\_\_\_\_\_(DV).

1. Example: Cost of a single unit, less freight = $150,000. The hourly cost is $150.00 per hour. The unit was used 150 hours prior to failing the acceptable reliability. The contractor guarantees the unit’s worth at $127,500.00.
	* 1. Prior to return, the State will correct all reasonable cosmetic deficiencies (such as excessive rust) and those deficiencies that are directly related to damage due to accidents, misuse of equipment or failure to operate or maintain equipment as prescribed by the vendor/manufacturer, prior to public auction.
		2. The tires will be serviceable with at least 50% remaining thread.
		3. Oil samples, as per manufacturer’s service manual recommendations, will be taken by State of Alaska maintenance personnel on the engine, transmission, differentials and hydraulics.
		4. In the case of dispute, at the expense of the State, a qualified agent from Northern Adjusters, Inc. or another professionally recognized appraiser may be commissioned for an independent claim appraisal. Such appraisal shall be binding upon the State and the contractor.

## WARRANTY:

## Standard Warranty Package: Unless otherwise stipulated by this ITB, the successful bidder will provide a one-year (12-month) warranty.

## Full (100%) Parts and Labor Warranty Coverage of all components for 12 months (year one), from the date the unit is placed in service at the assigned location.

* + 1. Full (100%) Warranty Coverage includes all cost of labor, parts, freight, lubricants, miscellaneous cost, etc., to place the unit in like-new condition.
		2. Should the manufacturer’s standard warranty exceed the minimum State warranty requirements, the manufacturer’s warranty will run in conjunction with and enhance the State’s warranty, then continue for the remainder of its term.
		3. For clarification, warranty does not apply to normal wear and tear or maintenance items, accident damages, misuse of equipment or failure to operate or maintain equipment as prescribed by vendor/manufacturer.
		4. Warranty on Attachments: Same as Standard Warranty Package.
		5. In-Service Date: Warranty on vehicles not placed in service immediately upon receipt because of time lag to construct body components and/or installation of special equipment, or due to seasonal usage or other delay, shall be warranted from the date the vehicle is placed in service. The receiving agency shall notify the vendor/manufacturer in writing of the actual "in service" date. Notification of the requirement for delayed warranty will be provided on delivery orders whenever possible.
	1. Warranty Claims:
		1. Warranty will be provided at the unit’s assigned (in-service) location. Because of the remote location of some equipment it is not always practical to deliver equipment to authorized warranty repair facilities. In these cases, the vendor may perform warranty work at the state's location or, the State of Alaska, at its discretion, reserves the right to perform the warranty work and be reimbursed by the vendor. If travel is required by State personnel to perform the work, actual costs will be used for reimbursement.
		2. The State of Alaska has established a warranty procedure whereby the vendor is to be notified via letter, email, or fax, that warranty work needs to be performed. If time is of the essence, a telephone call confirmed by one of the above written procedures may be utilized.
		3. The vendor must notify the state within 24 hours of verbal or written notification that it will begin to perform the warranty work at the equipment location.
		4. The State may, at its discretion, proceed to make warranty repairs with its own work force in the case of emergency situation or to preclude excessive downtime (greater than 24 hours). The State will require a PO to perform the warranty work.
		5. Failure to notify the State that the vendor intends to begin to perform warranty is considered a contractual breach.
		6. The vendor will be invoiced for required warranty work performed by the state.  Warranty work performed by the state will be charged at the current SEF shop labor rate at the time of the repair.  Actual repair time will be used.
	2. Warranty Performed by Vendor:
		1. The State will reimburse travel costs not reimbursed by the manufacturer for travel to and from the bidder’s closest warranty service center within the State of Alaska to the location of the equipment under warranty.  Travel costs will be billed as follows:
			1. Mileage Charge: Mileage will only be reimbursed for travel within Alaska at the rate allowable by the IRS.
			2. Meals are paid at actual and charges must be accompanied by receipts and are not to exceed the State authorized $60.00 per day.
			3. Transportation, such as airfare, shall be reimbursed at actual and all charges are to be accompanied by a receipt/copy of the coach ticket.
			4. Lodging shall be reimbursed at actual and shall not exceed $150.00 per night unless no other lodging is available. Requests for reimbursement must be accompanied by a receipt.
		2. Travel will only be reimbursed for time in Alaska.
		3. After hours, weekend and holiday travel must be approved by the contracting officer to be considered for reimbursement. The State will not pay for weather delays.
	3. Authorized Warranty (Contractor/Bidder):
		1. Contractor (bidder) must have Authorized Warranty Dealer that has all required licenses, facilities and factory certified and trained personnel necessary to perform the warranty servicing and repair work.

Provide name and address for each Authorized Warranty Dealer for each location.

(\*)

Provide contact name and contact information for Warranty Administrator:

(\*)

Provide documentation of factory certified and trained personnel:

(\*)

* + 1. The ultimate responsibility for warranty lies with the contractor (bidder).
		2. The State reserves the right to inspect the warranty facility and diagnostic equipment prior to issuing the Notice of Intent to Award a contract.
	1. Factory Recall:
		1. Nationwide factory recall or product update programs are the responsibility of the vendor and/or manufacturer. The State will attempt to bring affected equipment to an authorized repair facility. However, because of the remoteness of some equipment this is not always practicable or economical. In such cases, factory recall and modification work will be handled the same as warranty work. Factory recall notices sent to the state should, in addition to serial number, include model, year, and dealer.

## REPAIR ORDERS AND DOCUMENTATION:

* 1. Any work performed by the contractor or approved subcontractor, whether warranty or any other work on a piece of equipment purchased under this ITB, will require a copy of the repair order, any invoices showing parts and commodities including oils and types used.

## PUBLICATIONS:

* 1. Paper publications are to be received by the State at the time of delivery. Delivery will not be considered complete until the publications for each unit have been received by the State of Alaska. Note: Publications, when required, will be ordered on the same Purchase Order as the unit itself.
		1. All paper manuals are to be pre-assembled in factory binders prior to delivery.
		2. Any electronic copies of manuals, and subsequent revisions, must be emailed to: jonathan.skinner@alaska.gov, for archiving and sharing with the proper SOA departments.
		3. If available, online access to manuals must be provided at time of delivery. All shared access credentials shall be proved to: jonathan.skinner@alaska.gov, for archiving and sharing with the proper SOA departments.
	2. Service Manuals:
		1. Complete set(s) to include applicable information covering prime unit and attachments:
		2. Body, chassis, and electrical
		3. Engine, transmission, and differential(s) (service and rebuild)
		4. Electrical and vacuum troubleshooting
		5. Wiring diagrams
		6. Service specifications
		7. Engine/emission diagnosis
	3. Parts Manuals:
		1. Complete set(s) including all updates. If updates are not provided during the warranty period, the State may order them from the manufacturer and bill the contractor for the full cost, including shipping.
		2. Parts manuals are to be customized by serial number.
	4. Operator’s Manuals: Complete set(s) to include prime unit and attachments.
	5. Quantities: As per Section III – Bid Price Schedule.
	6. Service Bulletins, Etc.: The successful bidder must provide appropriate service bulletins, technical support bulletins, service letters, product support bulletins, and/or any other information type notifications that are sent out to the vendor or used by the manufacturer in the maintenance and report of the vehicle, equipment or attachments being provided. The intent of this clause is that the State of Alaska be provided notification of any and all changes or improvement’s that may affect the maintenance, reliability, longevity, and safety of our equipment.

## STATEMENT OF ORIGIN: The bidder will be required to furnish a Manufacturer's Statement of Origin for Automotive or Non-Automotive rolling stock for each unit. All such documents shall be delivered with the invoice to:

DOT&PF, HQ State Equipment Fleet

1. Dr Martin Luther King Jr. Avenue

Anchorage, Alaska 99507

## WEIGHT VERIFICATION SLIPS: If required in the Bid Price Schedule, a weight scale ticket of the completed unit will be included with the Statement of Origin.

## PRICE:

* 1. Price Guarantee: The Contractor is responsible to maintain prices under the contract firm for 180 days after bid opening. All price increases or decreases must remain firm for the following 180 days.
	2. NO RETROACTIVE PRICE INCREASES WILL BE ACCEPTED.
	3. Price adjustments, increases or decreases, for subsequent orders, may be made by providing the Contracting Officer satisfactory evidence that all of the following conditions exist:
		1. The increase is a result of the increased cost at the manufacturer’s level and not costs under the contractor’s control, and that;
			1. The increase will not produce a higher profit margin for the contractor than that on the original contract, and that;
			2. The increase affects only the item(s) that are clearly identified by the contractor.
			3. Satisfactory forms of the evidence of the above facts may include a certified invoice from the manufacturer, or an affidavit from an independent professional price-tracking firm that is recognized by the industry as reputable and knowledgeable. The contractor must be able to show the difference between the prior year’s price and the current difference in the price being requested.
	4. Price Decreases: During the period of the contract, the Contractor must pass on to the state all price decreases, such as fleet rebates. A Contractor’s failure to adhere strictly and faithfully to this clause will be considered a material breach of contract. The state reserves the right to cancel the contract if the contractor fails to properly perform the duties set out herein.
	5. Manufacturer’s Rebate (Incentives):
		1. In any circumstance during or prior to completion of the contract, whereupon the State of Alaska becomes eligible to receive a rebate for any vehicle purchased under this contract, it shall be the BIDDER'S responsibility to inform the Contracting officer in writing and to advise the procedures for obtaining such rebates.

## REPLACEMENT PARTS AND REPAIRS:

* 1. This contract encompasses a full parts and labor contract for manufacturer parts and repairs for the entire warranty period.
	2. The State of Alaska shall expect the dealer or manufacturer to provide replacement wear parts at their authorized warranty facilities for the entire warranty period within seven (7) days of order. All other parts must be available within ten (10) working days.
	3. Back order procedures: Back orders are acceptable; however, the ordering shop shall be appraised at time of original orders as to the expected delay in delivery.
	4. Warranty: All products supplied by the contractor shall be warranted against defects in materials and workmanship for a minimum of 90 days, commencing at the time of installation as long as the installation is within 12 months of purchase. The cost of any defective product and the labor required to replace the defective product shall be the obligation of the contractor.
		1. If the manufacturer’s warranty exceeds the stated warranty then manufacturer’s warranty supersedes.
		2. Parts Return: Within 12 months of the invoice date, the State is to be allowed to return new parts with full refund, less actual shipping charges. Cores returned within 12 months of original invoice date will receive full core credit. Returned parts will be in new, resalable condition. Refund will be in the form of a credit/invoice credited to the SOA account with the vendor.
		3. Invoicing: Full description of item is required on all invoices, packing lists and billings.

# CONDITIONS:

## AUTHORITY:

This ITB is written in accordance with AS 36.30 and 2 AAC 12.

## COMPLIANCE:

In the performance of a contract that results from this ITB, the contractor must comply with all applicable federal, state, and borough regulations, codes, and laws; be liable for all required insurance, licenses, permits and bonds; and pay all applicable federal, state, and borough taxes.

## SUITABLE MATERIALS, ETC.:

Unless otherwise specified, all materials, supplies or equipment offered by a bidder shall be new, unused, and of the latest edition, version, model or crop and of recent manufacture.

## CONTRACT FUNDING:

Bidders are advised that funds are available for the initial purchase and/or the first term of the contract. Payment and performance obligations for succeeding purchases and/or additional terms of the contract are subject to the availability and appropriation of funds.

## CONFLICT OF INTEREST:

An officer or employee of the State of Alaska may not seek to acquire, be a party to, or possess a financial interest in, this contract if (1) the officer or employee is an employee of the administrative unit that supervises the award of this contract; or (2) the officer or employee has the power to take or withhold official action so as to affect the award or execution of the contract.

## ASSIGNMENT(S):

Assignment of rights, duties, or payments under a contract resulting from this ITB is not permitted unless authorized in writing by the procurement officer of the contracting agency. Bids that are conditioned upon the State’s approval of an assignment will be rejected as nonresponsive.

## SUBCONTRACTOR(S):

Within five (5) working days of notice from the state, the apparent low bidder must submit a list of the subcontractors that will be used in the performance of the contract. The list must include the name of each subcontractor and the location of the place of business for each subcontractor and evidence of each subcontractor's valid Alaska business license.

