



INVITATION TO BID NUMBER SEF-1700

RETURN THIS BID TO THE ISSUING OFFICE AT:

Department of Transportation and Public Facilities
HQ State Equipment Fleet
2200 E. 42nd Avenue
Anchorage, AK 99508

THIS IS NOT AN ORDER

ITB TITLE: RUNWAY SWEEPER BROOM AND BLOWER	DATE ISSUED: 01/13/2012
BID OPENING: 02/28/2012 @ 2:30 PM	WORKSHOP: 02/07/2012 @ 10:30AM
CONTRACTING OFFICER: DUANE FELTON	SIGNATURE: ON ORIGINAL
E-MAIL: duane.felton@alaska.gov	PHONE: (907) 269-0788

SEALED BIDS MUST BE SUBMITTED TO THE STATE EQUIPMENT FLEET PRIOR TO BID OPENING AT WHICH THEY WILL BE PUBLICLY OPENED.

IMPORTANT NOTICE: If you received this solicitation from the State's "Online Public Notice" web site, you must register with the Procurement Officer listed on this document to receive subsequent amendments. Failure to contact the Procurement Officer may result in the rejection of your offer.

BIDDER'S NOTICE: By signature on this form, the bidder certifies that:

- (1) the bidder has a valid Alaska business license, submits a bid under the name as appearing on the person's current Alaska business license and has written the license number below or has submitted one of the following forms of evidence of an Alaska business license with the bid:
 - a canceled check for the business license fee;
 - a copy of the business license application with a receipt date stamp from the State's business license office;
 - a receipt from the State's business license office for the license fee;
 - a copy of the bidder's valid business license;
 - a sworn notarized affidavit that the bidder has applied and paid for a business license;
- (2) the price(s) submitted was arrived at independently and without collusion and that the bidder is complying with:
 - the laws of the State of Alaska;
 - the applicable portion of the Federal Civil Rights Act of 1964;
 - the Equal Employment Opportunity Act and the regulations issued thereunder by the State and Federal Government;
 - all terms and conditions set out in this Invitation to Bid (ITB).

If a bidder fails to comply with (1) at the time designated in the ITB for opening the State will reject the bid. If a bidder fails to comply with (2) of this paragraph, the State may reject the bid, terminate the contract, or consider the contractor in default. Bids must be submitted under the name as appearing on the person's current Alaska business license in order to be considered responsive.

If a contract award is made by the State of Alaska, the undersigned offers and agrees to furnish materials, equipment and services in compliance with all terms and conditions specified in ITB/Contract. Submittal of this document with authorized signature constitutes full understanding and a promise to comply with all specifications, terms and conditions of ITB/Contract.

TO BE COMPLETED BY BIDDER:		
COMPANY SUBMITTING BID	ADDRESS	ALASKA BUSINESS LICENSE NO:
AUTHORIZED SIGNATURE	CITY, STATE, ZIP	DOES YOUR BUSINESS QUALIFY FOR THE ALASKA BIDDER'S PREFERENCE? <input type="checkbox"/> YES <input type="checkbox"/> NO
PRINTED NAME	PHONE/FAX	DOES YOUR BUSINESS QUALIFY FOR THE ALASKA VETERAN'S BIDDER'S PREFERENCE? <input type="checkbox"/> YES <input type="checkbox"/> NO
DATE	E-MAIL ADDRESS	

SECTION I SPECIAL TERMS AND CONDITIONS

NOTE: This section will be used for Terms and Conditions that are "special" and/or unique to a particular ITB. The paragraphs in this section may change from bid to bid. Accordingly, bidders must review this section to insure compliance.

1.0 INTENT: This invitation to bid (ITB) is intended to result in the purchase of: A chassis mounted 16' runway broom and blower unit for use at the Barrow Airport.

1.1 Contract Period: One Time Purchase

1.2 Quantities: One (1)

1.3 Location of Use: Barrow Alaska

1.4 Warranty locations: Anchorage or Fairbanks, AK

1.5 In addition to the State of Alaska requirements, the Municipality of Anchorage and other Alaska political subdivisions may cooperatively purchase from the resulting contract.

1.5.1 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.

2.0 DELIVERY:

2.1 **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):

2.1.1 Dealer and vehicle identification.

2.1.2 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.

2.1.3 The vehicle's crankcase, differential and transmission, and other fluid compartments shall be filled to the manufacturer's recommended capacity.

2.1.4 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.

2.1.5 The vehicle shall be clean and free from defects when delivered and should be ready for immediate and continued use upon delivery.

2.1.6 Units delivered in an incomplete state, or which have deficiencies per the specification, are subject to the damage charges as noted in paragraph 5.0 below.

2.2 Delivery Receipt:

2.2.1 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.

2.2.2 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.

3.0 LINE SHEETS/BILL OF MATERIALS:

3.1 It is required within 30 days after delivery that the successful bidder provides a comprehensive listing of all components used to assemble the unit.

3.2 This includes any components installed by the manufacturer or any subcontractor or the successful bidder.

3.3 Information will include at a minimum, when available, make, model serial number on items such as engines, transmissions, axles, tires, bodies, etc. The listings will be specific to each piece of equipment and will be provided on an individual CD for each unit delivered.

- 3.4 A minimum of two (2) CD's per unit are to be provided and marked with the make, model, and last main numbers of the units serial number or State PO number.

4.0 F.O.B. POINT:

- 4.1 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.
- 4.2 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.
- 4.3 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.

5.0 DAMAGES FOR LATE DELIVERY AND NON-CONFORMING GOODS:

- 5.1 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.
- 5.2 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 a truck of this class, that daily rental fee is determined to be **\$250.00**. 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.
- 5.3 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.

6.0 WARRANTY:

- 6.1 **Standard Warranty Package:** Unless otherwise stipulated by this ITB, the successful bidder will provide a one-year (12-month) warranty.
- 6.1.1.1 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.
 - 6.1.1.2 Full (100%) Warranty Coverage includes all cost of labor, parts, freight, lubricants, miscellaneous cost, etc., to place the unit in like-new condition.
- 6.1.2 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.
- 6.1.3 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.
- 6.1.4 Warranty on Attachments: Same as Standard Warranty Package.
- 6.1.5 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.

6.2 **Warranty Claims:**

- 6.2.1 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.
- 6.2.2 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.
- 6.2.3 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.
- 6.2.4 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.
- 6.2.5 Failure to notify the State that the vendor intends to begin to perform warranty is considered a contractual breach.
- 6.2.6 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.

6.3 **Warranty Performed by Vendor:**

- 6.3.1 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
 - 6.3.1.1 Mileage Charge: Mileage will only be reimbursed for travel within Alaska at the rate allowable by the IRS.
 - 6.3.1.2 Meals are paid at actual and charges must be accompanied by receipts and are not to exceed the State authorized **\$60.00** per day.
 - 6.3.1.3 Transportation, such as airfare, shall be reimbursed at actual and all charges are to be accompanied by a receipt/copy of the coach ticket.
 - 6.3.1.4 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.
- 6.3.2 Travel will only be reimbursed for time in Alaska.
- 6.3.3 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.

6.4 **Authorized Warranty Dealer (Contractor) and Subcontractor:**

- 6.4.1 The use of a subcontractor does not exclude any provisions as listed in this ITB, as requirements to the contractor.
- 6.4.2 (*) Contractor must have the capability of providing warranty servicing and repair work within the State of Alaska with a manufacturer authorized warranty repair facility.

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

- 6.4.3 (*) The Contractor must also provide in their bid package, contractual documentation or agreements with the subcontractor insuring the state that the subcontractor will provide complete contract performance on behalf of the contractor as set forth in this ITB and verification that the work provided will maintain manufacturer's warranty requirements.
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6.4.4 The ultimate responsibility for warranty lies with the contractor (bidder).

6.4.5 The State reserves the right to inspect the warranty facility prior to issuing the Notice of Intent to Award a contract.

6.5 Factory Recall:

6.5.1 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.

7.0 REPAIR ORDERS AND DOCUMENTATION:

7.1 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.

8.0 PUBLICATIONS:

8.1 Paper publications are to be received by the State of Alaska no later than 10 days after receipt of the unit. Custom manuals may be delivered no later than 90 days after receipt of the unit. 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.

8.1.1 All paper manuals are to be pre-assembled in factory binders prior to delivery.

8.1.2 Electronic versions of manuals shall be in disc format (CD or DVD)

8.2 Service Manuals:

8.2.1 Complete set(s) to include applicable information covering prime unit and attachments:

8.2.2 Body, chassis, and electrical

8.2.3 Engine, transmission, and differential(s) (service and rebuild)

8.2.4 Electrical and vacuum troubleshooting

8.2.5 Wiring diagrams

8.2.6 Service specifications

8.2.7 Engine/emission diagnosis

8.3 Parts Manuals:

8.3.1 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.

8.3.2 Parts manuals are to be customized by serial number.

8.4 **Operator's Manuals:** Complete set(s) to include prime unit and attachments.

8.5 **Quantities:** As per Section IV – Bid Price Schedule.

8.6 **Manuals:** To be delivered to, and receipt signed by person(s) as noted on the Purchase Order.

8.7 **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. This information will be provided as soon as possible to person(s) as noted on the Purchase Order.

9.0 **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 forwarded to:

DOT&PF, HQ State Equipment Fleet
2200 E. 42nd Avenue Room #311
Anchorage, Alaska 99508

10.0 **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.

11.0 **INSPECTIONS:**

11.1 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:

11.1.1 Repair or replace at Contractor's expense, any or all of the damaged goods,

11.1.2 refund the price of any or all of the damaged goods, or

11.1.3 accept the return of any or all of the damaged goods.

11.2 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.

11.3 The unit must be complete and able to operate at its full capacity prior to travel of state personnel. If the unit is not complete, does not pass inspection, or is not able to operate and be tested to full capacity, the contractor may be required to pay for additional inspection trips until the unit is able to pass a full inspection. It is at the State's discretion to determine if additional inspections are necessary. This may be in addition to Liquidated Damages as stated in 5.0 above.

12.0 **INSPECTION TRIP (IF REQUIRED):**

12.1 Prior to arrival of the State of Alaska inspectors, the completed unit is to have been inspected and tested by the manufacturer for compliance to the specifications as listed above. The State reserves the right to appoint an independent inspector, at the State's expense, to periodically monitor the progression of the vehicle during the manufacturing process.

12.2 Prior to shipment from the manufacturer's plant, representatives of the State will inspect the completed equipment for conformance to specifications.

12.3 The Contractor shall provide full access to the State's inspector(s), or their designee(s), to the plant (s) including the plant(s) subcontractors where manufacture is taking place.

12.4 Inspection Trip:

12.4.1 The vendor will alert the State of Alaska Contracting Officer, whose name is on the purchase order, at least 30 days prior to having the completed unit ready for inspection

12.4.2 The State of Alaska will arrange and pay for all travel related cost.

12.5 It shall be the responsibility of the State inspector(s) to technically inspect and test the vehicle for compliance with the specifications.

12.6 It shall be the responsibility of the Contracting Authority representative to observe and assist in the inspection and test to assure compliance with the published terms, conditions, and specifications of the bid, and to mediate any disputes, which may arise between the manufacturer and the Department of Transportation's representative(s).

- 12.7 If it becomes necessary, the State or its representative would conduct a re-inspection of any subsequent work performed by the successful bidder. Should the State decide a re-inspection(s) of the unit is required; the vendor shall be required to pay for round trip air fare, ground transportation and per diem at \$175.00 per day for up to two (2) persons from Anchorage, Alaska. The state will pay for the inspection and will submit an invoice for reimbursement from the vendor.
- 12.8 The pilot model inspection may result in minor modifications which would require negotiation with the Contracting Officer. A change order to the contract must be issued prior to any modifications being accomplished.
- 12.9 **FINAL ACCEPTANCE REMINDER:** Final acceptance is at final destination; however, all major tests will be conducted at the manufacturer's place of business unless the State has reason to believe alterations or damages have taken place which may have changed the performance or design characteristics of the unit since the time of inspection at the manufacturer's location.
- 12.9.1 A final inspection of the unit will be conducted at the final destination in Alaska, to assure that the unit still meets specifications.
- 12.10 These inspections by the State shall be thorough and very critical, and will encompass a complete review of the specifications. Adequate time and technical personnel shall be made available to assist the State in these inspections.
- 12.11 The bidder or responsible representative shall also be in attendance.

13.0 PRICE:

- 13.1 **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.
- 13.2 **NO RETROACTIVE PRICE INCREASES WILL BE ACCEPTED.**

14.0 MANUFACTURER'S REBATE (INCENTIVES): 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.

15.0 REPLACEMENT PARTS:

- 15.1 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.
- 15.2 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.
- 15.3 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.
- 15.3.1 If the manufacturer's warranty exceeds the stated warranty then manufacturer's warranty supersedes.
- 15.3.2 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, resellable condition. Refund will be in the form of a credit/invoice credited to the SOA account with the vendor.
- 15.3.3 Invoicing: Full description of item is required on all invoices, packing lists and billings.

SECTION II STANDARD TERMS AND CONDITIONS

- 1.0 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.
- 2.0 ADDITIONS OR DELETIONS:** The State reserves the right to add or delete items, agencies or locations as determined to be in the best interest of the State. Added items, agencies or locations will be related to those on contract and will not represent a significant increase or decrease in size or scope of the contract. Such additions or deletions will be documented via mutual agreement, will be at prices consistent with the original bid price margins, and will be evidenced by issuance of a written contract change notice from the Contracting officer.
- 3.0 ALASKAN BIDDER'S PREFERENCE:** Award will be made to the lowest responsive and responsible bidder after an Alaskan bidder's preference of five percent (5%) has been applied. The preference will be given to a person who: (1) holds a current Alaska business license; (2) submits a bid for goods or services under the name on the Alaska business license; (3) has maintained a place of business within the state staffed by the bidder, or an employee of the bidder, for a period of six months immediately preceding the date of the bid; (4) is incorporated or qualified to do business under the laws of the state, is a sole proprietorship and the proprietor is a resident of the state, is a limited liability company organized under AS 10.50 and all members are residents of the state, or is a partnership under AS 32.05 or AS 32.11 and all partners are residents of the state; and, (5) if a joint venture, is composed entirely of venturers that qualify under (1) - (4) of this subsection. AS 36.30.170(b).
- 4.0 ALASKA BUSINESS LICENSE AND OTHER REQUIRED LICENSES:** At the time the bids are opened, all bidders must hold a valid Alaska business license and any necessary applicable professional licenses required by Alaska Statute. Bids must be submitted under the name as appearing on the person's current Alaska business license in order to be considered responsive. 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. Bidders must submit evidence of a valid Alaska business license with the bid.

You are not required to hold a valid Alaska business license at the time bids are opened if you possess one of the following licenses and are offering services or supplies under that specific line of business:

- fisheries business licenses issued by Alaska Department of Revenue or Alaska Department of Fish and Game,
- liquor licenses issued by Alaska Department of Revenue for alcohol sales only,
- insurance licenses issued by Alaska Department of Commerce, Community and Economic Development, Division of Insurance, or
- Mining licenses issued by Alaska Department of Revenue

- 5.0 ALASKA PRODUCT PREFERENCE:** A bidder that designates the use of an Alaska Product which meets the requirements of the ITB specification and is designated as a Class I, Class II or Class III Alaska Product by the Department of Community & Economic Development shall receive a preference in the bid evaluation in accordance with AS 36.30.332 and 3 AAC 92.010.

- 6.0 ALASKA VETERANS' PREFERENCE:** Notwithstanding a provision in AS 36.30.170 to the contrary, if a bidder qualifies under AS 36.30.170(b) as an Alaska bidder and is a qualifying entity, a five percent bid preference shall be applied to the bid price. The preference may not exceed \$5,000. In this subsection, "qualifying entity" means a:

- sole proprietorship owned by an Alaska veteran;
- partnership under AS 32.06 or AS 32.11 if a majority of the partners are Alaska veterans;
- limited liability company organized under AS 10.50 if a majority of the members are Alaska veterans;
or
- corporation that is wholly owned by individuals and a majority of the individuals are Alaska veterans.

A preference under this section is in addition to any other preference for which the bidder qualifies.

To qualify for a preference under this section, a bidder must add value by the bidder itself actually performing, controlling, managing and supervising a significant part of the services provided, or the bidder must have sold supplies of the general nature solicited to other state agencies, governments, or the general public.

In this section, "Alaska veteran" means an individual who is a:

- resident of this state; and
- veteran; in this paragraph, "veteran" means an individual who served in the
- armed forces of the United States, including a reserve unit of the United States armed forces; or
- Alaska Territorial Guard, the Alaska Army National Guard, the Alaska Air National Guard, or the Alaska Naval Militia; and
- was separated from service under a condition that was not dishonorable.

7.0 ALASKANS WITH DISABILITIES PREFERENCE: If a bidder qualifies for the Alaskan bidder's preference, under AS 36.30.170(b), is a qualifying entity as defined in AS 36.30.170(e) and (j), and is the lowest responsive and responsible bidder with a bid that is no more than ten percent (10%) higher than the lowest bid, the procurement officer will make the award to that bidder, in accordance with AS 36.30.170(e).

8.0 ALTERATIONS: The contractor must obtain the written approval from the contracting officer prior to making any alterations to the specifications contained in this ITB. The State will not pay for alterations that are not approved in advance and in writing by the contracting officer.

9.0 AMENDMENTS: Contract terms shall not be waived, altered, modified, supplemented or amended without prior written approval of the Contracting officer.

10.0 ASSIGNMENT(S): Assignment of rights, duties, or payments under a contract resulting from this ITB is not permitted unless authorized in writing by the State of Alaska, Department of Administration, Division of General Services. Bids that are conditioned upon the State's approval of an assignment will be rejected as nonresponsive.

11.0 AUTHORITY: This solicitation is written in accordance with Alaska statutes AS 36.30 and 2 AAC 12.

12.0 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.

13.0 BID FORMS: Bidders shall use this bid and attached forms when submitting bids.

13.1 Bids, once submitted, may be modified in writing before the time and date set for bid opening. Any modifications shall be prepared on company letterhead, signed by an authorized representative, and state that the new document supersedes or modifies the prior bid. Modification must be submitted in a sealed envelope clearly marked "Bid Modification" and identifying the bid number and closing date and time. Bidders may not modify bids after bid opening time.

13.2 Amendments may be faxed if they are not price related.

14.0 BID FORMAT:

14.1 Bid submitted must contain, as a minimum:

14.1.1 Cover Page

14.1.2 Bid Price Schedule

14.1.3 Asterisked (*) item pages only (and/or) Letter of Clarification addressing asterisked (*) items

14.1.4 All pertinent amendments

14.2 Failure to return all of the pages listed above will cause your bid to be rejected.

14.3 Bids must conform to the requirements of the Invitation to Bid or Request for Proposal. All necessary attachments (bid bonds, references, descriptive literature, etc.) must be submitted with the bid and in the required format. Failure to comply with all requirements shall result in a non-responsive bid.

14.4 Faxed, scanned or e-mail transmitted bids ARE NOT ACCEPTED. (See 13.2 above)

15.0 BID MODIFICATION:

15.1 Modifications or erasures made before bid submission should be initialed in ink by the person signing the bid. A bid may be rejected if it contains a material alteration or erasure, which is not initialed by the signer of the bid and the intent of the bidder, is not reasonably ascertainable from the bid as submitted.

15.2 Bids, once submitted, may be modified in writing before the time and date set for bid opening. Any modifications shall be prepared on company letterhead, signed by an authorized representative, and state that the new document supersedes or modifies the prior bid. Modification must be submitted in a sealed envelope clearly marked "Bid Modification" and identifying the bid number and closing date and time. Bidders may not modify bids after bid opening time.

16.0 BID PREPARATION COSTS: The State is not responsible for any costs incurred by the bidder in preparation of his bid.

17.0 BID WITHDRAWALS: Bids may be withdrawn in writing on company letterhead signed by an authorized representative and received by the Procurement Office prior to bid closing time. Bids may also be withdrawn in person before bid opening time upon presentation of appropriate identification.

18.0 BRAND AND MODEL OFFERED: Unless otherwise specified, when brand names and model numbers are used to specify the type and quality of the goods desired, bidders must clearly indicate the brand names and model numbers they intend to provide. The bidder's failure to identify the brand and model offered will cause the State to consider the offer non-responsive and reject the bid.

19.0 CERTIFICATION OF COMPLIANCE WITH AMERICAN'S WITH DISABILITIES ACT OF 1990:

19.1 By signature of their bid/proposal the bidder/proposer certifies that they comply with the American's with Disabilities Act of 1990 and the regulations issued there under by the federal government.

19.2 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.

20.0 CLARIFICATION OF OFFER:

20.1 A letter of clarification is required to explain any deviations from terms, conditions, or specifications of this ITB. Offers exceeding ITB specifications are regarded as deviations and should be clarified.

20.2 In order to prevent technical errors, following each asterisked is space that shall be used to address all of the asterisked items. It is **mandatory** that a letter of clarification or the space behind the asterisked items be used to supply the required information.

20.3 When using a letter of clarification, or the space provided within the ITB, to address an asterisked (*) item, the statement must indicate specifically what is being provided. Do not include statements such as "Complies to Spec", or "Meets or Exceeds Specifications". This will be considered a non-responsive response.

20.4 Letters of Clarification are to be on company (Bidder's) letterhead and be signed. The only information in the Letters of Clarification should be the explanation(s) of deviation(s) and/or responses to asterisked (*) items. Asterisked (*) item explanations should refer to that particular specification item number.

20.5 Letters of disclosure and clarification must be made part of the sealed bid.

21.0 COMPLIANCE WITH ALL GOVERNMENT REGULATIONS: The bidder must comply with all applicable federal, state, and borough regulations, codes, and laws, and pay all applicable federal, state, and borough taxes, and is liable for all required insurance, licenses, permits, and bonds. Failure to comply with such requirements shall constitute a breach of contract and shall be grounds for contract cancellation. Damages or costs resulting from noncompliance shall be the sole responsibility of the bidder.

22.0 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.

- 23.0 CONSOLIDATION OF AWARDS:** Due to high administrative costs associated with processing of purchase orders, a single low bid of \$50 or less may, at the discretion of the State, be awarded to the next low bidder receiving other awards for consolidation purposes. This paragraph is not subject to the protest terms enumerated in "INSTRUCTION TO BIDDERS", "FILING A PROTEST" above.
- 24.0 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.
- 25.0 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.
- 26.0 CONTRACT ADMINISTRATION:** The administration of this contract, including any/all changes, is the responsibility of the Contracting Officer, HQ State Equipment Fleet.
- 27.0 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.
- 28.0 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.
- 29.0 DEFAULT:** In case of bidder default, the State may procure the goods or services from another source and hold the bidder responsible for any resulting excess costs and may seek other remedies under law or equity. Alaska Statutes and Regulations provide for suspension and disbarment of non-responsible bidders.
- 30.0 DELIVERY:** All deliveries shall be F.O.B. final destination point with all transportation and handling charges paid by bidder. Responsibility and liability for loss or damage shall remain with bidder until final inspection and acceptance when responsibility shall pass to the State except as to latent defects, fraud and bidder's warranty obligations.
- 31.0 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 or better than the discontinued item and provided that it is sold at the same price or less than the discontinued item.
- 32.0 DISPUTES:** Any dispute arising out of this agreement shall be resolved under the laws of Alaska. Any appeal of an administrative order or any original action to enforce any provision of this agreement or to obtain any relief from or remedy in connection with this agreement may be brought only in the superior court for the State of Alaska.
- 33.0 EMPLOYMENT PROGRAM PREFERENCE:** If a bidder qualifies for the Alaskan bidder's preference, under AS 36.30.170(b), and is offering goods or services through an employment program, as defined under 36.30.990(10), and is the lowest responsive and responsible bidder with a bid that is no more than fifteen percent (15%) higher than the lowest bid, the procurement officer will make the award to that bidder, in accordance with AS 36.30.170(c) and 2 AAC 12.050.
- 34.0 EMPLOYERS OF PEOPLE WITH DISABILITIES PREFERENCE:** If a bidder qualifies for the Alaskan bidder's preference, under AS 36.30.170(b), and, at the time the bid is submitted, employs a staff that is made up of fifty percent (50%) or more people with disabilities, as defined in AS 36.30.170(j), and submits a responsive and responsible bid that is no more than ten percent (10%) higher than the lowest responsive and responsible bid, the procurement officer will make the award to that bidder, in accordance with AS 36.30.170(f).