## FORCE MAJEURE:

(Impossibility to perform): The parties to a contract resulting from this ITB are not liable for the consequences of any failure to perform, or default in performing, any of its obligations under the contract, if that failure or default is caused by any unforeseeable Force Majeure, beyond the control of, and without the fault or negligence of, the respective party. For the purposes of this ITB, Force Majeure will mean war (whether declared or not); revolution; invasion; insurrection; riot; civil commotion; sabotage; military or usurped power; lightning; explosion; fire; storm; drought; flood; earthquake; epidemic; quarantine; strikes; acts or restraints of governmental authorities affecting the project or directly or indirectly prohibiting or restricting the furnishing or use of materials or labor required; inability to secure materials, machinery, equipment or labor because of priority, allocation or other regulations of any governmental authorities.

## CONTRACT EXTENSION:

Unless otherwise provided in this ITB, the State and the successful bidder/contractor agree: (1) that any holding over of the contract excluding any exercised renewal options, will be considered as a month-to-month extension, and all other terms and conditions shall remain in full force and effect and (2) to provide written notice to the other party of the intent to cancel such month-to-month extension at least thirty (30) days before the desired date of cancellation.

## DEFAULT:

In case of default by the contractor, for any reason whatsoever, the State of Alaska may procure the goods or services from another source and hold the contractor responsible for any resulting excess cost and may seek other remedies under law or equity.

## DISPUTES:

If a contractor has a claim arising in connection with a contract resulting from this ITB that it cannot resolve with the State by mutual agreement, it shall pursue a claim, if at all, in accordance with the provisions of AS 36.30.620 – 632.

## CONSUMER ELECTRICAL PRODUCT:

AS 45.45.910 requires that "...a person may not sell, offer to sell, or otherwise transfer in the course of the person's business a consumer electrical product that is manufactured after August 14, 1990, unless the product is clearly marked as being listed by an approved third party certification program." Electrical consumer products manufactured before August 14, 1990, must either be clearly marked as being third party certified or be marked with a warning label that complies with AS 45.45.910(e). Even exempted electrical products must be marked with the warning label. By signature on this bid the bidder certifies that the product offered is in compliance with the law. A list of approved third party certifiers, warning labels and additional information is available from: Department of Labor and Workforce Development, Labor Standards & Safety Division, Mechanical Inspection Section, P.O. Box 107020, Anchorage, Alaska 99510-7020, (907)269-4925.

## SEVERABILITY:

If any provision of the contract is declared by a court to be illegal or in conflict with any law, the validity of the remaining terms and provisions will not be affected; and, the rights and obligations of the parties will be construed and enforced as if the contract did not contain the particular provision held to be invalid.

## GOVERNING LAW; FORUM SELECTION:

A contract resulting from this ITB is governed by the laws of the State of Alaska. To the extent not otherwise governed by section 17 of these Standard Terms and Conditions, any claim concerning the contract shall be brought only in the Superior Court of the State of Alaska and not elsewhere.

## NEW EQUIPMENT:

Equipment offered in response to this ITB must be new equipment. New equipment means equipment that is currently in production by the manufacturer and is still the latest model, edition or version generally offered. The equipment must be warranted as new by the manufacturer and may not have been used for any purpose, other than display (not demonstration), prior to its sale to the state. The state will not accept remanufactured, used, or reconditioned equipment. It is the contractor's responsibility to ensure that each piece of equipment delivered to the state complies with this requirement. A contractor's failure to comply with this requirement will cause the state to seek remedies under breach of contract.

## ACCESSORIES:

When accessories are supplied, they must be certified to be compatible with the rest of the equipment. Certification will be written evidence satisfactory to the state that the accessories are compatible. The bidder's failure to supply this evidence within the time required by the state will cause the state to consider the bid non-responsive and reject the bid.

## BRAND SPECIFIC:

Certain items may be designated brand specific. When an item is so designated no substitutions for the brand and model specified will be allowed.

## DISCONTINUED ITEMS:

In the event an item is discontinued by the manufacturer during the life of the contract, another item may be substituted, provided that the contracting officer makes a written determination that it is equal to or better than the discontinued item and provided that it is sold at the same price or less than the discontinued item.

## ITEM UPGRADES:

The state reserves the right to accept upgrades to models on the basic contract when the upgrades improve the way the equipment operates or improve the accuracy of the equipment. Such upgraded items must be at the same price as the items in the basic contract.

## DELIVERY TIME:

The elapsed time between the time the state places an order and the time that order is actually shipped from the contractor's place of business must be entered in space provided under "Bid Schedule". This processing time is to remain constant throughout the life of the contract(s).

## DELIVERY CONFIRMATION:

Bidders must obtain a confirmation from the manufacturer that the items offered are scheduled for production in sufficient time to meet the scheduled delivery dates. A copy of the manufacturer’s confirmation may be included with the bid or submitted within 10 days of the state's request. The bidder's failure to provide the manufacturers confirmation as required will cause the state to consider the bid non-responsive and reject the bid.

## ADVANCE NOTICE OF DELIVERY:

The contractor must notify the freight company that delivers the order that the state facility receiving the order requires 24 hours advance notice of delivery.

## THIRD-PARTY FINANCING AGREEMENTS NOT ALLOWED:

Because of the additional administrative and accounting time required of state agencies when third party financing agreements are permitted, they will not be allowed under this contract.

## CONTINUING OBLIGATION OF CONTRACTOR:

Regardless of the terms and conditions of any third-party financing agreement, the contractor agrees that none of its responsibilities under this contract are transferable and that the contractor alone will continue to be solely responsible until the expiration date of the contract. Such responsibilities include, but are not limited to, the provision of equipment, training, warranty service, maintenance, parts and the provision of consumable supplies. By signature on the face page of this ITB the bidder acknowledges this requirement and indicates unconditional acceptance of this continuing obligation clause.

## ESTIMATED QUANTITIES:

The quantities referenced in this ITB are the state's estimated requirements and may vary more or less from the quantities actually purchased. The state does not guarantee any minimum purchase. Orders will be issued throughout the contract period on an as-needed basis.

## SERVICE CHARGES:

Regardless whether the contractor repairs equipment on-site or off-site, the state will not be liable for any charges associated with the repair of broken equipment, including, but not limited to, unhooking, disassembly, packaging, crating, repair, transportation, replacement, reassembly, or rewiring.

## PARTS:

Only parts designed for the purpose they are being used, and warranted as new, may be used in the repair of state equipment.

## COMPLETION OF SERVICE:

The service will not be complete and the equipment will not be considered serviced, repaired, or acceptable until it performs in compliance with the manufacturer's published performance specifications.

## SERVICE TECHNICIAN QUALIFICATIONS:

Bidders must provide evidence that the person performing the service work is a manufacturer's authorized service technician; or, the bidder may provide evidence that they have contracted with a manufacturer's authorized service technician to perform the service work.

Acceptable evidence of the service technician's competence may take the form of a letter or certificate, signed by an authorized officer of the manufacturer, that the service technician has been trained and authorized by the manufacturer to provide manufacturer's authorized warranty service.

 The bidder’s failure to provide the evidence mentioned above, within the time required by the state, may cause the state to consider the bid non-responsive and reject the bid.

## WORKMANSHIP & MATERIALS:

 All work must be performed in a thorough and workmanlike manner and in accordance with current industry practices. The contractor will be held responsible for the quality of the finished item. The state will reject any item that does not meet the specifications of the ITB. Rejected items will be returned to the contractor at the contractor's risk and expense.

## CONTRACT CANCELLATION:

 The state reserves the right to cancel the contract at its convenience upon 30 calendar day’s written notice to the contractor. The state is liable only for payment in accordance with the payment provisions of this contract for services or supplies provided before the effective date of termination.

# SPECIAL CONDITIONS:

## ORDER DOCUMENTS:

Except as specifically allowed under this ITB, an ordering agency will not sign any vendor contract. The State is not bound by a vendor contract signed by a person who is not specifically authorized to sign for the State under this ITB. The State of Alaska Purchase Order, Contract Award and Delivery Order are the only order documents that may be used to place orders against the contract(s) resulting from this ITB.

## BILLING INSTRUCTIONS:

Invoices must be billed to the ordering agency's address shown on the individual Purchase Order, Contract Award or Delivery Order, not to the Division of General Services. The ordering agency will make payment after it receives the merchandise or service and the invoice. Questions concerning payment must be addressed to the ordering agency.

## CONTINUING OBLIGATION OF CONTRACTOR:

Notwithstanding the expiration date of a contract resulting from this ITB, the contractor is obligated to fulfill its responsibilities until warranty, guarantee, maintenance and parts availability requirements have completely expired.

# AIP TERMS AND CONDITIONS:

## PERFORMANCE BOND FOR WARRANTY & PERFORMANCE:

A Performance Bond is due within 30 days of the first purchase order.

 The State does not have backup equipment in many of its locations. Consequently, new-unit reliability and warranty performance is of vital importance. To insure the possible reliability and warranty service the State requires the contractor to post performance bond in one of the forms listed below. The purpose of the posted performance bond is to secure performance over the entire term of the contract. The performance bond must cover any remaining warranty in the event that the contractor is unable to or otherwise fails to complete the warranty period. The amount of the performance bond will be $50,000.00. Release of the performance security will be contingent solely upon the acceptable completion of the terms of the original contract.

 The Performance Bond must be posted in one year terms for the life of the contract by a surety company agreed to by the parties to this contract. Failure to post the successive bond, or to provide an alternative security as listed below, will be cause for breach of contract and immediate cancellation of any future orders.

 The Performance Bond must be written in a form satisfactory to the State by a company authorized to do surety business in Alaska. The performance bond must provide a statement that it is payable to the State of Alaska as security for the contractor’s full and faithful performance of the contract.

 Alternate Security: In lieu of a performance bond, a contractor may post security in the form of a certified or cashier’s check, or a certificate of deposit, to be returned to the contractor provided that the contractor fully and faithfully performs the contract, including all warranty obligations.

A certified or cashier’s check, made payable to the State of Alaska.

A Certificate of Deposit (CD) made payable to the State of Alaska. Inclusion of other verbiage on the “payee” or pay to” line will render the security unacceptable.

## TRADE RESTRICTION CLAUSE (9 CFR Part 30.13FAA Order 5100.38):

The contractor or subcontractor, by submission of an offer and/or execution of a contract, certifies that it:

is not owned or controlled by one or more citizens of a foreign country included in the list of countries that discriminate against U.S. firms published by the Office of the United States Trade Representative (USTR);

has not knowingly entered into any contract or subcontract for this project with a person that is a citizen or national of a foreign country on said list, or is owned or controlled directly or indirectly by one or more citizens or nationals of a foreign country on said list;

has not procured any product nor subcontracted for the supply of any product for use on the project that is produced in a foreign country on said list.

Unless the restrictions of this clause are waived by the Secretary of Transportation in accordance with 49 CFR 30.17, no contract shall be awarded to a contractor or subcontractor who is unable to certify to the above. If the contractor knowingly procures or subcontracts for the supply of any product or service of a foreign country on said list for use on the project, the Federal Aviation Administration may direct through the Sponsor cancellation of the contract at no cost to the Government.

Further, the contractor agrees that, if awarded a contract resulting from this solicitation, it will incorporate this provision for certification without modification in each contract and in all lower tier subcontracts. The contractor may rely on the certification of a prospective subcontractor unless it has knowledge that the certification is erroneous.

 The contractor shall provide immediate written notice to the sponsor if the contractor learns that its certification or that of a subcontractor was erroneous when submitted or has become erroneous by reason of changed circumstances. The subcontractor agrees to provide written notice to the contractor if at any time it learns that its certification was erroneous by reason of changed circumstances.

This certification is a material representation of fact upon which reliance was placed when making the award. If it is later determined that the contractor or subcontractor knowingly rendered an erroneous certification, the Federal Aviation Administration may direct through the Sponsor cancellation of the contract or subcontract for default at no cost to the Government.

Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render, in good faith, the certification required by this provision. The knowledge and information of a contractor is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

This certification concerns a matter within the jurisdiction of an agency of the United States of America and the making of a false, fictitious, or fraudulent certification may render the maker subject to prosecution under Title 18, United States Code, Section 1001.