- 35.0 EXTENSION OF PRICES:** In case of error in the extension of prices in the bid, the unit prices will govern; in a lot bid, the lot prices will govern.
- 36.0 FILING A PROTEST:** A bidder may protest the award of a contract or the proposed award of a contract for supplies, services, or professional services. The protest must be filed in writing and include the following information: (1) the name, address, and telephone number of the protester; (2) the signature of the protester or the protester's representative; (3) identification of the contracting agency and the solicitation or contract at issue; (4) a detailed statement of the legal and factual grounds of the protest, including copies of relevant documents; and (5) the form of relief requested. Protests will be treated in accordance with Alaska Statutes (AS)36.30.560-36.30.610.
- 37.0 FIRM OFFER:** For the purpose of award, offers made in accordance with this ITB must be good and firm for a period of ninety (90) days from the date of bid opening.
- 38.0 FIRM, UNQUALIFIED AND UNCONDITIONAL OFFER:** Bidders must provide enough information with their bid to constitute a definite, firm, unqualified and unconditional offer. To be responsive a bid must constitute a definite, firm, unqualified and unconditional offer to meet all of the material terms of the ITB. Material terms are those, which could affect price, quantity, quality, or delivery. Also included, as material terms are those, which are clearly identified in the ITB and which, for reasons of policy, must be complied with at risk of bid rejection for non-responsiveness.
- 39.0 FORCE MAJEURE (Impossibility to perform):** Neither party to this contract shall be held responsible for delay or default caused by acts of God and/or war, which is beyond that party's reasonable control. The State may terminate this contract upon written notice after determining such delay or default will reasonably prevent successful performance of the contract.
- 40.0 FORMAL WORKSHOP:**
- The Formal Workshop (Pre-Bid) is to discuss with prospective bidders the "draft" Invitation to Bid (ITB). The formal workshop is the only opportunity for prospective bidders, manufacturers and other interested parties, in a conference setting, to discuss Standard Terms and Conditions, Special Terms and Conditions, Specifications, and to provide clarification as needed for this ITB.
- Formal workshops are for information only. Any statements made at formal workshops will not be official until verified in the "final" ITB. Participation by teleconference may be possible by making arrangements with the SEF Contracting Office in advance.
- 41.0 HUMAN TRAFFICKING:**
- 41.1 By signature on this contract, the offeror certifies that:
- 41.1.1 the offeror 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; or
- 41.2 The most recent United States Department of State's Trafficking in Persons Report can be found at the following website: www.state.gov/g/tip/
- 41.3 Failure to comply with this requirement will cause the state to reject the bid or proposal as non-responsive, or cancel the contract.
- 41.4 This pertains to goods and services above \$50,000.00.
- 42.0 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.

43.0 INSPECTIONS: Goods furnished under this contract are subject to inspection and test by the State at times and places determined by the State. If the State finds goods furnished to be incomplete or not in compliance with bid specifications, the State may reject the goods and require bidder to either correct them without charge or deliver them at a reduced price, which is equitable under the circumstances. If bidder is unable or refuses to correct such goods within a time deemed reasonable by the State, the State may cancel the order in whole or in part. Nothing in this paragraph shall adversely affect the State's rights as buyer, including all remedies and rights granted by Alaska statutes.

44.0 INSURANCE:

44.1 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.

44.2 Proof of insurance is required for the following:

44.2.1 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.

44.2.2 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.

44.2.3 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.

44.3 Failure to supply satisfactory proof of insurance within the time required will cause the State to declare the bidder nonresponsive and to reject the bid.

45.0 INVITATION TO BID (ITB) REVIEW: Bidders shall carefully review this ITB for defects and questionable or objectionable material. Bidders' comments concerning defects and questionable or objectionable material in the ITB must be made in writing and received by the purchasing authority at least ten (10) days before the bid opening date. This will allow time for an amendment to be issued if one is required. It will also help prevent the opening of a defective bid, upon which award cannot be made, and the resultant exposure of bidders' prices. Bidders' original comments should be sent to the purchasing authority listed on the front of this ITB.

46.0 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.

47.0 LOCAL AGRICULTURAL AND FISHERIES PRODUCTS PREFERENCE: When agricultural, dairy, timber, lumber, or fisheries products are purchased using state money, only those products harvested in Alaska, or in the case of fisheries products harvested or processed within the jurisdiction of Alaska, will be purchased, provided they are available, of comparable quality, and priced no more than seven percent (7%) higher than products harvested outside the state, or in the case of fisheries products harvested or processed outside the jurisdiction of the state, in accordance with AS 36.15.050.

48.0 METHOD OF AWARD:

48.1 DOT/PF is required by law to award "to the lowest responsible and responsive bidder whose bid conforms in all MATERIAL respects to the requirements and criteria set out in the invitation to bid." AS 36.30.170.

48.2 All specifications in this ITB are important and bidders should carefully address each item. Deviation from a specification MAY result in rejection of a bid at the discretion of the Contracting Officer if the deviation is material. A material deviation is one that is significantly different from an essential aspect of a specification.

- 48.3 The Contracting Officer may be justified in accepting a non-material deviation - it will be determined upon the facts, circumstances, and the proposal in the bid. If a bid deviation has a negligible effect on price, quality, performance, delivery or contract conditions, it is not material and may be waived or corrected by the Contracting Officer. The State reserves the right to waive minor informalities or technical defects, which are not material, when such waiver is in the best interest of the State.
- 48.4 Nothing in this section shall be construed as depriving the State of its discretion in the matter of determining the lowest responsible bidder.
- 48.5 A Notice of Intent to Award (ITA) will be issued for all solicitations in accordance with regulations. The notice of intent to award does not constitute a formal award of a contract. Formal award is achieved through execution of the "Offer and Contract Award" section of the Invitation to Bid.

49.0 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, including used or reconditioned components or parts of. It is the contractor's responsibility to ensure that each piece of equipment delivered to the State complies with this requirement. A contract's failure to comply with this requirement will cause the State to seek remedies under breach of contract.

50.0 NON-RESPONSIVE BIDS:

- 50.1 Bids will be considered non-responsive and shall be rejected for the following:
- 50.1.1 Failure to sign the bid.
 - 50.1.2 Failure to submit the bid at the place and time required in the solicitation.
 - 50.1.3 Failure to have a valid Alaska Business License at the time of bid opening.
 - 50.1.4 Failure to acknowledge amendments requiring signature.
 - 50.1.5 Failure to provide product literature, brochures, or a letter of clarification, when specifically required by the Invitation to Bid.
 - 50.1.6 Bids which specify "Offered Delivery Time" in excess of "Required Delivery" number of calendar days after the receipt of an order.

51.0 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.

52.0 PAYMENT: 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, which establishes a lower interest rate or precludes the charging of interest.

53.0 PREFERENCE QUALIFICATION LETTER: Regarding preferences 5, 6, and 7 above, the Division of Vocational Rehabilitation in the Department of Labor and Workforce Development maintains lists of Alaskan; [1] employment programs that qualify for preference, [2] individuals who qualify for preference as Alaskan's with disabilities, and, [3] employers who qualify for preference as employers of people with disabilities. In accordance with AS 36.30.170(j), in order to qualify for one of these preferences, a bidder must add value by actually performing, controlling, managing, and supervising the services provided, or for supplies, a bidder must have sold supplies of the general nature solicited to other state agencies, governments, or the general public.

As evidence of an individual's or a business' right to a certain preference, the Division of Vocational Rehabilitation will issue a certification letter. To take advantage of the preferences 5, 6, or 7 above, an individual or business must be on the appropriate Division of Vocational Rehabilitation list, at the time the bid is opened, and must provide the procurement officer a copy of their certification letter. Bidders must attach a copy of their certification letter to their bid. The bidder's failure to provide the certification letter mentioned above, with their bid, will cause the State to disallow the preference.

- 54.0 PRICE EXTENSION:** In case of error in the extension of prices in the bid, the unit prices will govern.
- 55.0 PRICES:** The bidder shall state prices according to the requirements of this ITB. Prices quoted for commodities or services must be in U.S. funds and include applicable federal duty, brokerage fees, packaging, and transportation cost to the FOB point so that upon transfer of title the commodity or service can be utilized without further cost.
- 56.0 PRODUCT EQUIVALENT SUBSTITUTION:** Bidders may submit bids for substantially equivalent products unless the Invitation to Bid provides that a specific brand is necessary because of compatibility requirements. In those instances where the ITB specifies "a name brand or State approved equivalent", bidders must request approval of a product equivalent substitution NO LATER THAN 10 days prior to the bid opening date. A written response will be provided by the Contracting Officer.
- 57.0 PRODUCT IDENTIFICATION:** Bidders must clearly identify all products bid. Brand name and model or number must be shown for the prime unit as well as attachments where applicable. The State reserves the right to reject any bid when the product information submitted with the bid is incomplete and/or is not easily ascertainable from the bid documents or through independent verification.
- 58.0 PRODUCT LITERATURE:**
- 58.1 **ANNOTATED LITERATURE:** Bidders must annotate their product literature to identify for the State the location of the supporting information regarding each product specification set out in this ITB. A bidder's failure to comply with this clause, within the time set by the State, will cause the State to consider the offer non-responsive and reject the bid.
- 58.2 Product brochures, descriptive literature and other supporting documentation may be required in some solicitations. Descriptive literature is for the purpose of providing a reference to the product offered. While it is not practicable to require documentation to support every single item of a specification, it is sometimes necessary to require the bidder to provide product literature that will help the Contracting officer to determine the bidder's compliance with important specifications.
- 58.3 Requirements for product literature will vary from bid to bid. Certain specification items may be marked with an asterisk (*) indicating that descriptive literature or supporting documentation (such as a letter of clarification) will be required.
- 58.4 When product literature is required by the ITB, please provide a minimum of one (1) complete set to aid in bid review and evaluation.
- 58.5 Failure to provide product literature or brochures when required WILL result in your bid being deemed non-responsive.
- 58.6 A bidder's signature on the contract offer and award is taken as a promise to comply with the ITB specifications. In case of a difference between the literature and the specifications, the specifications will govern.
- 58.7 The State does not honor disclaimer statements often evident in manufacturer's published specification sheets or brochures. Such disclaimers will not release the successful bidder from providing the specified item, at the time of acceptance by the State.
- 59.0 PROPRIETARY INFORMATION AND STATEMENTS OF CONFIDENTIALITY:**
- 59.1 Except as set forth in this provision, all information in all bids will be made public under AS 36.30.530 not later than the time of issuance of a notice of intent to award.
- 59.2 If the offeror submits information considered by it to constitute a trade secret or proprietary data, such information may be expressly designated as such, and must be accompanied by the offeror's certification that (1) the information has consistently been maintained by its owner as a trade secret or as proprietary information, (2) the owner of the information has taken due care to protect it from release to non-privileged persons, and (3) to the best knowledge of the offeror, the information has not lost its status as trade secret or proprietary information, whether by lack of diligent protection, release to any non-privileged person or otherwise.
- 59.3 **Absence of such certification, any claim of confidentiality will be ignored, and the bidder may not hold any reasonable expectation of confidentiality.**
- 59.4 Any information so certified will be held confidential so long as the contracting officer concurs that it constitutes a trade secret or proprietary data, and deems it not critical to determination of the price, quantity, or delivery terms bid, or the responsiveness of the bid.

- 59.5 By submission of a bid, the offeror consents to the contracting officer's exercise of reasonable judgment as to concurrence with any assertion of confidentiality, and waives any and all claims for release of information that the contracting officer reasonably deems not confidential notwithstanding a certified assertion of confidentiality.
- 59.6 A certified assertion of confidentiality in which the contracting officer concurs, with respect to information the contracting officer deems critical to determination of the price, quantity, or delivery terms bid, or the responsiveness of the bid, will cause the bid to be rejected as a non-responsive bid.
- 60.0 PROTESTS:** A bidder may protest the Intent to Award a contract pursuant to this Invitation to Bid in accordance with provisions in Alaska Statute AS 36.30.560. The protest must be filed in writing within ten (10) days of the notice of Intent to Award, and must include the following information: (1) the name, address, and telephone number of the protester; (2) the signature of the protester or the protester's representative; (3) identification of the contracting agency and the solicitation or contract at issue; (4) a detailed statement of the legal and factual grounds of the protest, including copies of relevant documents; and (5) the form of relief requested. Protests must be filed with: Contracting officer, State Equipment Fleet Purchasing, 2200 East 42nd Ave, Room #311, Anchorage, AK 99508. Protests and any subsequent appeal will be processed per AS 36.30.
- 61.0 QUANTITIES:** The State reserves the right to reduce or increase the quantity of items ordered under any contract resulting from this Invitation to Bid.
- 62.0 REJECTION OF BIDS:** All bids or proposals may be rejected prior to award for the following reasons:
- 62.1 the supplies or services being procured are no longer required;
 - 62.2 ambiguous or otherwise inadequate specifications were part of the solicitation;
 - 62.3 the solicitation did not provide for consideration of all factors of significance to the State;
 - 62.4 prices exceed available money and it would not be appropriate to adjust quantities to accommodate available money;
 - 62.5 all otherwise acceptable bids or proposals received are at unacceptable prices;
 - 62.6 there is reason to believe that the bids or proposals may not have been independently arrived at in open competition, may have been collusive, or may have been submitted in bad faith; or
 - 62.7 the award is not in the best interests of the State.
- 63.0 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.
- 64.0 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.
- 65.0 SIGNATURE ON BID:** BIDS MUST BE SIGNED IN INK BY AN OFFICIAL OF THE BIDDING ORGANIZATION authorized to bind the bidder to its provisions. Signature certifies, under penalty of perjury under the laws of the United States, that the price(s) submitted was/were independently arrived at without collusion, and that neither bidder nor bidder's firm, association or corporation of which bidder is a member, has either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free competitive bidding in connection with this bid per 2AAC12.800.
- 66.0 STANDARD AND SPECIAL TERMS AND CONDITIONS:** The terms and conditions of this section are standard to State of Alaska, Department of Transportation and Public Facilities, Statewide Equipment Fleet contracts for the purchase of goods. There may also be other special terms and conditions in an Invitation to Bid or Request for Proposal which apply only to this contract. In the event of a conflict between the standard and special terms and conditions, the Special Terms and Conditions take precedence.
- 67.0 SUBCONTRACTOR(S):** Within five (5) working days of notice, 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. Subcontractors can only be changed per AS 36.30.115 (b).

- 68.0 SUBMITTING BIDS:** Envelopes containing bids must be sealed, marked, and addressed as shown in the example below. Do not put the ITB number and opening date on the envelope of a request for bid information. Envelopes with ITB numbers annotated on the outside will not be opened until the scheduled bid opening.
- 69.0 SUCCESSORS IN INTEREST:** This contract shall be binding upon successors and assigns.
- 70.0 SUITABLE MATERIALS:** All materials, supplies or equipment offered by a bidder shall be new, unused, of recent manufacture, and suitable for the manufacturer's intended purpose unless the specifications allow for used, rebuilt or remanufactured equipment.
- 71.0 SUPPORTING INFORMATION:**
- 71.1 The State strongly desires that bidders submit all required technical, specification, and other supporting information with their bid, so that a detailed analysis and determination can be made, by the contracting officer that the product offered meets the ITB specifications and that other requirements of the ITB have been met. However, provided a bid meets the requirements for a definite, firm, unqualified, and unconditional offer, the State reserves the right to request supplemental information from the bidder, after the bids have been opened, to ensure that the products offered completely meet the ITB requirements. The requirement for such supplemental information will be at the reasonable discretion of the State and may include the requirement that a bidder will provide a sample product(s) so that the State can make a first-hand examination and determination.
- 71.2 A bidder's failure to provide this supplemental information or the product sample(s), within the time set by the State, will cause the State to consider the offer non-responsive and reject the bid.
- 72.0 TAXES:** Prices quoted in bids must be exclusive of federal, state, and local taxes. If the bidder believes that certain taxes are payable by the State, the bidder may list such taxes separately, directly below the bid price for the affected item. The State is exempt from Federal Excise Tax because articles purchased are for the exclusive use of the State of Alaska.
- 73.0 TIMELINESS OF BID:** Sealed bids must be received and time-stamped by the Procurement Office prior to the time set for receipt of bids. Bids received after bid-closing time will not be considered. Bidders must ensure that their bid and any amendments requiring signature are delivered prior to the scheduled bid opening time. **LATE BIDS WILL NOT BE ACCEPTED.**
- 74.0 USE OF LOCAL FOREST PRODUCTS:** In a project financed by state money in which the use of timber, lumber and manufactured lumber is required, only timber, lumber and manufactured lumber products originating in this state shall be used unless the use of those products has been determined to be impractical, in accordance with AS 36.15.010.
- 75.0 WARRANTY:** Unless otherwise stated, all equipment shall be new and current model and shall carry full factory warranties. Bidder warrants all goods delivered to be free from defects in labor, material and manufacture and to be in compliance with bid specifications. All implied or expressed warranty provisions of the Uniform Commercial Code apply. All warranties shall be for and benefit the State.

SECTION III – SPECIFICATIONS

SPECIFICATION #549-16FT CHASSIS MOUNTED 16 FOOT RUNWAY SWEEPER BROOM WITH AIR BLOWER UNIT February 09, 2012

GENERAL SPECIFICATION:

It is the purpose of this specification to describe a new and of the manufacturer's latest current model and design, high-performance, commercial highway truck chassis with a mounted 16 foot airport runway sweeper broom with an air blower unit.

This unit must be designed and manufactured in the United States.

This unit provided is required to meet all current federal and state regulations such as, but not limited to, EPA emissions, FMVSS and CFR. When loaded with fuel and two (2) operators, the unit must not exceed the manufacturer's weight rating of the vehicle at any tire or axle position. Also, refer to documentation required.

Unit is to include all standard equipment and accessories as advertised in manufacturer's specification sheet(s) of model offered, unless otherwise specified herein.

Referenced Standards:

Certain ISO, SAE, and other consensus standards may be referenced in this specification. Unless otherwise specified, the latest version of each standard is to be understood. Such standards apply to this specification whether or not they are required by statutes or administrative law.

Component Selection:

The components selected shall be rated for the maximum loading they would be subjected to in severe service. The torque rating of a driven component shall exceed the input torque. The component parts and structure of the unit shall be sized and designed to safely withstand the maximum load imposed, without failure or induction of deterioration. All units shall be constructed from current production components.

Standard Components:

All components and accessories cataloged as standard, unless superseded by these specifications, shall be provided with the unit.

Necessary Components:

Contractors shall provide any components, hardware, or part necessary for proper assembly, installation, and operation even though that item(s) is not specifically described in the bid specifications. This includes all fittings, couplers, brackets, adapters, etc. Bidders shall include the cost of such components, hardware, and parts in the bid price.

APPLICATION:

This equipment will be utilized for winter snow removal operations at the Barrow Airport on runways, ramps and taxiways with travel speeds up to thirty (30) miles per hour.

The unit shall provide a clean width of minimum 13.1 (13.1) feet when 35 degrees or fully angled.

This unit will be subject to varying terrain and weather conditions to minus 40 degrees Fahrenheit.

DOCUMENTATION REQUIRED:

One (1) copy of manufacturer's product brochure on the truck chassis, broom, air blast system and auxiliary power unit.

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 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.**

Drawings of proposed unit are to include: Broom, air-blast nozzle locations, auxiliary power plant location, fuel tank locations, hydraulic tank and battery box are to be provided.

Dimensional information provided with drawing is to include;

- (1) Actual BBC (bumper to back of cab) dimension,
- (2) WB (wheelbase) dimension,
- (3) CA (cab to axle) dimension,
- (4) Overhang/After Frame dimension,
- (5) Cab to body dimension,
- (6) Overall width with broom at maximum angle,
- (7) Overall length with broom at maximum angle and
- (8) Overall height of completed unit dimension.

TYPICAL MANUFACTURERS:

M-B COMPANY or *WAUSAU EVEREST*, provided all of the following specifications are met.

Weights are to be calculated and provided on the unit, being offered as specified herein, with driver and passenger (400 pounds), full fuel load, and broom in up/transport position.

(1) Total weight of unit (GVW): _____ pounds

(2) Total weight on front axle: _____ pounds

(3) Total weight on rear axle: _____ pounds

Specifications marked with an asterisk (*) require supporting documentation in the form of a product brochure, manufacturer's technical data sheet, or a letter of clarification 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 is space that may be used to address all of the asterisked items. It is highly recommended that a letter of clarification or the space behind the asterisked items be used to supply the required information.**

1.0 POWER TRAIN – CHASSIS:

1.1 Engine:

1.1.1 (*) Diesel, 4-cycle, water mixed with antifreeze cooled, *CUMMINS* or *DETROIT DIESEL* or *MERCEDES* or *INTERNATIONAL* or *MACK* or *PACCAR*. Provided all of the following minimum specifications are met.

1.1.2 (*) Displacement, minimum 8.9 liters.

1.1.3 (*) SAE gross horsepower, minimum 325.

1.1.4 (*) SAE peak torque, minimum of 1150.

1.1.5 (*) Governed speed, between 1950 and 2200 PRM.

1.1.6 To be compatible with transmission supplied.

1.1.7 Fiberglass fan (*FLEXLITE* or *KYSOR* or *HORTON* or equivalent).
Automatic clutch is acceptable.

1.1.8 Air Compressor: *CUMMINS*, *BENDIX* or *MERITOR WABCO*, or *HALDEX*

1.1.9 Engine Compression Brake:

- 1.1.9.1 (*) *JACOBS* engine brake (“Jake Brake”) or *CUMMINS* Interbrake. To include dash mounted “ON/OFF” and three (3) position switches. A *PACBRAKE* Model P-63 Engine Brake for the Detroit Diesel Series 60 is acceptable. A *MACK* Power Leash is acceptable. A *MERCEDES BENZ* engine brake is acceptable. An *INTERNATIONAL* engine brake is acceptable. To be a compression brake.
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- 1.1.10 (*) Engine emergency (power derate followed by engine shut-down) system with light (red) and buzzer, in the event of high water temperature and/or low oil pressure.
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1.2 Air Intake System:

- 1.2.1 Air Cleaner: Single or dual, dry element type, heavy-duty.
- 1.2.2 Equipped with manual two-way “Hot/Cold” air pickup, to draw air from outside or under hood (hose disconnect or plug insert is not acceptable).
- 1.2.3 Air Filter Restriction Indicator: Dash mounted.

1.3 Exhaust System:

- 1.3.1 Regulations may include more than one (1) type of muffler if necessary.
- 1.3.2 To include exhaust pipe with heavy-duty vertical or horizontal muffler and vertical tail pipe.
- 1.3.3 Exhaust is to extend two (2) feet above top of cab with turned out (curved) elbow.
- 1.3.4 Mounted, running up the right-hand side of cab.
- 1.3.5 To be caged (OEM chrome or stainless steel) to protect against burns.
- 1.3.6 Shock mounted to protect against damage from vibration, if cab mounted.
- 1.3.7 Designed so vision is not impaired out of exterior rear view mirrors.
- 1.3.8 All connections, dual clamped or *DONALDSON* “Sealclamps” or *DONALDSON* “Band” type or *TORCA*.
- 1.3.9 If flex pipe is utilized, to be stainless steel, not to exceed 20 inches in length.

1.4 Cooling System:

- 1.4.1 To include sight glass for easy viewing from ground with hood in up position (sight glass may be located on expansion tank).
- 1.4.2 Front of radiator to be properly guarded against rocks by including any factory optional grill or grill screen cloth available. In addition, a bug screen is to be included behind the grill.