## CIVIL RIGHTS ACT OF 1964, TITLE VI – CONTRACTOR CONTRACTUAL REQUIREMENTS (49 CFR Part 21 AC 150/5100-15)

During the performance of this contract, the contractor, for itself, its assignees and successors in interest (hereinafter referred to as the "contractor") agrees as follows:

 Compliance with Regulations. The contractor shall comply with the Regulations relative to nondiscrimination in federally assisted programs of the Department of Transportation (hereinafter, "DOT") Title 49, Code of Federal Regulations, Part 21, as they may be amended from time to time (hereinafter referred to as the Regulations), which are herein incorporated by reference and made a part of this contract.

Nondiscrimination. The contractor, with regard to the work performed by it during the contract, shall not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The contractor shall not participate either directly or indirectly in the discrimination prohibited by section 21.5 of the Regulations, including employment practices when the contract covers a program set forth in Appendix B of the Regulations.

Solicitations for Subcontracts, Including Procurements of Materials and Equipment. In all solicitations either by competitive bidding or negotiation made by the contractor for work to be performed under a subcontract, including procurements of materials or leases of equipment, each potential subcontractor or supplier shall be notified by the contractor of the contractor's obligations under this contract and the Regulations relative to nondiscrimination on the grounds of race, color, or national origin.

Information and Reports. The contractor shall provide all information and reports required by the regulations or directives issued pursuant thereto and shall permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the Sponsor or the Federal Aviation Administration (FAA) to be pertinent to ascertain compliance with such Regulations, orders, and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish this information, the contractor shall so certify to the sponsor or the FAA, as appropriate, and shall set forth what efforts it has made to obtain the information.

Sanctions for Noncompliance. In the event of the contractor's noncompliance with the nondiscrimination provisions of this contract, the sponsor shall impose such contract sanctions as it or the FAA may determine to be appropriate, including, but not limited to:

 Withholding of payments to the contractor under the contract until the contractor complies, and/or

 Cancellation, termination, or suspension of the contract, in whole or in part.

Incorporation of Provisions. The contractor shall include the provisions of paragraphs 1 through 5 in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Regulations or directives issued pursuant thereto. The contractor shall take such action with respect to any subcontract or procurement as the sponsor or the FAA may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, however, that in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor or supplier as a result of such direction, the contractor may request the Sponsor to enter into such litigation to protect the interests of the sponsor and, in addition, the contractor may request the United States to enter into such litigation to protect the interests of the United States.

## AIRPORT AND AIRWAY IMPROVEMENT ACT OF 1982, SECTION 520 - GENERAL CIVIL RIGHTS PROVISIONS (Airport and Airway Improvement Act of 1982, Section 520, Title 49 47123,AC 150/5100-15, Para. 10.c):

The contractor assures that it will comply with pertinent statutes, Executive orders and such rules as are promulgated to assure that no person shall, on the grounds of race, creed, color, national origin, sex, age, or handicap be excluded from participating in any activity conducted with or benefiting from Federal assistance. This provision obligates the tenant/concessionaire/lessee or its transferee for the period during which Federal assistance is extended to the airport a program, except where Federal assistance is to provide, or is in the form of personal property or real property or interest therein or structures or improvements thereon. In these cases the provision obligates the party or any transferee for the longer of the following periods: (a) the period during which the property is used by the airport sponsor or any transferee for a purpose for which Federal assistance is extended, or for another purpose involving the provision of similar services or benefits or (b) the period during which the airport sponsor or any transferee retains ownership or possession of the property. In the case of contractors, this provision binds the contractors from the bid solicitation period through the completion of the contract. This provision is in addition to that required of Title VI of the Civil Rights Act of 1964.

## DISADVANTAGED BUSINESS ENTERPRISES (49 CFR Part 26):

Contract Assurance (§26.13): The contractor or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy, as the recipient deems appropriate.

Prompt Payment (§26.29): The prime contractor agrees to pay each subcontractor under this prime contract for satisfactory performance of its contract no later than *30* days from the receipt of each payment the prime contractor receives from the *State of Alaska.* The prime contractor agrees further to return retainage payments to each subcontractor within [specify the same number as above] days after the subcontractor's work is satisfactorily completed. Any delay or postponement of payment from the above referenced time frame may occur only for good cause following written approval of the *Contracting Officer*. This clause applies to both DBE and non-DBE subcontractors.

## LOBBYING AND INFLUENCING FEDERAL EMPLOYEES (49 CFR Part 20, Appendix A):

No Federal appropriated funds shall be paid, by or on behalf of the contractor, 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 making of any Federal grant and the amendment or modification of any Federal grant.

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 any Federal grant, the contractor shall complete and submit Standard Form-LLL, “Disclosure of Lobby Activities,” in accordance with its instructions.

## ACCESS TO RECORDS AND REPORTS (49 CFR Part 18.36(i), FAA Order 5100.38):

The Contractor shall maintain an acceptable cost accounting system. The Contractor agrees to provide the Sponsor, the Federal Aviation Administration and the Comptroller General of the United States or any of their duly authorized representative’s access to any books, documents, papers, and records of the contractor which are directly pertinent to the specific contract for the purpose of making audit, examination, excerpts and transcriptions. The Contractor agrees to maintain all books, records and reports required under this contract for a period of not less than three years after final payment is made and all pending matters are closed.

## ENERGY CONSERVATION REQUIREMENTS (49 CFR Part 18.36 & Public Law 94-163):

The contractor agrees to comply with mandatory standards and policies relating to energy efficiency that are contained in the state energy conservation plan issued in compliance with the Energy Policy and Conservation Act.

## BREACH OF CONTRACT TERMS (49 CFR Part 18.36):

Any violation or breach of terms of this contract on the part of the contractor or their subcontractors may result in the suspension or termination of this contract or such other action that may be necessary to enforce the rights of the parties of this agreement. The duties and obligations imposed by the Contract Documents and the rights and remedies available there under shall be in addition to and not a limitation of any duties, obligations, rights and remedies otherwise imposed or available by law.

## RIGHTS TO INVENTIONS (49 CFR Part 18.36(i)(8) & FAA Order 5100.38):

All rights to inventions and materials generated under this contract are subject to regulations issued by the FAA and the Sponsor of the Federal grant under which this contract is executed.

## TERMINATION OF CONTRACT (49 CFR Part 18.36(i)(2) & FAA Order 5100.38):

The Sponsor may, by written notice, terminate this contract in whole or in part at any time, either for the Sponsor's convenience or because of failure to fulfill the contract obligations. Upon receipt of such notice services shall be immediately discontinued (unless the notice directs otherwise) and all materials as may have been accumulated in performing this contract, whether completed or in progress, delivered to the Sponsor.

If the termination is for the convenience of the Sponsor, an equitable adjustment in the contract price shall be made, but no amount shall be allowed for anticipated profit on unperformed services.

If the termination is due to failure to fulfill the contractor's obligations, the Sponsor may take over the work and prosecute the same to completion by contract or otherwise. In such case, the contractor shall be liable to the Sponsor for any additional cost occasioned to the Sponsor thereby.

If, after notice of termination for failure to fulfill contract obligations, it is determined that the contractor had not so failed, the termination shall be deemed to have been effected for the convenience of the Sponsor. In such event, adjustment in the contract price shall be made as provided in paragraph 2 of this clause.

The rights and remedies of the sponsor provided in this clause are in addition to any other rights and remedies provided by law or under this contract.

## CERTIFICATION REGARDING DEBAREMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION (49 CFR Part 29 & FAA Order 5100.38):

The bidder/offeror certifies, by submission of this proposal or acceptance of this contract, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency. It further agrees by submitting this proposal that it will include this clause without modification in all lower tier transactions, solicitations, proposals, contracts, and subcontracts. Where the bidder/offeror/contractor or any lower tier participant is unable to certify to this statement, it shall attach an explanation to this solicitation/proposal.

## CLEAN AIR AND WATER POLLUTION CONTROL (49 CFR Part 18.36(i)(12) & Section 306 of the Clean Air Act & Section 508 of the Clean Water Act):

Contractors and subcontractors agree:

That any facility to be used in the performance of the contract or subcontract or to benefit from the contract is not listed on the Environmental Protection Agency (EPA) List of Violating Facilities;

To comply with all the requirements of Section 114 of the Clean Air Act, as amended, 42 U.S.C. 1857 et seq. and Section 308 of the Federal Water Pollution Control Act, as amended, 33 U.S.C. 1251 et seq. relating to inspection, monitoring, entry, reports, and information, as well as all other requirements specified in Section 114 and Section 308 of the Acts, respectively, and all other regulations and guidelines issued there under;

That, as a condition for the award of this contract, the contractor or subcontractor will notify the awarding official of the receipt of any communication from the EPA indicating that a facility to be used for the performance of or benefit from the contract is under consideration to be listed on the EPA List of Violating Facilities;

To include or cause to be included in any construction contract or subcontract which exceeds $100,000 the aforementioned criteria and requirements.

## BUY AMERICAN PREFERENCES (Section 9129 of the Aviation Safety and Capacity Expansion Act of 1990 & Title 49 U.S.C. Chapter 501, AIP Program Guidance Letter 91-3):

The Aviation Safety and Capacity Expansion Act of 1990 provides that preference be given to steel and manufactured products produced in the United States when funds are expended pursuant to a grant issued under the Airport Improvement Program. The following terms apply:

Steel and manufactured products. As used in this clause, steel and manufactured products include (1) steel produced in the United States or (2) a manufactured product produced in the United States, if the cost of its components mined, produced or manufactured in the United States exceeds 60 percent of the cost of all its components and final assembly has taken place in the United States. Components of foreign origin of the same class or kind as the products referred to in subparagraphs b. (1) or (2) shall be treated as domestic.

Components. As used in this clause, components mean those articles, materials, and supplies incorporated directly into steel and manufactured products.

Cost of Components. This means the costs for production of the components, exclusive of final assembly labor costs.

(\*) The successful bidder will be required to certify in writing:

All products are wholly produced in the US of US materials, or;

Provide an approved waiver from the FAA for non-US produced products, or

Certify that the equipment being offered is on the Nationwide Buy America conformance list.

(\*) If the bidder cannot produce one of the above, then the following must be provided for FAA approval prior to purchase:

A statement providing detailed information regarding the following:

Manufacturer and country of origin of the equipment bid.

The location of the final assembly of the equipment (final assembly is the substantial transformation of the various components and subcomponents into the equipment)

The cost of the US components and subcomponents for the equipment.

The cost of the non-US components and sub-components for the equipment.

The resulting percent of US and non-US components.

For further guidance on the Buy America requirements please refer to Program Guidance Letter 10-02 at the web site:

<http://www.faa.gov/airports/aip/guidance_letters/media/PGL_10_02.pdf>

# MANDATORY CONTRACT TERMS:

## ALASKA BUSINESS LICENSE AND OTHER REQUIRED LICENSES:

Prior to the award of a contract, a bidder must hold a valid Alaska business license. However, in order to receive the Alaska Bidder Preference and other related preferences, such as the Alaska Veteran and Alaskans with Disabilities Preference, a bidder must hold a valid Alaska business license at the time designated for bid opening. Bidders should contact the Department of Commerce, Community and Economic Development, Division of Corporations, Business, and Professional Licensing, P. O. Box 110806, Juneau, Alaska 99811-0806, for information on these licenses.

 Acceptable evidence that the bidder possesses a valid Alaska business license may consist of any one of the following:

* copy of an Alaska business license;
* certification on the bid that the bidder has a valid Alaska business license and has included the license number in the bid (see front page);
* a canceled check for the Alaska business license fee;
* a copy of the Alaska business license application with a receipt stamp from the state's occupational licensing office; or
* A sworn and notarized affidavit that the bidder has applied and paid for the Alaska business license.

## BIDDERS WITH DISABILITIES:

The State of Alaska complies with Title II of the Americans with Disabilities Act of 1990. Individuals with disabilities who may need auxiliary aids, services, and/or special modifications to participate in this procurement should contact the Division of Transportation at one of the following numbers no later than 10 days prior to bid opening to make any necessary arrangements.

Telephone: 907.269.0793

Fax: 907.269.0801

TDD: 907.269.0713

## COMPLIANCE WITH ADA:

By signature of their bid the bidder certifies that they comply with the Americans with Disabilities Act of 1990 and the regulations issued thereunder by the federal government.

Services or activities furnished to the general public on behalf of the state must be fully accessible. This is intended to ensure that agencies are in accordance with 28 CFR Part 35 Section 35.130 and that services, programs or activities furnished to the public through a contract do not subject qualified individuals with a disability to discrimination based on the disability.