- 1.4.3 Cooling system mounting and tank bottom configuration to be compatible and so designed as to not interfere with hydraulic pump installation.
 - 1.4.3.1 Refer to "HYDRAULICS" section later in this specification.
 - 1.4.4 Coolant to be permanent type antifreeze, affording protection to minus 60 degrees Fahrenheit. To be *DELO* extended life coolant (red), or compatible.
 - 1.4.5 To include spin-on type coolant filter, if required, with shut-off valves to prevent excessive loss of coolant when changing of filter.
 - 1.4.6 Winterfront: Heavy-duty canvas/vinyl construction, snap-on type, with center zipper.
 - 1.4.7 Drain cock(s) (a drain plug on the engine is acceptable) to be provided for the low point(s) of cooling system for maximum drainage while unit is on level ground.
 - 1.4.8 Engine coolant hoses, including heater hoses, to be *GATES* Greenstripe or *GATES* Bluestripe or *GATES* Fleetrite. or *MACK* EDPM would also be a state approved hose.
 - 1.4.9 Clamps utilized on all pressurized coolant and heater hoses, one (1) inch inside diameter or larger are to be "Constant Torque" design, stainless steel. Some engine manufacturers may not allow changing of all clamps due to warranty. *GATES* Shrink-Band is acceptable in lieu of above.
- 1.5 Fuel System (Truck Chassis):
- 1.5.1 Tank:
 - 1.5.1.1 Refer to specification item 7.0.
 - 1.5.2 Fuel filter:
 - 1.5.2.1 To be spin-on or canister type.
 - 1.5.2.2 To include a ¼-turn ball or check valve at the fuel filter if necessary to prevent excessive fuel loss when servicing of filter(s).
 - 1.5.2.3 To be easily accessible.
 - 1.5.3 Fuel system to include 12-volt heated fuel and water separator.
- 1.6 Oil Filtration:
- 1.6.1 To be spin-on or drop-in canister type.
 - 1.6.2 To be easily accessible.
- 1.7 Starting Aids:
- 1.7.1 Automatic ether system or glow plugs or grid heater.
 - 1.7.1.1 If automatic electronic ether injection system, *KBI* Dieselmatic or *TURNER* Quick Start, or equivalent. The *DETROIT DIESEL* Double Injection System is acceptable.
 - 1.7.1.1.1 To be wired through starter button.

- 1.7.1.1.2 To include an engine safety sensor switch.
- 1.7.1.1.3 System to be installed in engine compartment and to have maximum protection from the elements.
- 1.7.2 Engine Block Heater: Immersion type, highest wattage available, 110 volt AC (OEM if available).
- 1.7.3 Engine Oil Pan Heater: Immersion type, *KIM HOTSTART* Model OL41515WT/ALS68-Y or *PHILLIPS* equivalent, 110 volt AC, 150 watt minimum.
- 1.7.4 Battery Trickle Charger: *NAPA* Model 85-300 or *SCHAUR* Model HR12C or *SCHUMACHER* Model SE-1-12S, 110 volt AC, minimum 1½ (1.5) amp or *BATTERY TENDER PLUS* 1¼ (1.25) amp, wired into the truck battery charging system. A preferred mounting location for the charger would be under the passenger seat.
- 1.7.5 Power Cords:
 - 1.7.5.1 110 volt AC power cords for engine heaters and trickle charger to be plugged into a single, waterproof, 20 amp, 110 volt junction box with four (4) receptacles.
 - 1.7.5.2 The receptacle box is to include a heavy-duty, but flexible in cold weather, 110 volt AC power cord with waterproof 20 amp *WOODHEAD* NEMA 5 plug or equivalent match, for use with 110 volt AC power source located at the right front broom hitch area of truck and allow for easy access by ground personnel.
 - 1.7.5.3 To include matching female connector, 20 amp (to be shipped loose).
 - 1.7.5.4 To include a permanent label on the cord at the plug labeled "CHASSIS ENGINE".

2.0 DRIVE TRAIN:

- 2.1 Configuration: 4x4.
- 2.2 Transmission:
 - 2.2.1 (*) *ALLISON WORLD TRANSMISSION* Model 3000 or 4000 RDSP 5 or 6 speed electronic.

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- 2.2.1.1 To include automatic neutral function with wire 117 and 161.
 - 2.2.1.2 To include an *ALLISON EYE SCAN*.
 - 2.2.1.3 *ALLISON* lever shift, or shift pad, selector would be acceptable.
 - 2.2.1.4 A low transmission oil level sensor system shall be included.
 - 2.2.1.5 A transmission cooler shall be included; cooling through the truck radiator would be acceptable.
 - 2.2.1.6 Any external lines to be steel or steel braided or rubber with inner steel braiding.

- 2.2.1.7 Oil Cooler Lines: To be guarded and wrapped with *WAYTEK, INC. Spiral Wrap Tubing*. *WAYTEK, INC.*, 1-800-328-2724.
- 2.2.1.8 To include a TCM (Transmission Control Module) located inside the cab, in a protected location.
- 2.2.1.9 Corrosion Preventative: A self-etching corrosion preventative is to be applied to the bottom and as much as possible of the transmission case and pan. An aircraft-type chromate paint is preferred.

2.3 Transfer Case:

2.3.1 (*) Truck shall be geared for a governed top speed between 49 and 55 mph.

2.3.2 (*) To be either a single speed or an air shift able two (2) speed type and have a minimum rating of 10,000 lb-ft.

2.3.3 It shall have the ability for locking/unlocking drive to front axle.

2.3.4 A light located on the instrument panel shall illuminate when all wheel drive is engaged.

2.3.5 There shall be a remote mounted oil cooler for the transfer case.

2.4 Drive Lines:

2.4.1 Drive line yokes to be 1/2-round on the drive shafts

2.5 Front Drive Axle:

2.5.1 (*) Front Axle shall be a minimum 18,000 pound GVW hub and brake rating.

2.5.2 (*) To be of the drive/steer type, and of the full floating, torsion flow type with a single reduction hypoid gear design, a minimum ten (10) inch ground clearance.

2.5.3 To be capable of withstanding the loads of the unit being bid.

2.5.4 (*) BA (front bumper to front axle) Dimension: (This dimension is based on standard OEM bumper location and does not include any optional front frame extension length).

2.6 Rear Drive Axle:

2.6.1 (*) To be full floating, torsion flow type with a single reduction spiral bevel gear design and a minimum ten (10) inch ground clearance.

2.6.2 (*) Minimum 23,000 pound (hub and brake rating).

2.6.3 (*) To include *TRACTECH* No-SPIN.

2.6.4 (*) Ratios (front and rear axles) to be geared for a governed top speed between 49 and 55 MPH.

3.0 CHASSIS:

3.1 (*) GVWR: 41,000 pounds minimum.

3.2 (*) WB (Wheel Base) Dimension (150 to 170 inches).

3.3 (*) CA (Cab to Axle) dimension (approximately 84 inches).

3.4 Frame:

3.4.1 (*) Width: 34 inches.

3.4.2 (*) Frame Extension: To include a front frame extension, integral with the chassis frame, minimum 20 inches in length in front of the grill with a cross member for mounting of the power take-off pump and to withstand the severe loading imposed by the broom during snow removal operations.

3.4.3 (*) Yield Strength: 110,000 PSI, minimum.

3.4.4 (*) RBM: To be 2,000,000 inch pounds.

- 3.4.5 To be single channel carbon manganese steel rails, connected by an adequate number of cross members to resist frame distortion from the lateral stress expected in this application.
- 3.4.6 To be completely primed painted to inhibit rust.
- 3.5 Front Suspension:
 - 3.5.1 (*) Capacity: Minimum 18,000 pounds total.

 - 3.5.2 Steel springs of semi-elliptical type.
 - 3.5.3 Shock absorbers, heavy-duty.
- 3.6 Rear Suspension:
 - 3.6.1 (*) 23,000 pound capacity (spring or air).

 - 3.6.2 Pins shall be of the grease type with substantial bronze bushings.
 - 3.6.2.1 Rubber or polyurethane bushings would be acceptable in lieu of greaseable bronze bushings.
 - 3.6.3 Steel springs of semi-elliptical type.
- 3.7 Shock absorbers (heavy-duty):
 - 3.7.1 Front.
 - 3.7.2 Rear (if required by suspension manufacture).
- 3.8 Steering:
 - 3.8.1 (*) To include dual steering gear, to meet or exceed rated front axles GVWR, minimum.

 - 3.8.2 (*) Turning Diameter (both left and right): Curb to curb, (outside front tire) to be maximum 93 feet to the left and 82 feet to the right.

 - 3.8.3 There shall be a mechanical linkage maintained at all times between the steering wheel in the cab and the front axle to assure the ability to control the vehicle in the event of hydraulic or electrical system failure.
- 3.9 Brakes:
 - 3.9.1 The service brakes shall be fully air actuated, drum and shoe type with a minimum 13.2 CFM air compressor.
 - 3.9.2 ABS, as required.
 - 3.9.3 Full air with low pressure audible and visual warning device located in cab.
 - 3.9.4 Front: Cam type, shoe brakes.

- 3.9.5 Rear: S-Cam, shoe brakes.
- 3.9.6 Outboard drums, front and rear.
- 3.9.7 Slack Adjusters:
 - 3.9.7.1 To be automatic with handed (if required to prevent interference).
 - 3.9.7.2 Sealed against dirt and corrosive materials.
 - 3.9.7.3 To include lube fitting for positive lubrication of all moving parts.
- 3.9.8 Capability for in-field service.
- 3.9.9 Splash/dust shields, heavy-duty steel, on all axles.
- 3.9.10 Brake Pedal: **If floor mounted design**, the hinge pin and pedal base/mounting plate located above floor grade shall be stainless steel or zinc. The mounting plate shall be sealed to the floor as to not allow liquid to seep through to the treadle valve assembly below floor.
 - 3.9.10.1 (*) An anodized aluminum base/mounting plate with a stainless steel or zinc plate is acceptable, but will require a 12-year replacement warranty against corrosion failure. Replacement only. No exceptions.

3.9.11 Emergency Brakes: *HALDEX* Life Seal or *MGM* TR-TS.

3.9.12 Air System:

- 3.9.12.1 Chassis' hoses to be manufacturer's standard.
- 3.9.12.2 All added air hoses to be SAE 100R5 type "T" Arctic grade (-50 to +240 degrees Fahrenheit).
- 3.9.12.3 Air Dryer: Air system to include a *BENDIX* AD-IP or *MIDLAND* DA33100 or *ROCKWELL-WABCO* System Saver 1200.
- 3.9.12.4 Air pressure relief valve to be located under hood or on air tank.
- 3.9.12.5 Air Reservoir Tanks:
 - 3.9.12.5.1 Primary tank to be heavy-duty steel construction, minimum 1200 cubic inch.
 - 3.9.12.5.2 Secondary tank to be heavy-duty steel construction, minimum 1200 cubic inch.
 - 3.9.12.5.3 Primary air tank, fitted with a quick disconnect air supply fitting equipped with a ¼-turn ball valve mounted on the outside of the left-hand side frame rail. The ¼-turn ball valve is to be capped or plugged.

3.9.12.5.4 All air tanks to be equipped with manual drain petcocks. Petcock(s) or drain actuators to be accessible from side of vehicle, easily accessible from side of unit by ground personnel (a lanyard type cord may be necessary).

3.9.12.5.5 To be installed in protected locations.

3.10 Wheels and Tires:

3.10.1 Front and rear tires shall have an aggressive tread pattern for improved traction in snow and ice.

3.10.2 All wheels and tires are to be rated for the axles.

3.10.3 Front Wheels: **Hub** piloted type, steel disc.

3.10.4 Front Tires:

3.10.4.1 (*) *BRIDGESTONE* M844F Product Code 287938, 385/65R22.5 or *CONTINENTAL* HTC1 Article Number 0535009000, LRJ (20PR) minimum, steel belted radial tubeless. Or State approved equivalent.

3.10.5 Rear Wheels: **Hub** piloted type, steel disc.

3.10.6 Rear Tires:

3.10.6.1 (*) *BRIDGESTONE* M843 Product Code 287849 or *MICHELIN* XDS2 Catalog Number 05359, 11R22.5, LRH (16PR) minimum, steel belted radial tubeless. Or State approved equivalent.

3.10.7 Front and rear tires, including spare tires, are to be siped (*MICHELIN* XDN2 tires, if used, are not to be siped). Siping is a process that cuts slits across tire treads without removing rubber. Slits should be ¼ (0.25) inch apart and a minimum ¼ (0.25) inch in depth. This process to be accomplished using the *SAF-TEE SIPER* by *SAF-TEE SIPING & GROOVING, INC.*, 3647 E. Sunrise Dr., Minnetonka, MN 55345, Phone (612)935-4540, or equivalent siping process.

3.10.8 *ACCURIDE* Wheel-Guards or equivalent are to be supplied between the front wheels and the hubs, between the rear wheels and the hubs, and between the rear dual wheels.

3.10.9 A spare front and rear wheel, with designated tires, mounted. To be shipped loose.

3.11 Mud Flaps:

3.11.1 Front:

3.11.1.1 Heavy-duty rubberized polymer, anti-sail, installed at rear of front fenders, minimum 12 inches in width and maximum 14 inches, above the ground.

- 3.11.1.2 Flaps are to be as wide as tire and extend out to edge of tire, as a minimum.
- 3.11.2 Rear:
 - 3.11.2.1 Heavy-duty rubberized polymer, anti-sail, installed at both ahead and rear of the fenders, minimum 12 inches, maximum 14 inches, above the ground.
 - 3.11.2.2 Flaps are to be as wide as tires and extend out to edge of tire, as a minimum.
 - 3.11.2.3 Rear Fenders: To be "*THE MINIMIZER*" M100, or equivalent.
- 3.11.3 Steel rods, used for anti-sail, are not to be used.
- 3.12 Front Wheel Wells:
 - 3.12.1 To provide adequate protection to engine compartment, including radiator, engine components, etc., from rocks, mud, and water spray.
 - 3.12.2 Front wheel wells are to be kept clear of components, such as transmission coolers, loose wiring, etc.
 - 3.12.3 To be undercoated with *RHINO LINING* or equivalent if wheel wells are metal.
- 3.13 Rear Bumper: To be one (1) inch thick steel, with a height of 12 inches and a width as wide as the outside of the rear fenders.

4.0 ELECTRICAL SYSTEM:

- 4.1 12-volt negative ground.
- 4.2 (*) Alternator: 12-volt, 160 amp, *LEECE NEVILLE* or *BOSCH* or *DELCO*, as long as *BOSCH* or *DELCO* can be replaced with a 160 amp *LEECE NEVILLE* when or if *BOSCH* or *DELCO* fails. Provide information on replacement.

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- 4.3 Batteries:
 - 4.3.1 Three (3) or four (4) each battery configuration, 12-volt, maintenance free batteries with a minimum total of 2500 CCA at zero degrees.
 - 4.3.2 Batteries to be installed in a separate frame mounted compartment with corrosion resistant interior.
 - 4.3.3 Battery box is to be provided to protect batteries from build-up of snow, ice mud, etc.
 - 4.3.3.1 Battery box to be easily accessible utilizing rubber tie downs without tools.
 - 4.3.3.2 If possible, battery box location is to be located on outside left frame rail, just behind the cab, bolted to frame rail, not to interfere with fuel tank(s).

- 4.3.4 Master Switch(es):
 - 4.3.4.1 High-ampere switch or switches to cut off power source from battery to the ground (ground side if possible, positive side if not) and remainder of electrical system, *COLE HERSEE #284-02* or *POLLAK #51-315* or *FLAMING RIVER #FR1005*.
 - 4.3.4.2 To be located in the cab, mounted to the floor, between the driver's door sill and the rear of the driver's seat.
- 4.4 All standard electrical and lighting equipment to meet ICC Safety Standards.
- 4.5 All electrical control switches to be direct current rated.
- 4.6 All electrical circuits shall be protected by manual reset circuit breakers or spade type fuses located in the cab, circuit breakers shall be easily accessible without requiring the removal of any panels or the use of tools.
- 4.7 Headlights: To be halogen.
- 4.8 Back-Up Alarm: Electronic, self-adjusting sound level, *ACORN PRODUCTS Model 1D-112AA* or *ECCO SA917* or *PRECO Preco-Matic Model 1040* or *PRECO 1059* or *STAR Model Starmatic 63-000* or *TARGET TECH Model 210504* or *VELVAC Model 697066* or *WARN Model Reactor 2100504*, located on the rear of the chassis, as per manufacturer's instructions.
- 4.9 Two (2) post terminal block (12 volt power source), located on the dash.
- 4.10 Rear Chassis Taillights (stop, turn, tail & back-up): To be LED (*GROTE* or *TRUCK-LITE*) and be just above and slightly ahead of the heavy-duty bumper mentioned previously in this specification.
- 4.11 Provision for mounting rear license plate shall be provided with appropriate light(s) to illuminate the license plate area.
- 4.12 All lighting shall be 12 volts, and shall include, but not be limited to, the following.
 - 4.12.1 LED marker lights shall be located at each end of the broom head. They shall be visible to the operator. Amber facing forward and red facing rear.
 - 4.12.2 Cab Light Bar:
 - 4.12.2.1 To include two (2) each 12-volt halogen headlights with high/low beam and integral turn signals. To be controlled by a two (2) position switch in the cab to switch from standard headlights to light bar mounted lights.
 - 4.12.2.2 To include two (2) each 12-volt HID (High Intensity Discharge) (J.W. Speaker or approved equal) flood lights shall be mounted on a roof mounted light bar.
 - 4.12.2.3 Work Lights: To include (2) each, *GO-LITE Model 3067*, located on the light bar. To include separate dash mounted switch.
 - 4.12.2.4 Also included on this light bar will be two (2) each strobe lights as noted later in this ELECTRICAL section.
 - 4.12.2.5 None of these lights are to be able to shine onto the operator's eyes by the door mounted mirrors.

- 4.12.3 All stop, turn, tail, back-up and clearance lights to be LED.
- 4.12.4 Cab interior dome light. Light is to come on when opening door(s) and is to also be operated by a separately driver controlled switch.
- 4.12.5 Variable intensity instrument lighting.
- 4.12.6 Weatherproof wiring shall be SLX nomenclature type, insulated and numbered, circuit breakers located in an easily accessible weatherproof electrical panel.
- 4.12.7 Wiring and in cab selection switch for auxiliary lighting shall be installed by chassis manufacture.
- 4.12.8 Strobe Lighting:
 - 4.12.8.1 To include a total of four (4) each *WHELEN* Model L31H*F strobe lights.
 - 4.12.8.1.1 Two (2) lights will be mounted on cab mounted light bar.
 - 4.12.8.1.2 Two (2) lights will be mounted on the top rear of the auxiliary engine housing.
 - 4.12.8.2 Left lenses color to be amber, right lenses to be blue.
 - 4.12.8.3 All lights are to be shielded to prevent flashing of light into operator's cab.
 - 4.12.8.4 Switch control center with "ON/OFF" to be within easy reach of operator. Don't forget to label switch.
 - 4.12.8.5 *WHELEN* contact: Kent Bruce, phone #206-51-2060.
- 4.12.9 Set of four (4) marker lights for broom engine enclosure.
- 4.12.10 Rear tri-light at top of rear of broom engine enclosure.
- 4.12.11 Rear single brake light at top rear of broom engine enclosure.
- 4.12.12 Interior of auxiliary engine housing to include four (4) LED lights, bright enough for servicing of components inside the engine housing. Switch (weather resistant) to be located on exterior of housing where engine oil check is located. Barrow is dark 24 hours a day in the winter!!!
- 4.13 All other lighting to conform to FMVSS regulations.
- 4.14 Wiring:
 - 4.14.1 Unit is to include any and all optional RF (Radio Frequency) shielded wiring harnesses available, including the engine and transmission.
 - 4.14.2 Accessory wiring to include rated breaker switches incorporated into the center control console.
 - 4.14.3 Accessory wiring to be in dedicated looms entering cab, not mixed looms. (Example: Strobe light wiring to be in one (1) separate loom).
 - 4.14.4 All wiring to be color coded, and located for maximum protection from road splash, stone abrasion, grease, oil, fuel, and heat from engine and components.

- 4.14.5 Routing through structural members to be protected by grommets, and to be secured by clips at intervals to prevent rubbing or chafing due to movement.
- 4.14.6 All applicable junction boxes, light housings and trailer outlet connectors to be constructed of corrosion proof material.
- 4.14.7 All auxiliary wiring should be continuous (any splices or connectors are to be weather proof) from the cab junction box to the bulkhead connector plate, from there to the body junction box, then from the body junction box to all rear of cab stop, turn, tail, back-up, and strobe lights, and accessories.
 - 4.14.7.1 The harness from the cab junction box shall consist of a seven (7) conductor, *CHAIN-FLEX* or equivalent, SAE & ATA oil and water resistant, good to minus 55 degrees Fahrenheit, trailer wire (as described below), color coded, with six (6) wires of 12 gauge, and one (1) wire of 10 gauge for ground.
- 4.15 All lamp connections and all junction box post connections shall be treated with corrosion inhibitor dielectric grease.

5.0 CAB:

- 5.1 Conventional (not cab-over) design with sloping hood to provide minimum bumper to road surface non-viewing area for maximum forward visibility.
- 5.2 To provide maximum room inside the cab for all sizes of operators and components.
- 5.3 The layout of all controls, gauges and instrumentation is to be ergonomically designed.
- 5.4 To provide maximum room inside the engine compartment for ease of maintenance on the engine.
- 5.5 To be conventional severe service cab of welded or riveted type steel and/or aluminum construction (fiberglass construction of roof, hood and fenders is acceptable), and to include the following:
 - 5.5.1 (*) BBC (Bumper to Back of Cab) dimension, 107 inches minimum. This measurement is not to include any of the frame extension length.

 - 5.5.2 (*) Minimum shoulder width of 64 inches (measurement is from inside of door panel to opposite inside door panel.)

 - 5.5.3 Maximum OEM insulation throughout to protect against cold and noise. (Roof, back wall, floor, and firewall, to be covered. Doors are to be OEM paneled).
- 5.6 Air ride cab is acceptable.

- 5.7 Tilt Hood:
 - 5.7.1 Capable of staying open when tilted 45 or more degrees.
 - 5.7.2 Hold tie downs to be flex rubber type only.
 - 5.7.3 The hood of the truck shall be a slopped nose fiberglass tilting hood with one or more access panels which allow all daily pre-checks to be made without tilting hood.
- 5.8 For ease of engine maintenance, if equipped with a cab interior mounted engine cover (dog house), cover must be easily removed from the cab without having to remove; dash, seat(s), and/or control console. The necessary removal of International's shift pad/lever mount is acceptable.
- 5.9 Dual sun visors.
- 5.10 Exterior front upper cab mounted fiberglass or poly sun visor, painted flat black on underside only.
- 5.11 Glass:
 - 5.11.1 Safety glass throughout.
 - 5.11.2 Passenger door to include a "Visibility Window" or "Look Down Mirror" to allow viewing of the area along the right-hand side of vehicle.
 - 5.11.3 Left and right side windows to be power operated.
- 5.12 To include rear window.
- 5.13 Windshield Wipers:
 - 5.13.1 To be *EVERBLADES* with a steel frame, heated and include a separate dash mounted lighted "ON" switch.
 - 5.13.1.1 Wipers to clear a minimum of 80 percent of windshield area.
 - 5.13.2 Shall include heavy-duty, dual, electric powered, variable speed, and wipers with intermittent swipe feature.
 - 5.13.3 To include windshield washer system (largest OEM fluid capacity available).
- 5.14 Visibility:
 - 5.14.1 (*) In addition to the "Visibility Window" or "Look Down Mirror", the special heated wiper blades, the defroster fans, a high air flow heater system and an auxiliary heater, other systems may be required to keep the windows clear of snow, ice, fog, and mud build-up. Describe your system.

- 5.15 Arctic package fresh air type hot water heater and defroster, to be OEM with minimum 30,000 BTU.
 - 5.15.1 The floor of the cab shall be insulated with therma-acoustical sound barrier floor mat.

- 5.15.2 Auxiliary heater, *HUPP* or *RED DOT*, minimum 16,000 BTU.
 - 5.15.2.1 To be plumbed in series with standard equipment.
 - 5.15.2.2 To include easily accessed in-line shut off valves to prevent excessive loss of coolant when working on system.
 - 5.15.2.3 Located back wall area of cab (between the seats), with air flow directed towards driver's foot pedals and air flow not obstructed by seat or control tower(s).
 - 5.15.2.4 Heater fan motor to be separately switched with 2-speed or variable speed control.
- 5.15.3 Defroster Fans: To include two (2) each total (one each left side and one each right side), caged, two-speed defroster fans, located overhead. Switch(s) to be located for easy access by driver.
- 5.16 Air Conditioning:
 - 5.16.1 (*) To be OEM, minimum 17,000 BTU.

 - 5.16.2 (*) To be integrated into the OEM cab heater system so as to work in conjunction with the windshield defrosting system.