## CONTRACT PERFORMANCE LOCATION:

By signature on their bid, the bidder certifies that all services provided under this contract by the contractor and all subcontractors shall be performed in the United States.

If the bidder cannot certify that all work will be performed in the United States, the bidder must contact the procurement officer in writing to request a waiver at least 10 days prior to the deadline for receipt of bids.

The request must include a detailed description of the portion of work that will be performed outside the United States, where, by whom, and the reason the waiver is necessary.

Failure to comply with these requirements may cause the state to reject the bid as non-responsive, or cancel the contract.

## HUMAN TRAFFICKING:

By signature on their bid, the bidder certifies that the bidder is not established and headquartered or incorporated and headquartered in a country recognized as Tier 3 in the most recent United States Department of State’s Trafficking in Persons Report.

The most recent United States Department of State’s Trafficking in Persons Report can be found at the following website: <http://www.state.gov/g/tip/>

Failure to comply with this requirement will cause the state to reject the bid as non-responsive, or cancel the contract

## PAYMENT FOR STATE PURCHASES:

Payment for agreements under $500,000 for the undisputed purchase of goods or services provided to a state agency, will be made within 30 days of the receipt of a proper billing or the delivery of the goods or services to the location(s) specified in the agreement, whichever is later. A late payment is subject to 1.5% interest per month on the unpaid balance. Interest will not be paid if there is a dispute or if there is an agreement that establishes a lower interest rate or precludes the charging of interest.

## CONTRACT ADMINISTRATION:

The administration of this contract is the responsibility of State Equipment Fleet, Contracting Officer, Department of Transportation.

## SHIPPING DAMAGE:

The state will not accept or pay for damaged goods. The contractor must file all claims against the carrier(s) for damages incurred to items in transit from the point of origin to the ultimate destination. The state will provide the contractor with written notice when damaged goods are received. The state will deduct the cost of the damaged goods from the invoice prior to payment. The contractor must file all claims against the carrier(s) for reimbursement of the loss.

## INDEMNIFICATION:

The contractor shall indemnify, hold harmless, and defend the contracting agency from and against any claim of, or liability for error, omission or negligent act of the contractor under this agreement. The contractor shall not be required to indemnify the contracting agency for a claim of, or liability for, the independent negligence of the contracting agency. If there is a claim of, or liability for, the joint negligent error or omission of the contractor and the independent negligence of the Contracting agency, the indemnification and hold harmless obligation shall be apportioned on a comparative fault basis. “Contractor” and “Contracting agency”, as used within this and the following article, include the employees, agents and other contractors who are directly responsible, respectively, to each. The term “independent negligence” is negligence other than in the Contracting agency’s selection, administration, monitoring, or controlling of the contractor and in approving or accepting the contractor’s work.

## INSURANCE:

Without limiting contractor's indemnification, it is agreed that contractor shall purchase at its own expense and maintain in force at all times during the performance of services under this agreement the following policies of insurance. Where specific limits are shown, it is understood that they shall be the minimum acceptable limits. If the contractor's policy contains higher limits, the state shall be entitled to coverage to the extent of such higher limits. Certificates of Insurance must be furnished to the contracting officer prior to beginning work and must provide for a notice of cancellation, non-renewal, or material change of conditions in accordance with policy provisions. Failure to furnish satisfactory evidence of insurance or lapse of the policy is a material breach of this contract and shall be grounds for termination of the contractor's services. All insurance policies shall comply with, and be issued by insurers licensed to transact the business of insurance under AS 21.

Proof of insurance is required for the following:

Workers' Compensation Insurance: The contractor shall provide and maintain, for all employees engaged in work under this contract, coverage as required by AS 23.30.045, and; where applicable, any other statutory obligations including but not limited to Federal U.S.L. & H. and Jones Act requirements. The policy must waive subrogation against the state.

Commercial General Liability Insurance: covering all business premises and operations used by the contractor in the performance of services under this agreement with minimum coverage limits of $300,000 combined single limit per occurrence.

Commercial Automobile Liability Insurance: covering all vehicles used by the contractor in the performance of services under this agreement with minimum coverage limits of $300,000 combined single limit per occurrence.

Failure to supply satisfactory proof of insurance within the time required will cause the state to declare the bidder non-responsible and to reject the bid.

## NONDISCLOSURE AND CONFIDENTIALITY:

Contractor agrees that all confidential information shall be used only for purposes of providing the deliverables and performing the services specified herein and shall not disseminate or allow dissemination of confidential information except as provided for in this section. The contractor shall hold as confidential and will use reasonable care (including both facility physical security and electronic security) to prevent unauthorized access by, storage, disclosure, publication, dissemination to and/or use by third parties of, the confidential information. “Reasonable care” means compliance by the contractor with all applicable federal and state law, including the Social Security Act and HIPAA. The contractor must promptly notify the state in writing if it becomes aware of any storage, disclosure, loss, unauthorized access to or use of the confidential information.

Confidential information, as used herein, means any data, files, software, information or materials (whether prepared by the state or its agents or advisors) in oral, electronic, tangible or intangible form and however stored, compiled or memorialized that is classified confidential as defined by State of Alaska classification and categorization guidelines (i) provided by the state to the contractor or a contractor agent or otherwise made available to the contractor or a contractor agent in connection with this contract, or (ii) acquired, obtained or learned by the contractor or a contractor agent in the performance of this contract. Examples of confidential information include, but are not limited to: technology infrastructure, architecture, financial data, trade secrets, equipment specifications, user lists, passwords, research data, and technology data (infrastructure, architecture, operating systems, security tools, IP addresses, etc.).

If confidential information is requested to be disclosed by the contractor pursuant to a request received by a third party and such disclosure of the confidential information is required under applicable state or federal law, regulation, governmental or regulatory authority, the contractor may disclose the confidential information after providing the state with written notice of the requested disclosure ( to the extent such notice to the state is permitted by applicable law) and giving the state opportunity to review the request. If the contractor receives no objection from the state, it may release the confidential information within 30 days. Notice of the requested disclosure of confidential information by the contractor must be provided to the state within a reasonable time after the contractor’s receipt of notice of the requested disclosure and, upon request of the state, shall seek to obtain legal protection from the release of the confidential information.

The following information shall not be considered confidential information: information previously known to be public information when received from the other party; information freely available to the general public; information which now is or hereafter becomes publicly known by other than a breach of confidentiality hereof; or information which is disclosed by a party pursuant to subpoena or other legal process and which as a result becomes lawfully obtainable by the general public.

# SPECIFICATION

## GENERAL SPECIFICATION:

It is the purpose of this specification to describe a new, and of the manufacturer’s latest current year production model and design, All Wheel Drive carrier, 3,000 Tons per Hour Front Mount Snow Blower and Heavy Duty Single Engine, 4X4, all wheel steer Chassis with Forward Mounted Cab. Snow Blower shall be capable of 3000 TPH minimum @ 100 ft. min. casting distance at a speed of 11 MPH. Carrier is to include a two speed hydrostatic chassis drive system.

A quick attach system is required; it is to allow removal of the blower head for maintenance with only minimal time involved.

The carrier shall be a cab forward configuration but positioned behind the blower chute. Cab forward of blower chute is not acceptable.

The chassis shall have a minimum 50,000 pound GVW rating at the ground and an approximate wheel base of 95-120 inches. The total engine horsepower on board shall be 475 HP minimum. The configuration shall be front mounted attachment, forward mounted cab design with near center steering and rear mounted engine.

This snow removal vehicle shall be designed for one man operation and used up to 28 MPH in transport and up to 11 mph during snow removal operations. The design of this unit shall ensure positive tire-to-ground tractive effort while clearing snow. The unit shall have a net minimum cutting width of 102 inches.

Unit is to include all factory standard equipment, unless specified otherwise.

Unit is to comply with requirements of FAA Advisory Circular #150/5220-20 including any and all changes and updates. This specification will supersede the circular.

All parts and components of this unit shall be engineered to sustain the maximum load limits and severe operating conditions encountered in snow removal, while resulting in minimum wear and failure.

These specifications require the doing of all things necessary or proper for, or incidental to the furnishing of said unit. All items of design and equipment not listed in these specifications, but involved in carrying out their intent, are required to be furnished by the bidder, the same as if these items were specifically mentioned and described in these specifications. The unit must be fully assembled and tested prior to delivery by a qualified factory representative.

Application:

This equipment will be utilized for winter snow removal operations at airports on runways, ramps, and taxiways, with travel speeds up to 28 MPH. Unit will be subject to varying terrain and weather conditions to -40 Fahrenheit.

Documentation Required:

A basic manufacturer's product brochure(s) describing the unit(s) being bid is (are) to be provided. In addition, specifications marked with an asterisk (\*) require supporting documentation, which indicates specifically what the bidder intends to supply in regard to said items and/or how specifications will be met. In order to help prevent technical errors, following each asterisked item is space that may be used to address all of the asterisked items. It is required that a letter of clarification or the space behind the asterisked items be used to supply the required information. You may use the area behind the asterisked item to refer to a product brochure, manufacturer’s technical data sheet, or letter of clarification, which indicates specifically what you, the bidder, intend to supply in regard to said items and/or how specifications are met.

## POWER TRAIN:

* 1. Engine:
		1. (\*) Diesel, water-cooled, four (4) cycle,11.8 liter minimum displacement, electronically controlled, 475 SAE gross horsepower minimum, 1,650 pound foot. Torque minimum. Not to exceed 2,100 rpm.

**Cummins QSG-12 with 500 net HP between 1800 and 2100 RPM with 1600 lb. ft. of torque.**

* + 1. Engine to be mounted to rear of chassis for unit balance and to allow for minimum noise injection into cab.
		2. Governor will be of the correct type to control and limit engine speeds as recommended by the engine, driveline, and power train component manufacturers, for its intended use in this vehicle.
		3. To be equipped with electronic high idle circuit, to maintain approximately 1200 RPM (for warm-up purposes). Cable control is not acceptable.
		4. Engine shall meet EPA emission requirements as per AIP.
	1. To be equipped with manufacturers latest electronic controls for fuel injection and engine management including an automatic shutdown system with manual override and an electrical connector for diagnostics.
	2. Engine Air Intake System:
		1. Must have two (2) stage (dual element) air cleaner with cyclonic type pre-cleaner.
		2. Air filter restriction indicator, dash display mounted.
	3. Engine Exhaust System:
		1. Exhaust system to be designed to prevent rain, snow, or slush from entering exhaust system.
		2. Exhaust piping to be located away from cab providing maximum visibility and be heat shielded if vulnerable to maintenance personnel.
	4. Engine Cooling System:
		1. The cooling system shall consist of a charge air cooler, engine coolant radiator, and hydraulic system cooler designed for maximum cooling; to be heavy-duty construction. The tanks and core shall be constructed of aluminum with side members welded together to form a rigid frame.
		2. The radiator and cooler assembly shall be mounted with vibration isolators.
		3. The hydraulic fluid cooler shall have a low temperature bypass to allow rapid warm up of the hydraulic and hydrostatic system.
		4. Coolant to be extended life type antifreeze, affording protection to -60 ℉. The coolant shall be DELO Extended Life coolant (red), or compatible.
		5. Drain cock(s) will be provided at the low point(s) of the cooling system providing maximum drainage.
		6. Safe and easy access to radiator fill shall be provided (hand rails with built-on ladder if necessary).
		7. Engine coolant level sight gauge, easily seen by maintenance personnel when checking engine oil, etc.
		8. Daily maintenance points shall be clustered at the right side and shall be easily accessed.
	5. Engine Fuel System:
		1. Capacity: 200 gallon min.
		2. Filter(s):
			1. To be spin-on or cartridge type.
			2. To include ¼ turn ball valve(s), check valves, or high mounted to prevent excessive leakage when changing fuel filter(s).
		3. Fuel fill, minimum four (4) inch diameter with chained cap and removable strainer basket, shall permit easy fill operation, including access room, by all ground personnel (short or tall in height). Tight caps may require “Wings” to permit easy removal/installation.
			1. When more than one (1) tank is furnished, dual fuel tanks shall be interconnected with a single side fuel fill, 30 GPM fill rate with shut-off valves at each end.
		4. Fuel line(s) shall be securely fastened in place, installed to prevent strains, and protected by grommets where lines project through aperture(s) in metal.
		5. A heated fuel/water separator shall be installed in the supply line.
		6. Fuel Drain: To include drain plug or valve on each tank.
	6. Engine Oil Filtration: Oil filters to be spin-on or cartridge type.
	7. Engine Oil Drain:
		1. To be equipped with a ¼ (one-quarter) turn ball shut-off valve (easily accessed). An extension hose, or piping, may be required to allow draining of oil into a bucket or pan that would be positioned at ground level. The ball valve, end of the hose, or piping would require a threaded cap or plug.
	8. Engine Cold Starting Aids:
		1. Glow plug system or air intake ribbon type heater.
		2. Engine Coolant Block Heater: Immersion type, 120-volt AC, with highest wattage available by OEM engine manufacturer.
		3. Engine oil pan heater, one (1) each, 300 watt, 120 volt AC, and immersion type.