- 5.17 Rear View Mirrors (Exterior):
 - 5.17.1 Motorized (both left and right sides)
 - 5.17.2 To be minimum size of 90 square inches (includes main and convex).
 - 5.17.3 Mirror and brackets are to be stainless steel or anodized aluminum or powder coated steel. A poly mirror housing is acceptable.
 - 5.17.4 Main mirrors are to be motorized for minimum left/right and up/down adjustment.
 - 5.17.5 A heated convex mirror (built-in or separate), approximately eight (8) inches in diameter (semi-rectangular is acceptable) is to be included directly below the main mirror (mounting in the main mirror's housing or directly below the main mirror's housing).
 - 5.17.6 Both the main and the convex mirrors are to be heated.
 - 5.17.7 Mirror heat (both main and convex) to be thermostatically controlled or include a separate, easily accessed, switch with an "ON" indicator light.
 - 5.17.8 Controls for mirror movement and on/off heat are to be easily accessed.
- 5.18 Dome Light: OEM, interior roof mounted.
- 5.19 Cigar lighter socket for plugging in cell phone charger, etc.
- 5.20 Steering Wheel: To include tilt and telescopic feature.

- 5.21 Seats to be cloth or vinyl with cloth insert in a darker color.
 - 5.21.1 Driver's seat, high back, premium air ride, 6-way with lumbar adjust, air adjust (up/down), and fore/aft.
 - 5.21.2 Driver's seat is to include two (2) arm rests (note: the outboard arm rest may be deleted if the driver's side door panel has a molded in arm rest) and back angle adjustment.
 - 5.21.3 Companion/passenger seat, mid height or high back.
 - 5.21.4 Both seats will include 3-point lap and shoulder safety belts.
- 5.22 Storage Pouch: For shipping documents, etc., to be located on driver's door or back wall.
- 5.23 3 Point Entry To Cab:
 - 5.23.1 Handles (for three-point entry), to assist entry.
 - 5.23.2 To include exterior or interior grab handles at rear of cab door, or inside cab interior, to assist in entry or driver's side and passenger side.
 - 5.23.3 Location of entry assistance devices or handles must be compatible for a safe and secure 3 point entry and exit from the cab.
- 5.24 Entry Steps:
 - 5.24.1 Left and right side to include two (2) entry steps.
 - 5.24.2 The height and location to be proportioned for easy access to cab.
 - 5.24.3 All steps are to be full width of door area, minimum or manufacturer's standard.
 - 5.24.4 Steps are to be frame mounted and constructed of expanded galvanized, aluminum or powder coated steel, four 4 (four) to 6 (six) inches in depth, minimum.
- 5.25 Door locks.
- 5.26 Rustproof treated prior to assembly of cab interior.
- 5.27 Air Horn:
 - 5.27.1 If exterior mounted, to be located on top of cab and include snow shield.
 - 5.27.2 If under hood mounted, horn may be mounted to the outside of the frame rail and would not require a snow shield.

6.0 INSTRUMENTS/GAUGES AND ACCESSORIES:

- 6.1 In addition to what has been described in the CAB section of this specification, the unit is to include a hinged or front serviceable type panel with a full complement of dash mounted instrumentation/gauges and accessories including, as a minimum:
 - 6.1.1 Any and all gauges that show pressures, temperatures, etc., are to be in U.S.A measurements such as PSI, Fahrenheit, etc.
 - 6.1.2 Hour Meter: LCD with no moving parts, running engine activated.
 - 6.1.3 Warning lights for low engine oil pressure and high engine coolant temperature.

- 6.1.4 Voltmeter.
- 6.1.5 Engine oil pressure gauge with warning light.
- 6.1.6 Engine coolant temperature gauge with warning light.
- 6.1.7 Transmission temperature gauge with warning light.
- 6.1.8 Air pressure gauge and low pressure with warning light and audible alarm.
- 6.1.9 Fuel gauges (both tanks).
- 6.1.10 Tachometer.
- 6.1.11 Speedometer and odometer.
- 6.1.12 Parking Brake with warning light or audible alarm.
- 6.1.13 Dash or steering wheel mounted speed control, electronic cruise control type (to allow for engine warm-up and PTO requirements, to minimum 1400 RPM).
- 6.1.14 Outside Air Temperature Indicator: Electronic (12-volt) gauge to be easily viewed by driver.
 - 6.1.14.1 *ROADWATCH* system, gauge showing air temperature and road temperature, to be dash mounted in a display mounting pedestal, in lieu of the above outside air indicator. Sensor is to be mirror mounted.
- 6.1.15 All other standard instruments and equipment normally provided.
- 6.2 All switches, gauges and controls to be properly identified.
 - 6.2.1 *DYMO* type tape labels are not acceptable, and stick-on type labels are not acceptable unless they are listed in the parts book with part numbers. Otherwise, the labels are to be riveted or similar to maintain position.
- 6.3 All dials, gauges, switches, controls, and IDs to be properly lighted for day or night operation (a flexible cable night light is not acceptable).

7.0 FUEL SYSTEM:

- 7.1 There shall be two (2) each fuel tanks.
 - 7.1.1 Each tank shall have a minimum useable fuel capacity of 93 gallons.
 - 7.1.2 One (1) tank will be for the chassis engine and the other for the auxiliary engine.
- 7.2 Both tanks shall be constructed of heavy gauge aluminum with top draw and be properly fastened to the frame.
- 7.3 Both tanks will include a filler neck with chain connected cap and brass tank drain plugs shall be provided.
- 7.4 Both systems will include heated fuel/water separators installed in the supply line to the engine's fuel injectors.

8.0 BROOM AND BLOWER SPECIFICATIONS:

8.1 General:

8.1.1 (*) The broom head shall be 16 feet wide, and shall provide a swept path of 13.1 feet minimum when fully angled.

8.1.2 (*) It shall be 46 inches in diameter and be capable of producing 4820 Ft-Lbs of torque and 500 RPM.

8.1.3 (*) The air blower system capable of producing 17,300 CFM at 315 MPH.

8.1.4 The broom head and air blower shall be hydrostatic drive with infinitely variable speed hydraulic pumps and fixed displacement motors.

8.1.5 The broom shall have the ability to remove snow, ice, slush, sand and other debris at rated speeds up to 30 MPH depending on conditions.

8.1.6 To confirm this, the following must be supplied with the bid:

8.1.6.1 (*) The exact proposed broom and air blower drive power system components including engine, gearbox, and hydrostatic pumps and motors must have in field proven experience.

8.1.6.2 Prototypes shall not be allowed.

8.1.7 (*) The location and serial number along with contact and phone number of at least five airports must be supplied with the bid.

8.1.8 Engineering hydraulic power calculations confirming the broom speed and available torque values must be supplied with the bid.

8.1.8.1 This includes sizes and specifications of all components from the engine to the broom shaft including specification sheets for the broom and air blower hydrostatic pumps and motors showing type, size, and manufacture. Efficiency losses must also be accounted for. The calculations must be understandable, complete, logical, and in a mathematical order per the Society of Automotive Engineers (SAE) and the Fluid Power Society standard formulas and practices. The burdened of proof is the responsibility of the bidder.

9.0 BROOM AND BLOWER ENGINE ASSEMBLY:

- 9.1 (*) Engine shall meet emission standards applicable at the time of delivery or provide proof that they are exempt from this requirement.
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- 9.2 (*) Shall be a six-cylinder, liquid cooled, *CATERPILLAR* C-13 or equivalent turbocharged diesel engine.
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- 9.3 (*) Minimum rated 475 HP @ 2100 rpm.
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- 9.4 (*) Minimum 12.5 liter displacement.
- 9.5 Shall be equipped with electronic controls for fuel injection and engine management including an automatic shutdown system with manual override and an electrical connector for diagnostic system.
- 9.6 The engine shall be provided with a full-flow replaceable oil filter and bypass filter.
- 9.7 12-volt starter.
- 9.8 Air intake with a two-stage air cleaner.
- 9.8.1 External turbine type pre-cleaner.
- 9.8.2 Primary dry element and safety element.
- 9.9 The exhaust system with rain-cap shall be mounted on top of engine enclosure.
- 9.10 The heavy-duty cooling radiator shall be mounted as per manufactures recommendations for space considerations.
- 9.11 Heavy-duty charge air cooler shall also be mounted on top of the engine enclosure for space considerations.
- 9.12 Antifreeze protection shall have a protection of minus 40 degrees Fahrenheit at a minimum.
- 9.13 The cooling fan for the radiator and charged air cooler shall be hydraulically or mechanically driven with automatic thermostat (high / low) control.
- 9.14 Fuel shall be supplied by a dedicated useable minimum 93 gallon frame mounted fuel tank, independent of the chassis fuel system.
- 9.15 A heated fuel water separator shall be provided for the auxiliary engine.
- 9.16 Drain lines with 1/4-turn ball valves (capped or plugged off) shall be provided for engine oil, radiator coolant and hydraulic oil.
- 9.17 Engine Enclosure:
- 9.17.1 The fabricated sheet metal engine enclosure shall cover the entire auxiliary engine assembly.
- 9.17.2 It shall be weatherproof design and totally enclosed to eliminate snow ingestion.

- 9.17.3 Airflow through the enclosure must be controlled.
 - 9.17.4 The engine enclosure shall be pressurized using the cooling fan for the radiator and charged air cooler.
 - 9.17.5 It shall have four large removable doors on each side located for easy access to engine for servicing and repairs.
 - 9.17.6 Enclosure doors shall be equipped with two flexible draw latches to hold them in place during operation.
 - 9.17.7 Handles on the outside for easy removal by the operator.
 - 9.17.8 Enclosure shall be provided with three lights, two on the right side and one on the left.
 - 9.17.9 A walkway, constructed of open grating with reinforced cross members, shall extend the full length of the engine enclosure on both sides, front to back allowing access to the entire engine compartment.
 - 9.17.10 Access steps to the walkways shall be provided on both sides at the rear of the chassis.
 - 9.17.11 Tubular handrail approximately 40 inches high shall extend the full length of the walkways on both sides.
 - 9.17.12 Interruptions of walkways for the air blower chutes are unacceptable for safety and user friendliness reasons.
- 9.18 Starting Aids:
- 9.18.1 Automatic ether system or glow plugs or grid heater.
 - 9.18.1.1 If automatic electronic ether injection system, *KBI* Dieselmatic or *TURNER* Quick Start, or equivalent.
 - 9.18.1.1.1 To be wired through starter button or key.
 - 9.18.1.1.2 To include an engine safety sensor switch.
 - 9.18.1.1.3 System to be installed in engine compartment and to have maximum protection from the elements.
 - 9.18.2 Engine Block Heater: Immersion type, highest wattage available, 110 volt AC (OEM if available).
 - 9.18.3 Engine Oil Pan Heater: Immersion type, *KIM HOTSTART* Model OL41515WT/ALS68-Y or *PHILLIPS* equivalent, 110 volt AC, 150 watt minimum.
 - 9.18.4 Battery Trickle Charger: *NAPA* Model 85-300 or *SCHAUR* Model HR12C or *SCHUMACHER* Model SE-1-12S, 110 volt AC, minimum 1½ (1.5) amp or *BATTERY TENDER PLUS* 1¼ (1.25) amp, wired into the truck battery charging system. A preferred mounting location for the charger would be in the engine enclosure area.
 - 9.18.5 Power Cords:
 - 9.18.5.1 110 volt AC power cords for engine heaters and trickle charger to be plugged into a single, waterproof, 20 amp, 110 volt junction box with four (4) receptacles.

- 9.18.5.2 The receptacle box is to include a heavy-duty, but flexible in cold weather, 110 volt AC power cord with waterproof 20 amp *WOODHEAD* NEMA 5 plug or equivalent match, for use with 110 volt AC power source located at the right front broom hitch area of truck and allow for easy access by ground personnel.
- 9.18.5.3 To include matching female connector, 20 amp (to be shipped loose).
- 9.18.5.4 To include a permanent label on the cord at the plug labeled "AUX ENGINE".

10.0 16 FOOT RUNWAY BROOM ATTACHMENT:

- 10.1 It is the intent of this specification to describe a minimum 16-foot to 16 foot 6 inch maximum in length x 46 inches in diameter broom.
- 10.2 General:
 - 10.2.1 Shall be of any suitable design, pushed by the conventional cab propulsion vehicle, allowing the operator to directly observe the area being swept.
 - 10.2.2 There shall be a heavy-duty tubular steel skeleton construction with aluminum rails bolted to the skeleton structure.
 - 10.2.3 There shall be a minimum of 28 rows of steel wire cassette bristles for maximum snow moving capabilities and complete or full bristles around the entire circumference.
 - 10.2.4 (*) Core shall provide a 16 foot minimum, to 16 foot 6 inch maximum, sweeping width at 90 degrees.