## DRIVE TRAIN - CARRIER:

* 1. Design: To be two (2) axles, single tire, 4x4.
	2. Transport Speed: With snow blower head in transport position, shall be capable of maintaining a continuous forward speed of not less than 28 MPH on dry level pavement.
	3. Carrier Transmission:
		1. Chassis movement shall be accomplished by means of hydrostatic drive.
		2. The main hydrostatic pump shall be direct driven from the crankshaft end of the engine.
	4. Transfer Case:
		1. A two speed transfer case shall be supplied
		2. The transfer case shall provide for constant drive power to the front wheels with air controlled couple/decouple to the rear axle when additional tractive effort is needed by the operator.
		3. The hi-low range selection shall be electric over air actuated and operated from the cab and equipped to eliminate range shifting at excessive speeds.
			1. For vehicle and equipment protection, if the shift is not completed by the electric/hydraulic system within one (1) minute, the system shall cease attempts at range shift and notify the operator of the failure by flashing light at the control switch.
			2. Operating range of the transfer case to be displayed on the main dash LCD screen or back lit switch.
	5. Axles:
		1. The steering-drive wheel ends shall be bolted to and removable from the center section of the axle housing.
		2. The permanently lubricated cardan drive type joints shall be enclosed in a ball and socket.
		3. The trunnion pins shall be supported by high capacity low friction sealed spherical bushings to insure long life and smooth steering at all cramp angles.
		4. Front:
			1. The front axle shall be a single tire design, full floating, and torsion flow drive/steer type, with a single reduction hypoid gear design.
			2. Minimum 29,000 pound GAWR.
			3. 10" ground clearance minimum.
			4. Capable of withstanding the loads of the unit being bid.
			5. A limited slip differential or driver controlled differential lock is required in the front axle.
		5. Rear:
			1. The rear axle shall be a single tire design, full floating, and torsion flow drive/steer type with a single reduction hypoid gear design.
			2. Minimum 27,000 pound GAWR.
			3. Minimum 10" ground clearance.
			4. Capable of withstanding the loads of the unit being bid.
			5. A limited slip differential or driver controlled differential lock is required in the rear axle.
		6. Front and rear tread widths shall not vary more than two (2) inches. Wheel spacers shall not be used to obtain correct tread widths.
		7. Must have sufficient weight on front axle to provide adequate steering and braking control when Tapley or MU values are at 0.20.
		8. Vehicles equipped with driver controlled differential locks shall have a single dash mounted switch operating both locks.
	6. Drive Lines: Shall include shielding or guards to prevent damage to specialized components, such as hydraulic components, in case of driveline failure.

## CHASSIS:

* 1. (\*) GVWR: 52,000 pounds.
	2. (\*) Wheelbase: 95 inches.
	3. (\*) Ground Clearance: ten (10) inches.
	4. Frame:
		1. Straight steel frame.
		2. (\*) Yield Strength: 110,000 PSI
		3. (\*) RBM: 2,500,000 inch pounds
		4. (\*) Overall frame width to be 34 inches to minimize wracking and torsional stress during operation.
		5. Frame assembly to include cross members in addition to engine and drive train components to provide lateral frame stability.
		6. An integral front frame extension shall be provided.
		7. Cross members are to be bolt-on (welded is not acceptable).
		8. Frame liners, wrappers, fish plating, and bolt-on extensions are not acceptable.
		9. Welding to the frame is not acceptable.
	5. A full width rear bumper is required to protect the rear of the vehicle.
		1. Bumper shall have a minimum height of 24 inches to offer ample protection at rear of the vehicle.
		2. Bumper shall include ballast as required for weight and balance.
	6. There shall be two tow eyes mounted on the rear of the vehicle frame and a pintle hook in the center.
		1. Tow eyes shall be capable of pulling the vehicle off the roadway without inflicting damage to the vehicle.
		2. Pintle hook shall be rated minimum 5 ton (2,000 MVL, 10,000 MGTW).
	7. Mud flaps shall be provided behind both axles and in front of the rear axle.
		1. Mud flaps shall be full width of the tire (sidewall to sidewall) and extend to within 12 (twelve) inches of the ground.
		2. Mud flaps shall be anti-sail type.
	8. Steering:
		1. Front axle steering shall include integral hydraulic power assist gear type. The steering gear shall be rated for heavy duty service.
		2. For safety, a mechanical linkage shall be maintained between the operator’s steering wheel and front axle, allowing manual steering in the event of a hydraulic or electrical system failure.
	9. Four Wheel steering is required:
		1. Four wheel steering shall be electronically coordinated through the standard steering wheel.
		2. All of the four wheel steering systems controls are to be located in the cab easily accessed by the operator.
		3. The operator shall have the ability to select the desired mode of operation “on the go” with provisions made for safe transition from one mode to the other.
		4. The system shall include safety provisions for progressively dampening of all wheel steer effects as speed increases, but it shall also allow full operation while the vehicle is moving at lower speeds.
		5. An indicator shall be provided in the cab to display mode selected and rear wheel position.
		6. A mechanical or hydraulic locking system shall immobilize rear axle in the event of failure or deactivation.
		7. The driver must have the option to select one of the following modes of operation “on the go” based on the driving conditions at hand. Selector switch must be within easy reach of the operator:
			1. Front Steer: When in the front mode the vehicle behaves like a conventionally steered vehicle. In this mode, the rear axle is locked and does not steer.
			2. Coordinated Steer: When the front axle is steered, the rear axle turns in the opposite direction of the front, reducing turning radius. This mode also has a dead band feature. Dead band allows the vehicle front axle to be turned a predetermined number of degrees in either direction before the rear axle steers. The dead band will vary according to the speed of the vehicle.
			3. Crab Steer: When the front axle is steered, the rear axle steers in the same direction as the front axle. This mode also has a speed controlled variable dead band.
			4. Operator Controlled Rear Steer: The rear axle shall be controlled only by a dedicated control in the cab, independent of the front wheel position. The hydraulic locks shall remain operational; however, the mechanical lock is disengaged (unlocked) at all times in this mode.
			5. Auto-center feature: Assists in relocating the rear axle to the straight ahead position after use of the operator controlled rear steer mode.
			6. Switching Between Modes: The mode switch shall be active at all times. However, the ECU shall not switch modes unless the front axle crosses center for operator safety. If the front axle does not cross center the system shall remain in the previous mode until the front axle crosses center. The rear wheels must also be in the straight ahead position before the mode change occurs.
			7. Mode Indicator: The mode indicator feature shall consist of one of four icons on the operator display indicating which mode is selected and whether rear axle is locked.
	10. Tires and Wheels:
		1. All tires shall be of tubeless design.
		2. This unit shall be equipped with proper sized wheels and tires for the GVW rating of the unit being bid.
		3. Single wheels shall be furnished for the front and rear axles. Disc type hub piloted wheels are required.
		4. The tires shall be BRIDGESTONE L315 or GOODYEAR G278 open shoulder traction tread 445/65R22.5 or State approved equal.
		5. Supplied tires must be readily available from commercial truck tire outlets.
		6. SPARE tire with mounted wheel to be shipped loose. Spare must fit both axles.
		7. All tires and wheels to be identical.
	11. Suspension:
		1. The unit shall have alloy steel springs of the parabolic taper leaf type, or State approved equivalent.
		2. Minimum 27,000 lb. front and 23,000 lb. rear ratings.
		3. The spring hangers, pins and supports shall be heavy duty to give long life.
			1. The pins shall be of the greaseable type with substantial bronze bushings.
		4. All fasteners to be grade eight (8), per SAE J429.

## BRAKES:

* 1. Service Brakes:
		1. The service brakes shall be fully air actuated, drum and shoe type.
		2. S-cam type brakes are required front and rear.
		3. The air system for this unit shall be equipped with a frame mounted, heated Bendix AD-IS, or approved equal, air drier system.
		4. DISC BRAKES AND DRIVELINE BRAKES ARE NOT ACCEPTABLE.
		5. To include ABS 4S4M system.
		6. Foot operated control, suspended or treadle type.
	2. Parking Brakes:
		1. The parking brakes shall be spring actuated, air released at the rear service brake air chambers with the air switch mounted within the cab and in easy reach of the operator.
	3. Brakes shall be enclosed and shielded to help protect against moisture and sand.
	4. Air System:
		1. Air Compressor: 15.7 cubic foot per minute (minimum).
		2. Air Filtering Device: To include a BENDIX Puraguard, or State approved equivalent, System Filter installed between the engine air compressor and the air dryer.
		3. Quick release or relay valves to be included for front and rear brakes.
		4. Air Reservoir Tanks:
			1. Heavy-duty, steel construction, primary and secondary Installed in protected locations.
			2. Primary air tank, to include a ¼ (one-quarter) turn ball valve with 3/8 (0.375) inch NPT threads. The ball valve shall be mounted on the outside of the left-hand side frame rail, easily accessible. Ball valve is to include a threaded plug.
			3. Air tanks to have quick-drain to drain moisture from system, easily accessible from side of unit by ground personnel (a lanyard type cord may be necessary).
			4. Safety overload valves to be included on air tanks.
			5. ¼ turn valve located left side in convenient location to facilitate filling of all air tanks.

## ELECTRICAL:

* 1. All OEM wiring shall be either harness, cable, split loomed, or shrink-wrapped. All wiring shall be color-coded, wire numbered matching drawing schematics and terminal strip, and labeled every 3 inches as to what it is used for. The gauge wire and processes shall be in accordance with common wiring practices.
	2. Required circuit breakers for analog circuits shall be easily accessible.
	3. Power supplies to control modules shall be protected by manual or automatic reset circuit breakers.
	4. Routing through structural members to be protected by grommets and located for maximum protection from snow and ice build-up, grease, oil, fuel, and heat from engine and components.
	5. To be secured by clips at intervals to prevent rubbing or chafing due to movement.
	6. All applicable junction boxes, light housings, etc. to be constructed of corrosion proof material.
	7. Spade and bullet connectors are not acceptable.
	8. Outside of the cab OEM wiring:
		1. All connectors to be corrosion resistant and waterproof. THERMOSEAL and WEATHER-PACK type connectors are acceptable at junction points with totally sealed wiring harness (no plastic split loom) to help prevent corrosion from magnesium chloride or urea.
	9. Non-Factory Wiring:
		1. All dealer/vendor installed items, which require connecting into the vehicle’s electrical system shall be done using an OEM factory modified wiring kit whenever possible. All non-factory wire connections (splices, connectors, etc.”) shall be soldered and shrink tube insulated with adhesive sealant, thick wall polyolefin shrink tubing (3M EPS-300 or equal). No non-factory crimp connections allowed. No cutting or splicing into the factory wiring harnesses allowed. All electrical connectors shall have dielectric grease applied to terminals to help reduce corrosion.
		2. All accessories (strobe lights, operator controls, Light bars, etc. shall be wired through a 12-volt DC constant duty solenoid and controlled by bus bar mounted and permanently labeled auto-resetting circuit breakers. The solenoid shall be wired to the key switched side of the system.
		3. All non-factory exterior wiring shall be encased in a totally sealed wiring harness (no plastic split loom) to help prevent corrosion from magnesium chloride or urea. The wiring harness shall be well secured to the truck with neoprene aircraft stainless steel cable clamps. Rubber grommets shall be used at all areas where the wiring passes through areas that could damage the wiring.
	10. Master Electrical Switch:
		1. Single or dual high ampere master electric switch (es) to cut off power source from battery to the ground and remainder of electrical system. If positive side switch (es) are used, positive lugs on switch shall be protected against accidental arching or shorting to ground.
		2. Located driver’s side, in cab or near battery location, easily accessed.
	11. Batteries:
		1. Four 12-volt maintenance free batteries with a minimum total of 3600 cold cranking amperes.
		2. Batteries shall be installed in a frame mounted compartment with corrosion resistant interior.
		3. To include jump start lugs at or near the battery box. Lugs to be shielded or enclosed to prevent inadvertent shorting. Polarity shall be marked.
	12. Charging System:
		1. Alternator: Minimum 240 AMP 12-volt or 150 AMP 24-volt engine driven.
		2. Any inverters used to power a 110-volt heated windshield are to provide an output waveform that has a pure sine wave and also that the unit supplied is to be UL approved.
	13. An OSHA approved back up alarm with auto adjustment for noise level is required.

## LIGHTING SYSTEM:

* 1. All lighting shall conform to FMVSS, and shall include, but not be limited to, the following:
	2. Two fender or cab mounted Halogen headlights, with High/Low beam and w/ integral turn signals per FMVSS.
	3. Two headlights with high/low beam and integral turn signals mounted on a light bar near front outside corners of cab near leading edge. Light bar shall be vertical and made of round material to allow infinite positioning and aiming of auxiliary lighting as specified.
	4. Dual LED stop, tail, turn, clearance and backup lights to be TRUCK-LITE Model Super 44 LED or State approved equivalent.
	5. Driving Lights: Two (2) each, LED, each having a combination spot/flood beam positioned on the outermost upper forward corners of the cab preferably on a light bar.
		1. A switch, common to both lights, shall have positions for: OFF/FLOOD/SPOT/BOTH.
		2. WHELEN pioneer plus dual beam or State approved equivalent.
	6. Two LED cab dome/map lights. Light is to come on when opening door(s) and is to also be operated by a separately driver controlled switch.
	7. Variable intensity instrument lighting.
	8. Minimum two (2) LED flood lights to be mounted under chassis engine hood.
	9. One switched LED flood light in shear bolt area.
	10. An LED license plate bracket and light are required.
	11. Turn Signals: Self-canceling with 4-way flashers.
	12. Spot Lights:
		1. Two (2) each, GO-LITE Model 3067 or State approved equivalent, to be located on left and right side of upper cab area (preferably on a light bar system. Remote controls to be provided and placed on upper or lower dash, easily accessed by operator.
	13. Work Lights:
		1. Two (2) each, LED flood mounted left and right, mounted mid-ship (center of vehicle facing right and left) and 3,500 lumens each minimum output. These lights are to include their own switch.
		2. Two (2) each 3,500 lumen flood, mounted left and right, rear of unit. To be facing rearward. These lights are to include their own switch.
		3. All flood and spot lights shall have adjustable mounts (left, right, up, down).
		4. All work lights to be WHELEN pioneer flood or State approved equivalent.
	14. LED Beacons:
		1. To include two (2) LED beacons on the roof of the cab. WHELEN model L31.
		2. Left lens (drivers/street side) shall be amber.
		3. Right lens (passengers/curbside) shall be blue.
		4. Each light shall be synchronized to an alternating pattern using the lights “synch” wire function.
		5. To include a DPDT lighted switch installed in the cab. This switch shall function as HI/OFF/LOW (light intensity).
		6. All wiring to be enclosed in non-metallic weatherproof loom.

## CAB:

* 1. This unit shall have a fully enclosed, thermally and acoustically insulated (83 db. max. as measured 6" from the drivers ear at full engine RPM), fiberglass, aluminum, and glass cab.
	2. The operator shall be positioned slightly right of center.
	3. Two Coat hooks, rear of cab, are required.
	4. Two cup holder’s minimum shall be located between the seats.
	5. Adequate space for the convenient installation of a communication radio shall be provided.
	6. The cab shall be positioned behind the blower chute or volute; cab in front of blower is not acceptable.
		1. The floor of the cab shall be insulated with thermal-acoustical sound barrier floor mat.
		2. A top layer of Rubber matting on floor shall be slip resistant.
	7. Heater and Defroster:
		1. High output, fresh air type heater/defroster with multispeed fan motor, mounted behind the operator to minimize visibility obstructions to the front.
		2. Must keep cab temperature at 50 ℉ while exterior is at -40 ℉.
		3. The Heater/Ventilation shall include a screened and filtered inlet vent near cab rear for fresh air intake into the HV unit.
		4. Air flow of 380 CFM minimum required.
		5. Vent controls shall be provided from panel selection including inside or outside air intake.
		6. Defroster ducts to front windshields and right and left side windows minimum.
		7. Auxiliary Heater:
			1. Minimum 30,000 BTU.
			2. To be fresh air type, independently controlled or State approved equivalent.
		8. Plumbing for heaters are to be plumbed in series.
		9. Heaters are to include independent temperature settings (utilizing carrier’s hot engine coolant).
			1. Main heater to include minimum three (3) speed fan motor(s).
			2. Auxiliary heater may be single speed.
		10. Heater hoses are to include valves near the inlets and outlets of the heater cores for use when maintenance is required on the heater preventing excessive coolant loss. Valves are to be easily accessed gate or quarter turn full flow type.
		11. Caged Defroster Fans: Two (2) each, upper windshield mounted, each having two (2) speeds, independently controlled.
	8. Air conditioning:
		1. To be internal. Roof mounted is not acceptable. Integral system designed to improve windshield defogging in winter.
	9. Glass/Windows:
		1. Side windows shall be power up/down type, one on each side of cab in each door.
		2. Rear window shall be minimum 3 sq. ft., stationary type.
		3. Rear corners of cab shall include sight windows for visibility of processed surface, approximately 250 square inches each.
		4. Four sight windows, approximately 550 square inches total, are required in the cab front fascia below the windshield to assist operator in monitoring blower and casters.
		5. Side sight windows required in lower portion of each door, 150 square inches each.
		6. All windows shall be tinted safety glass, DOT approved and marked.
		7. Front windshield(s) shall be heated by electrical lamination. Glue-on heat strips are not acceptable.
		8. Front windshield and side windows to include driver’s area sun visor, fold-up style, green or gray tinted visor.
	10. Wipers:
		1. Electric 2-speed minimum with variable intermittent wipers for front wrapped windshield, providing operator absolute clear line of vision, minimum 75% swept surface of the windshield is required.
		2. Six quart reservoir for wet arm wipers required. System shall include an automated sequence which soaks the windshield and performs wiper sweep with the press of a single button, minimizing dry wipe.
		3. Side window wipers (on both left and right) are required.
		4. Door window wipers are to have an auto-park when window is opened.
	11. Deluge System:
		1. Minimum 20 gallon capacity system is required with dedicated pump for visibility enhancement. The washer solvent shall be directed at each side window, each outside mirror, and the front cab glass by means of a minimum six (6) each dedicated nozzles.
	12. Seats:
		1. The operator seat shall be air ride, high back, fully adjustable in the horizontal and vertical positions, left side arm rest, adjustable lumbar support, cloth, and load adjustable and furnished with 3 point type safety belts.
		2. Custom right side adjustable arm rest shall contain a joystick for blower and independent rear steer control.
			1. Arm rest control shall include a vertical stow feature to facilitate easy egress/ingress of operator.
		3. A gas strut or locking pin shall hold arm rest in the stowed position, with release control provided for operator.
		4. Passenger seat shall be an air ride, high back, fully adjustable in the horizontal and vertical positions, adjustable lumbar support provided to the left of the driver. It shall also be equipped with three point type safety belts; arm rests are not required.
		5. Seat upholstery to be fabric (cloth). Vinyl not acceptable.
	13. Entry:
		1. To have raised lug or expanded metal construction steps.
		2. Grab handles to be provided to assist in entering or leaving cab, or gaining access to catwalk(s) around engine compartment (if so equipped).
		3. Cab doors shall be provided with stainless steel piano type hinges. Hinges shall be bolted to the door and bolted to the cab frame. Hinges shall not be welded to doors and/or cab. Interior lower panels of doors shall include a nonmetallic liner to assist in sound absorption.
		4. Door stop webbing, minimum two (2) each, on each door or one (1) webbing and one (1) shock absorber, to prevent strong winds from “over opening” doors.
	14. Rear View Mirrors:
		1. Dual West coast style exterior rear view mirrors, heated, electrically powered (vertically and horizontally), combination including upper standard lens and lower convex lens, fully adjustable, 15x8 inches minimum. Mirrors to include stainless steel or painted steel brackets, at a minimum, with the mirror’s body material being stainless steel or ABS type.
		2. Electrical for heat to mirrors to include a dash mounted independent switch.
	15. Steering wheel to be tilt and telescoping type.
	16. Gauges/Indicators and Controls:
		1. Any and all gauges are to be in U.S.A. measurements such as PSI, Fahrenheit, etc.
		2. Emergency E-Stop is required to immediately shut down the engine and use engine compression to assist in slowing down impeller and ribbon in emergency situations.
		3. A warning device is required to indicate door open when unit drive is engaged.
		4. Two auxiliary power outlets required near center of cab for access by operator or passenger.
		5. Fault codes shall be “notify of failure” with operator attention drawn to the area of fault.
		6. Available information shall include:
			1. Speedometer, odometer, tachometer, hour meter, voltmeter, ground speed, air pressure, ambient temperature, blower ribbon speed, blower impeller speed, and fuel level.
		7. Warning Icons shall be required for:
			1. Low Air Pressure, ABS failures, engine stop, check engine warning, low voltage, engine temperature, engine oil pressure, engine air intake restriction, parking brake applied, traction lock engaged, washer fluid level low, hydraulic temperature, hydraulic level, left and right turn, and high beam.
		8. All switches, gauges and controls to be properly identified.
			1. All gauges and switch identifications to be back lit.
			2. DYMO type tape labels are not acceptable.
			3. Stick-on type labels are not acceptable; however, labels with OEM part numbers that are parts manual listed are acceptable.
		9. Toggle switches controlling electrical components to be metal (plastic is not acceptable). Rocker type switches may be plastic or metal.
		10. Self-canceling turn signals with hazard switch.
	17. Horn: Dual air or electric with minimum 113 decibels each.

## ON BOARD DIAGNOSTIC AND ELECTRONIC CONTROL SYSYEM:

* 1. Electronic control modules shall be of the highest reliability and durability for use in mobile equipment. System shall comply with the following:
		1. High amp manual resettable circuit breaker protection is required upstream from the electronic control modules;
		2. Y’s from the data bus to the modules shall be physically labeled in the vehicle for ease of maintenance and troubleshooting;
		3. Data bus terminal resistors shall be EXTERNAL to control modules for ease and economy of replacement. Terminal resistors within the control boxes shall NOT be used as part of the electronic system structure;
		4. Certifications of testing and durability of electronic modules shall include:
			1. EMI-RFI (meeting mil-spec of 150 volts/meter)
			2. Salt spray survival for 1,000 hours minimum (ASTM B117)
			3. Water immersion
			4. High temperature tested at 125% overload for 100 hours, minimum;
			5. Vibration tested to 50 g’s
		5. ECM shall be overload and reverse polarity protected with self-diagnostic capabilities.
	2. On Board Diagnostics Features and Performance:
		1. Electronic control system shall include and enable diagnosis of chassis and engine systems by means of the LCD dash display. System shall include the following at a minimum:
			1. Direct readout of codes on the display.
			2. Message area on LCD to display error message to operator as any system function fails.
			3. Error message toggle if more than one failure is present.
			4. Real time operational indicator of system function on diagnostics/maintenance screens.
	3. There shall also be diagnostic connection ports for advanced chassis and engine diagnostics.
	4. (\*) Diagnostic Equipment (OPTIONAL ITEM):
		1. OEM diagnostic equipment and software must be available for purchase by the state.
		2. Diagnostics must be capable of retrieving and clearing all chassis, engine, transmission, ABS, or cab diagnostic codes. Must be capable of streaming live data. If applicable, must be able to communicate a replaced DPF.
		3. (\*) To include itemized list of items being bid with individual pricing. Pricing must include ALL cables, readers, hardware, laptop, and software necessary to perform listed duties.

## BODY:

* 1. Engine Compartment(s):
		1. Fully enclosed with easily removable access doors on left and right sides, or tilt hood, or hinged doors or a right side fiberglass butterfly type enclosure with a hand pump that requires less than 20 strokes to fully open the cover. Lowering shall be accomplished by means of an orifice release to provide a slow and safe lowering of the hood. Hinged doors are to be bolt-on (welded-on doors are not acceptable. Engine Compartment is to be made of fiberglass or aluminum, or powder coated steel. Cooling system, hydraulics and other required elements of the power pack shall be protected by a hood.
	2. Shall provide adequate access to the top, left, and right sides, for maintenance.
		1. Exterior or interior walkways to be of raised lug or expanded metal construction.
		2. Exterior or interior walkways shall include minimum one (1) inch tubular, 42 inches in height, handrails or guardrails and be included for steps that access walkway.
	3. Steel fenders over front and rear wheels. Fenders to be fully undercoated.
	4. Self-tapping bolts, used in sheet metal construction, are not acceptable.
	5. Top access door, or tilting hood, or removable engine enclosure with lifting eyes to accommodate engine removal is required.

## HYDRAULIC SYSTEMS:

* 1. As a minimum, hydraulics will be provided to power auger reels for blower head, chassis drive, and hitch assembly.
	2. For high-speed transport, hydraulics shall be able to lift the blower head assembly completely off the ground.
	3. Hydraulic Reservoir(s):
		1. Designed for adequate cooling and shall be properly baffled.
		2. Suction strainer with sump area and provisions made for easy cleaning.
		3. Sight gauge easily visible.
		4. Equipped with a filler neck with removable strainer basket and air vent.
		5. Drain to be equipped with a ¼ (one-quarter) turn ball shut-off valve (easily accessed). An extension hose, or piping, may be required to allow draining of oil into a bucket or pan that would be positioned at ground level. The ball valve, end of the hose, or piping would require a cap or plug.
		6. It shall be located above the primary hydraulic and hydrostatic pumps to assure adequate fluid supply and minimize the chance for cavitation.
	4. Hydraulic Filtration:
		1. 10 micron or finer return side filtration required.
		2. Filter may be tank mounted or exterior mounted spin-on type. Mounting location, check valves, or quarter-turn full flow valves shall be utilized to minimize fluid loss during servicing.
	5. Hydraulic Pumps:
		1. The rear hydraulic pump stack shall be direct driven by the crankshaft by means of direct couple and shall have constant power input available when the single engine is running.
		2. The front hydraulic pump shall control ribbon drive.
			1. Power to this pump shall be controlled by main blower clutch engagement.
			2. The pump shall be mounted to the two speed gear case that powers the main impeller drive.
	6. Hydraulic hoses are not to enter the operator’s cab.

## SNOW BLOWER:

* 1. To be a heavy-duty two stage high capacity system with a helical ribbon and a separately driven impeller capable of producing 3000 TPH (ton-per-hour) with a casting distance as measured from the blower to the point of maximum deposition under a no-wind condition of up to 150 feet based on snow density of 25 pounds per cubic foot.. Refer to SNOW BLOWER PERFORMANCE SPECIFICATIONS later in this specification.
	2. Drive System:
		1. Drive Line for impeller: To be heavy-duty, compatible with torque ratings commensurate with the load imposed.
		2. Impeller drive shall be direct mechanical.
		3. Helical ribbon drives to be hydrostatic.
		4. Shear pin(s) shall be located at the furthest point from drive mechanism so as to minimize damage to drive train components. The shear pins shall also incorporate replaceable shear pin bushings. Shear pins are to include a relief cut in the shear area (standard off the shelf bolts are not acceptable).
			1. SPARE Shear Pins: To include 25 complete sets; including bushings.
		5. Hydrostatically driven components shall be protected by proper hydraulic relief circuits.
	3. Ribbon housing:
		1. The ribbon housing shall be fabricated of heavy gauge, high wear, welded alloy steel with tungsten carbide reinforced skid shoes.
		2. Minimum 3/8 inch side plates.
		3. Minimum 10 gauge moldboard suitable for the type of expected service and formed to the contour of the ribbon reel conveyor.
	4. Helical Ribbon:
		1. The helical ribbon shall have a minimum diameter of 44 inches.
		2. There shall be a minimum of two bearing supports, one at each end of the reel, and the reel shall be driven from both ends.
		3. The left and right ribbons shall be offset 45 degrees on one another, left and right flights not meeting at the center of the ribbon assembly.
		4. Single motor drive is unacceptable. Dual end drive is essential for reliability and performance.
		5. The ribbons shall be made from ASTM A572 GR 50 steel with a minimum thickness of ½ inch.
		6. The ribbon shall be constructed with a serrated curb ring.
		7. Curb ring shall be made of the same material as the ribbon sections. A minimum of clearance shall exist between the rotary head box and the ribbon to reduce snow plowing and carryover.
		8. The cutting width shall be not less than 102 inches.
		9. The helical ribbon assembly including the ribbon core shall be removable for service without removing gear boxes, motors, or disconnecting hydraulic lines.
		10. All hardware attaching the helical blades to the blade supports shall be grade 8 with locking flange nuts.
		11. Ribbon speed shall be selectable by the seated operator for variable snow and operating conditions without varying the impeller speed and cast distance.
		12. The ribbon shall be driven hydrostatically and be reversible from the cab to aid in disgorging excessive or clogged snow from the head by means of momentary electric switch convenient to the operator.
		13. Pump shall be electronically controlled 115 cc displacement, and be capable of delivering a minimum of 62 gallons per minute.
			1. Hydrostatic relief shall be provided to protect the system should ingestion of foreign objects occur.
			2. A low oil level/high oil temperature warning system shall alert the operator in the cab to abnormal conditions.
			3. If required by design, a manual shut off valve shall be provided at the return filter to allow the element to be changed without losing hydraulic fluid.
			4. Hydrostatic pump for ribbon shall be driven by means of a through shaft only when main snow blower over center clutch is engaged to allow power to the mechanically driven impeller.
		14. Two high-speed hydrostatic motors (Sauer-Danfoss 90 series 55 cc or State approved equivalent) each connected to a planetary reduction gear box shall be mounted within the diameter of the ribbon outer ends to minimize overall width.
		15. The motor gear box connections shall utilize a static O-ring seal, wet spline type. For reliability, no dynamic seal shall be used in this application.
		16. The motors shall not support the ribbon loads and the planetary gear box shall be sealed and gear oil lubricated.
	5. Impeller (fan) Configuration:
		1. The impeller system shall have a minimum diameter of 49 inches.
		2. Minimum depth of 21 inches.
		3. The back plate shall be 3/8 inch minimum thick dish made of AR400 material.
		4. It shall be designed to be consistent with the capacity of the in-putting ribbon.
		5. The opening, blade diameter and speed ratio shall ensure proper snow flow and discharge to the casting chute.
		6. The five impeller blades must be replaceable (bolt-on), made from 0.50” thick T-1 steel and be attached with countersunk fasteners.
		7. All blades shall be constructed and balanced to be resistant to vibration and shock damage caused by high speed ingestion of foreign objects.
		8. Impeller blade outer edges shall include a heavy duty rubber extension to reduce clearance between rotating blades and the impeller housing, while avoiding jamming or excess damage when foreign objects are ingested.
		9. The impeller shall be driven by direct mechanical means and shall have swing-bolts to facilitate quicker attachment.
		10. Shear bolt protection shall be provided, but must be located behind the rear face of the impeller housing in an area that includes lighting for field fix of broken pins.
		11. Shear protection located within the normal path of snow through the blower head is not allowed.
	6. The blower drive shall include a full torque 3-plate 14 inch clutch, controlled from the cab, for blower drive engagement.
		1. Clutch engagement shall be electric over hydraulic actuation and offer protection against engaging clutch when blower engine is over 800 rpm.
		2. Clutch engage selection shall automatically engage ribbon drive in forward direction.
		3. For safety, the clutch/ribbon engage button shall be illuminated GREEN when activated and the ribbon status icon on the LCD screen will clearly indicate ribbon status as a visual reminders to operator of the status.
		4. Clutch shall automatically disengage when the engine is shut off to avoid attempts at start up with impeller engaged.
	7. A two stage gear reduction system shall be provided between the blower engine and the impeller to provide proper torque and speed at the impeller while allowing the engine to operate at the RPM providing maximum efficiency.
		1. The first gear reduction shall be in a gear box directly downstream from the 3-plate clutch.
		2. It shall be a two speed type box with the first (high) gear correlated to free casting or open casting relatively long distances, and the second (low) gear correlated to close placement and truck loading operations or shorter casting requirements.
		3. Shifting of the gear box shall be possible without leaving the cab with shift limit protection included.
		4. For protection of components, the shifting from high to low and low to high speed for the impeller shall only be enabled when the blower clutch is disengaged.
		5. Automatic protection shall not allow the operator to shift the drop box gear if the clutch is engaged, but shall instead automatically control the engine speed/clutch disengage/shift/clutch reengage sequence for vehicle protection.
		6. The second gear reduction shall take place in gear box attached directly to the rear face of the impeller housing with output directly into the impeller itself.
		7. Protective shear pin location shall be between these two separately mounted gear boxes.
		8. The gear boxes shall include helical gears with pressurized lubrication system.
		9. CHAIN TYPE DROP BOXES ARE NOT ACCEPTABLE.
		10. Driveline shall be Spicer 1810 Series or equal. Twenty Five spare sets of shear bolts, including bushings, shall be supplied with the unit.
		11. A minimum of two forged steel casters shall be provided on the blower head, one on each side. The suspension shall be a malleable polyurethane biscuit type to provide some cushion to the head and wheels during the stress of head down, snow blowing operations.
		12. The wheels and suspension system shall be capable of functioning at the 11 mph intended operational speeds of the snow blower.
	8. The snow casting assembly shall consist of a controllable chute, impeller or turbine snow collector and a control system.
	9. The system shall be designed to accept the maximum output volume of the impeller assembly, with an interior free from sharp bends or obstructions.
	10. The impeller housing shall be built of 1/4 inch steel.
	11. The impeller housing shall be lined with a 0.25” thick AR400 steel liner to include the front and back of the housing discharge.
	12. The casting chute assembly shall rotate in a vertical plane to cast snow to the left or right side of the vehicle through a minimum arc of 125 degrees.
	13. It shall flat cast to the right.
	14. In addition to the caster wheels, the rotary head shall have carbide skid shoes located at each side of the rotary head, behind the cutting edge inside the width of the rotary head.

## PERFORMANCE TESTING:

* 1. Testing Requirements:
		1. (\*) Bidder is to supply information with their bid as to meeting our capacity requirements as per AC 150/5220-20, CHAPTER 7. OPERATIONAL STANDARDS AND TESTING.
		2. Independent certification of casting distance at 11 MPH (100 Ft. min.) is required. Any expense incurred with the independent certification will be at the bidder’s expense.

## (\*) RUNWAY BROOM ATTACHMENT: (OPTIONAL ITEM)

* 1. It is the intent of this specification to describe a 14 foot x 46 inch diameter brooms.
	2. General:
		1. Shall be of any suitable design, pushed by the cab forward propulsion vehicle, allowing the operator to directly observe the area being swept.
		2. Core(s) shall provide a 14 foot sweeping width at 90 degrees.
		3. Broom head must be capable of being angled a minimum of 35 degrees, to either side.
		4. Broom lift, rotation and angling will be accomplished hydraulically.
	3. Brush and Brush Drive:
		1. Brush shall be the stacked wafer type. Strip cores are not acceptable.
		2. The brush shall be driven by hydrostatic drive motor(s), end or center mounted to the brush cores to properly distribute drive torque through the broom head.
		3. Brush speed controlled by ground speed:
			1. To automatically adjust the brush rotational speed depending on the vehicle speed. An increase in vehicle speed shall increase the broom rotational speed. There shall be six (6) ranges for the operator to choose from to match the conditions.
			2. Manual override capabilities shall also be supplied.
			3. To include automatic pattern adjustment feature and broom rational speed tachometer.
		4. The cylindrical shaped brush shall consist of two (2) each, approximately seven (7) foot, in length, cores with 46 inch diameter wafers.
		5. Bristles shall be fastened in a radial wafer to dissipate heat and cushion shock loads generated from sweeping.
		6. The brush fill shall be mixed (50/50), alternating sections of polypropylene and steel wire.
			1. The poly bristles (8.25 pound) shall be 0.060 x 0.090 inch oval shape.
			2. The wire (10 pound) shall have an average diameter of 0.018 inch, galvanized or stainless steel.
			3. **SPARES:** One (1) each, full set of poly and one (1) each, full set of wire shall be included (shipped loose, not mounted) adequate for length of broom ordered.
		7. Brush Replacement:
			1. The assembly shall permit field replacement of brush inserts with maximum ease without special hand tools.
			2. If core(s) must be removed to replace brushes, bidder must supply means to assist in replacement of brushes.
			3. Two (2) each carts, with caster wheels, must be provided for each broom core section. No other special tools are to be required.
			4. **SPARES:** Additional, one (1) each, core(s) (left and right if applicable) are/is required (shipped loose, not mounted).
		8. A hydraulic elevation mechanism shall provide adequate ground clearance for transport when not in use.
		9. An easily accessible fine height adjustment shall be provided to compensate for brush wear.
			1. In addition to the manual system brush pattern adjustment, there shall be automatic broom pattern control with adjustment from the cab.
	4. Hood and Deflector:
		1. A heavy gauge sheet steel brush hood shall be securely bolted to the brush frame and be adjustable to within 3/8 (0.375) inch of the brush bristles.
		2. The adjustable hood shall incorporate an adjustable and replaceable (bolt-on) snow stripper to prevent carryover of snow and clogging of snow in heavy snow conditions.
		3. System is to include a hydraulic snow shed that will allow the operator to tilt an auxiliary hood forward in order to dump the snow into the path of the broom.
		4. Snow Deflector:
			1. Shall be mounted on the front of the brush hood and be capable of changing the angle at which snow leaves the brush.
			2. The deflector’s angle is to be controlled hydraulically from the operator’s seated position from within the cab.
	5. Castor Wheels:
		1. The broom shall have a minimum of two (2) caster wheel assemblies with single tires, located behind the head and inside the sweeping path.
		2. Casters shall be of the full 360 degree revolving type and include friction shimmy dampers as needed.
		3. Hubs must be demountable with steel rims.
		4. Tires to be minimum 180/70R8 (18x7xR8), 16 ply for increased resistance to extreme side turning loads. Tires to be foam filled.
		5. Tires and wheels are to be rated by tire and wheel manufacturer to operate at speeds up to 35 MPH with loads and pressures imposed during normal sweeping conditions.
		6. **SPARES:** To include two (2) each, complete caster wheel assemblies ready for bolt-on to the anti-shimmy damper. Mounting hardware, nuts, bolts, washers, etc. are to be included.
	6. All Controls for the broom shall be in the operator’s cab and within easy reach of the operator.
	7. Multi-Coupling Plate:
		1. The multi-coupling plate is a tool allowing the simultaneous couple and uncouple of the hydraulic lines used for all hydraulic functions.
		2. A vented coupler manifold is to be used to release residual pressure prior to disconnecting hydraulic quick-couplers.
			1. It shall also allow for displacement of fluid in the lines during connection.
			2. No more than six (6) hydraulic connections are to be made with each manifold. If more than six (6) lines need to be connected, additional manifolds are to be used (or a Multi-Coupling Plate) on all hydraulic lines that need to be separated from carrier when an attachment is removed.
		3. To be STUCCHI or State approved equivalent type connector.
		4. To include quick coupler caps or plugs with cable or chain type retainer regardless of system used.

## HITCH:

* 1. The blower hitch shall provide low friction, free flotation, shock absorbing, and weight transfer for the blower head (weight transfer, is required for proper functioning of the blower).
	2. The low friction, free flotation is required independent of blower chassis for vibrations and bounce considerations and to accommodate surface irregularities.
		1. A parallel or unequal arm system with a minimum four (4) horizontal pins shall be used.
		2. The arms shall be box or “I” beam construction for torsional stiffness with appropriate diameter pins on greaseable low friction bushings, (no metal on metal).
		3. The pair of hydraulic cylinders shall also “free float and dampen” the parallel arms of the hitch to minimize blower bounce at high vehicle speeds.
	3. Lift and Weight Transfer System:
		1. The rotary head assembly shall have a hydraulic provision for raising the head from the pavement.
		2. The hydraulic lift mechanism shall be fully operable from the cab.
		3. The rotary head assembly shall automatically lift when the transmission is put into reverse.
		4. Minimum ground clearance shall be 8 inches under the leading edge when rotary head is at maximum height.
		5. Rotary head drive system shall not bind, rub or vibrate excessively when head is raised to maximum height and shall be able to travel a minimum of 2" below ground level with positive down pressure to clean out surface depressions.
		6. To maximize traction in the work mode, the blower shall be equipped with a weight transfer system that automatically maintains 40-60 % of the blower head weight on the front axle of the chassis. This shall be accomplished hydraulically by sensing the system pressure and continually adjusting the pressure via electronically controlled hydraulic metering valves.
	4. Quick Attach Hitch System (Part Of Chassis):
		1. Attachment assembly shall mount onto the front of the carrier by means of a quick attach hitch system operated by one (1) person.
		2. To provide a parallel or arcing lift.
		3. Activated by two (2) each double acting cylinders, controlled from the operator’s position in the cab.
		4. All bearing surfaces shall be equipped with threaded grease fittings.

## (\*) TRUCK LOADING CHUTE: (OPTIONAL ITEM)

* 1. A three piece, heavy-duty spot casting loading chute shall be supplied.
	2. The chute shall be approximately 22 inches wide for unimpeded free flow of snow during placement operations from the impeller.
	3. The chute shall rotate on a vertical axis a minimum of 250 degrees on a heavy-duty bearing system powered by a hydraulic motor drive (wire or cable is not acceptable).
		1. All chute functions to be operated utilizing electric over hydraulic control valves.
		2. All hydraulics shall utilize the main hydraulic system.
	4. The chute shall be equipped with a hydraulically actuated chute extension capable of discharging the snow from 25 degrees above and 66 degrees below horizontal for precision spot casting.
	5. The unit shall be capable of easily discharging into 12 to 20 cubic yard dump trucks with up to nine foot high side boards at a minimum distance of four feet away from the right or left side of the snow blower head.
	6. No hydraulics lines running from the control valves to the chute will have to be disconnected for storage.
	7. The spot casting loading chute, when mounted, shall not impede the flow of snow when bypass casting to left or right thru the impeller housing discharge.
	8. The chute shall have an AR400 bar welded at the very top, before snow would enter into the chute extensions.
		1. This will transition the snow from the chute to the chute extension, projecting the snow at a slight downward angle.
		2. The AR400 bar is to be 2.50 inches long x 3/8 thick with a taper facing the base of the chute.
		3. The inside back of the chute shall be lined with 0.19 inch thick AR-400 steel and the chute extensions shall be lined with 0.19 inch thick UHMW poly.
	9. The entire spot casting loading chute shall be able to fold to the right side for storage or shipping without removing from unit.
	10. There shall be two LED flood lights mounted on the loading chute.
	11. The truck loading chute shall be capable of retracting to a maximum of 150 inches from the ground to enable transport at a maximum overall height of 158 inches with 8 inches clearance under the blower head to the ground.

## (\*) SPOTCAST/DEFLECTOR CHUTE (OPTIONAL ITEM)

* 1. Cast chute mounted, heavy-duty spot casting/deflector chute shall be supplied.
	2. The chute shall be equipped with a hydraulically actuated chute extension capable of discharging the snow from 25 degrees above and 66 degrees below horizontal for precision spot casting.
	3. The chute shall rotate on a vertical axis a minimum of 250 degrees on a heavy-duty bearing system powered by a hydraulic motor drive (wire or cable is not acceptable).
		1. All chute functions to be operated utilizing electric over hydraulic control valves.
		2. All hydraulics shall utilize the main hydraulic system.
	4. The spot casting/deflector chute shall not impede the flow of snow when casting to left or right thru the impeller housing discharge.

## DIMENSIONS:

* 1. (\*) Overall height, 148 inches, maximum. Highest point may be exhaust.
	2. (\*) Overall height blower head, 92 inches (7 foot 7 inches) maximum.
	3. (\*) Turning diameter, outside wall to wall, utilizing 4-wheel steer 57 feet maximum.

## WEIGHT AND BALANCE:

* 1. (\*) Balance: Unit must be able to stop transversely on a 30 percent grade with no danger of overturning.
	2. (\*) Gross Weight, with Blower Head attachment in carry/transport position. 36,140
	3. (\*) Weight on Front Axle: With Blower Head attachment in carry/transport position. 25,520
	4. (\*) Weight on Rear Axle: With Blower Head attachment in carry/transport position. 10,620
	5. Weight Scale Verification Slips:
		1. Required not later than time of delivery (when applicable).
		2. Separate total weight of carrier with blower.
		3. Separate weight on the carrier’s front tires with the snow blower in transport position.

## TRAINING:

* 1. The vendor shall provide a factory certified instructor(s) within 30 days of acceptance by the State. This (these) representative(s) shall be prepared and qualified to make all necessary adjustments to the unit and give instruction to the operators to assure correct operation of the unit when it is placed in service.
		1. Please give advance notice to the person listed on the Purchase Order.
	2. Total of 16 hours at the location as noted in each individual Lot Item.
	3. To include a minimum of eight (8) hours of operator training including the following, as a minimum applicable agenda:
		1. Operating procedures per operating manual.
		2. Break-in procedures.
		3. Equipment limitations.
		4. Operator maintenance.
		5. Before operations checks and lubrication.
		6. Safety.
		7. Cold weather operations.
		8. Jump starting.
		9. Welding on equipment.
		10. Towing or transporting equipment.
		11. Instruments and controls.
		12. Gauge interpretation.
		13. Equipment operation, Do’s and Don’ts.
		14. Attachment operation, Do’s and Don’ts.
	4. To include a minimum of eight (8) hours of mechanics (Journeyman level) training including the following theory, trouble shooting, and test procedures for, as a minimum applicable agenda:
		1. Electronics.
		2. Electrical.
		3. Hydraulics.
		4. Air system.
		5. Drive train.
		6. Engine and transmission electronics.

## MISCELLANEOUS:

* 1. Additional Safety Features:
		1. A 10 lb. ABC fire extinguisher shall be mounted in cab. A second shall be mounted on the outside of vehicle.
		2. An automatic Fire suppression system shall be installed in the engine compartment.
	2. VHF Radio:
		1. To be an ICOM Model ICA120 VHF (AM) aeronautical band and MOTOROLA XTL 1500, complete with microphone, speaker, external transmit/receive antenna mounted on cab, and to include frequency(s) if listed on the Purchase Order.
		2. The MOTOROLA XTL or APX 1500 shall be 700/800 MHz, Model M28URS9PW1AN, with options, G788, G89.
		3. Installation:
			1. To include noise canceling microphones, external speakers (for inside cab), and cab mounted external antennas.
			2. To be shipped loose and installed by State of Alaska personnel.
	3. Paint:
		1. Lead free.
		2. Color to be manufacture’s standard yellow.
		3. Metal portions of all snow heads facing the operator shall be flat black to minimize glare.
		4. The inside of the engine housing is to be painted a gloss yellow or white.
	4. Component Sourcing:
		1. Due to critical nature of vehicle mission and parts support, only current production componentry shall be supplied.

End of Specification

# BID SCHEDULE:

Item Total

# Unit Description Amount

1 ea. Single Engine Snow Blower $542,751.23

 Year, Make & Model Offered:

 **2019 M-B Companies, Inc. North Star TM**

OPTIONAL ITEMS- PRICING REQUIRED

113.0 14 Foot Runway Broom $67,227.25

115.0 Truck Loading Chute $13,264.60

116.0 Spotcast/Deflector Chute $4,639.75

OPTIONAL ITEMS- PRICING REQUIRED

108.4 Diagnostic Software $5,216.15

The actual F.O.B. point for all items purchased under this contract is the final destination anywhere within the State of Alaska. Ownership of and title to the ordered items remains with the contractor until the items have been delivered at their final destination and are accepted by the State.

For pricing purposes, the F.O.B. point is dockside Seattle/Tacoma.

The cost of shipping and delivery for orders beyond the limits of Seattle/Tacoma dock will be handled as follows. The contractor will prepay the shipping and delivery charges to any destination named by the State in its order. The contractor will charge-back those shipping and delivery charges to the State as a separate line item on the State’s invoice. All shipping charges over $100 must be documented by a copy of the actual shipping invoice and received with the invoice charge to the State.

Required Delivery: Maximum 300 daysafter receipt of order (ARO).