 - 10.2.5 (*) Broom head must be capable of being angled a minimum of 35 degrees, to either side.

 - 10.2.6 Broom lift, rotation and angling will be accomplished hydraulically.
- 10.3 Brush and Brush Drive:
 - 10.3.1 (*) To provide a minimum 2600 pound foot torque with minimum 475 HP auxiliary broom engine.

 - 10.3.2 Brush shall be a rotating horizontal cylinder with bearings and supports at both ends.
- 10.4 Cassette Core / Bristle System:
 - 10.4.1 (*) To be sixteen (16) foot, one (1) piece, 28 row, *S.I.B.* core (or equivalent) with a 46 inch brush diameter.

- 10.4.2 (*) The core shall be dynamically balanced to acceptable values at rated RPM.
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- 10.4.3 (*) Cassette bristles shall have a mean diameter of 0.018 inch, galvanized with a carbon content of 0.81 to 0.86 percent. To include a minimum of 1750 wires per foot.
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- 10.4.4 (*) Brush strip core replaceable inserts to be S.I.B. (or equivalent) poly fastened to the core's "T" slot.
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- 10.4.5 (*) The broom shall provide a minimum 16 foot sweeping width at zero degrees.
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- 10.4.6 (*) Broom head must be capable of being angled a minimum of 35 degrees, to either side.
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- 10.4.7 Broom assembly to include manually adjustable broom hood/cover and hydraulically adjustable snow deflector.
- 10.4.8 No gaps around the circumference between the rows are permissible.
- 10.4.9 The drive sprockets shall be replaceable hardened steel.
- 10.4.10 The brush shall be driven by hydrostatic drive motor(s), end mounted to the brush cores to properly distribute drive torque through the broom head.
- 10.4.10.1 Cores to be dynamically balanced. Certification due not later than time of delivery.
- 10.4.11 (*) Brush shall be capable of varying rotational speeds, from within the truck cab, up to 500 RPM to compensate for brush wear. Please state actual RPM for the configurations proposed.
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- 10.4.12 Brush speed controlled by ground speed:
- 10.4.12.1 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.
- 10.4.12.2 The broom rotational speed shall also compensate for bristle wear to maintain a constant bristle tip speed relative to vehicle speed no matter what the brush diameter.

- 10.4.12.3 The result is that the broom rotational speed must increase as the vehicle goes faster and as the brush wears.
- 10.4.12.4 Manual override capabilities shall also be supplied.
- 10.4.12.5 To include automatic pattern adjustment feature and broom rotational speed tachometer.
- 10.4.13 Brush shall have the necessary degree of freedom to follow changes in elevation of the pavement being swept, while sweeping either left or right at the rated sweeping speed.
- 10.4.14 Brush shall sweep the same path whether angled left or right.
- 10.4.15 Brush Replacement:
 - 10.4.15.1 The assembly shall permit field replacement of brush inserts with maximum ease without special hand tools.
 - 10.4.15.2 **SPARES:** Two (2), full extra sets of cassette bristles shall be included (shipped loose).
- 10.4.16 A hydraulic elevation mechanism shall provide adequate ground clearance for transport when not in use.
- 10.4.17 An easily accessible fine height adjustment shall be provided to compensate for brush wear.
- 10.4.18 Automatic Broom Pattern Control:
 - 10.4.18.1 In addition to the manual system brush pattern adjustment, there shall be automatic broom pattern control with adjustment from the cab.
 - 10.4.18.2 There shall be a three (3) position momentary toggle switch in the cab.
 - 10.4.18.3 Toggle (or button) forward increases the pattern in predetermined increments.
 - 10.4.18.4 Toggle (or button) back and pattern is decreased in predetermined increments.
 - 10.4.18.5 These pattern adjustments can be achieved in the cab while moving and without raising the broom head.
 - 10.4.18.6 The center position is the run position.
 - 10.4.18.7 There shall be an additional three (3) position pattern control switch at the broom head for control from outside.
 - 10.4.18.8 When the switch is in the run position, a time based system shall be used to readjust the broom pattern by counting the time in the broom down position.
 - 10.4.18.9 When the preset time is reached, the broom head will index down a preset amount.
 - 10.4.18.10 At that time, the timer is reset and restarts counting.
 - 10.4.18.11 Time running in the up mode is not counted.

10.4.18.12 Manually adjusting the pattern from the cab or broom head will reset the timer.

10.5 Hood and Deflector:

10.5.1 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.

10.5.2 The hood shall be designed to prevent ice buildup during freezing slush removal operations at rated speeds.

10.5.2.1 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.

10.5.3 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.

10.5.4 Snow Deflector:

10.5.4.1 Shall be mounted on the front of the brush hood and be capable of changing the angle at which snow leaves the brush.

10.5.4.2 The deflector's angle is to be controlled hydraulically from the operator's seated position from within the cab.

10.5.4.3 Warping of the snow deflector is not acceptable.

10.6 Castor Wheels:

10.6.1 The broom shall have a minimum of two (2) caster wheel assemblies with dual or single tires, or a quantity of four (4) single tires, located behind the head and inside the sweeping path.

10.6.2 Casters shall be of the full 360 degree revolving type and include friction shimmy dampers as needed.

10.6.3 Dual tire caster axle design is also to oscillate a minimum of seven (7) degrees, both left and right of center.

10.6.4 Hubs must be demountable with steel rims.

10.6.5 (*) Tires to be minimum 180/70R8 (18x7xR8), 16 ply for increased resistance to extreme side turning loads. Tires to be foam filled with tube.

10.6.6 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.

10.6.6.1 **SPARES:** To include two (2) each, complete caster wheel assemblies ready for bolt-on to the anti-shimmy damper. This includes foam filled tires with tubes that are mounted onto the wheels that are mounted to the hubs that include bearings that are mounted onto the axles, etc. Mounting hardware, nuts, bolts, washers, etc. are to be included.

10.7 Frame:

10.7.1 Frame shall be fabricated of heavy gauge tubular or channel section steel, reinforced to prevent loading distortion and include adequate cross section modulus to ensure no torsion distortion during normal operation.

10.8 Broom Hitch:

10.8.1 The broom hitch shall provide low friction, free flotation, shock absorbing, and weight transfer for the broom head (weight transfer, is required for proper functioning of the broom).

10.8.2 The low friction, free flotation is required so that is independent of broom chassis for vibrations and bounce considerations and to accommodate surface irregularities.

10.8.2.1 A parallel arm system with a minimum four (4) horizontal pins shall be used.

10.8.2.2 The two (2) arms shall be box or "I" beam construction for torsional stiffness with appropriate diameter pins on greaseable low friction bushings, pre-lubricated type (no metal on metal).

10.8.3 (*) A weight transfer system is to be utilized to maximize vehicle tractive effort, braking, steerability, and overall handling of the broom chassis.

10.8.3.1 The pair of hydraulic cylinders shall also "free float and dampen" the parallel arms of the hitch to minimize broom bounce at high vehicle speeds.

10.8.3.2 The broom hitch must have hydraulic cylinders to provide an active shock absorbing system.

10.8.3.3 Pressure in the hydraulic cylinders provides the lift necessary to transfer approximately 40 percent of the broom weight to the chassis.

10.8.3.4 A control valve adjusts the oil in and out of the cylinders to provide the same weight transfer no matter what the surface irregularities.

10.8.3.5 The vertical stroke of the cylinders and thus the hitch shall be 12 inches minimum.

10.9 Controls:

10.9.1 Controls for the broom in the operator's cab shall include:

10.9.1.1 Variable brush speed control, up to 500 RPM.

10.9.1.2 Broom angle.

10.9.1.3 Snow deflector hood.

10.9.1.4 Broom lift.

10.9.1.5 Necessary instrumentation for broom operation.

11.0 FORCED AIR BLOWER SYSTEM:

- 11.1 Unit shall be mounted between the chassis cab and the broom engine.
 - 11.2 Forced air blower can be single centrifugal impeller type with a single or dual inlet and dual outlets. A dual impeller inlet with a dual outlet system would be acceptable.
 - 11.3 (*) Unit shall produce a minimum 17300 CFM total at 315-MPH velocity air out both sides at the same time.
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- 11.4 Both nozzles shall blow in same direction at any given time.
 - 11.5 Deflectors at the nozzle ends shall direct the flow to one (1) side or the other.
 - 11.6 The nozzle deflector's control shall be hydraulic and interlocked with the broom head angle to blow in the direction of broom casting thus controlled by the operator's joystick.
 - 11.7 The nozzle deflectors change direction as the broom swings.
 - 11.8 A separate control shall allow the nozzle deflector's direction opposite of the broom angle by choice.
 - 11.9 An additional control shall permit blowing without broom operation.
 - 11.10 All controls for the air blower shall be remotely operated from within the cab.
 - 11.11 The velocity and CFM at each nozzle shall be certified by an independent test facility and supplied with the bid.
 - 11.12 The air ducts shall rise within the width of the tires of the chassis for transport and storage.
 - 11.13 There shall be seven (7) inches of ground clearance, minimum, when raised.
 - 11.14 The impeller (or impellers) shall be independently driven via hydrostatic motor or motors.
 - 11.15 Power to the motor (or motors) shall be supplied from a variable displacement hydrostatic pump (*SAUER-DANFOSS* 90 series type or *EATON* equivalent) mounted on the engine's gearbox allowing incremental control of blower speed from 0 to 100%.
 - 11.16 The impeller / shaft assembly shall be dynamically balanced at the rated RPM.
 - 11.17 All controls for the air blower shall be remotely operated from within the chassis cab.
 - 11.18 For safety reasons and clean design, the ductwork shall be routed underneath the platforms on each side of the vehicle.

12.0 HYDRAULIC SYSTEM:

- 12.1 All hoses for all systems shall be properly sized and strength to work with the pressure and volume of oil required.
- 12.2 All hydraulic positioning functions (broom head lift, broom head swing, deflector, and air nozzle lift) shall be equipped with a hydraulic position locking system.

- 12.3 A counterbalance valve shall be used for the broom lift and a pilot operated check valve for the other functions.
- 12.4 All hydraulic functions of the broom shall be electric over hydraulic valving. Connectors to the solenoids shall be interlocking type to provide a secure connection, which can withstand normal pressure washing procedures.
- 12.5 Piloted operated check valves shall be installed for the broom swing left and right, deflector up and down, air ducts up and down, and air nozzles left and right.
- 12.6 Fluid and components shall be design for temperature to minus 20 degrees Fahrenheit ambient cold start.
- 12.7 The hydraulic fluid reservoir shall be 50 gallon minimum.
 - 12.7.1 Shut off valves for all filters below tank fluid level shall be installed to allow filter changes without loss of oil.
- 12.8 Proper filtering shall be done on both the high pressure and low pressure circuits and shall conform to SAE J931.
- 12.9 There shall be a five (5) micron absolute rating on the hydrostatic pumps' filters and placed in the charge pressure lines.
- 12.10 One (1) spare spin-on canister provided for each of these charge pressure filters.
- 12.11 There shall be a clogged filter indicator light (red in color) on the cab control panel indicating filter replacement.
- 12.12 The hydraulic oil cooler shall be mounted on top of the engine enclosure for space considerations in the engine enclosure and shall be separate from the engine radiator to ensure adequate airflow.
- 12.13 The dedicated fan for the hydraulic oil cooler shall be hydraulically driven with automatic thermostat (high/low) control for correct temperature under all conditions, winter and summer.
- 12.14 It shall be controlled by a thermostatic switch to avoid excessively cold oil operation and designed such that thermostatic failure results in the cooling fan being engaged.
- 12.15 A pressure relief shall allow cold hydraulic oil to bypass the cooler for shorter warm up times.
- 12.16 A hydrostatic oil temp gauge and warning light for low hydrostatic oil level shall also be supplied.

13.0 CONTROLS AND INSTRUMENTATION:

- 13.1 All controls shall be electric over hydraulic type.
- 13.2 All instruments and controls shall be labeled in a manner to remain legible for the life of the unit and shall be illuminated.
- 13.3 All wiring shall be either harness, cable, split loomed, or shrink-wrapped.
- 13.4 All wiring shall be color-coded, wire numbered matching drawing schematics and terminal strip, and labeled every three (3) inches as to what it is used for.
- 13.5 The gauge wire and processes shall be in accordance with common wiring practices, SXL insulation type.

- 13.6 The operator's control in the chassis cab shall include a Monitor, Diagnostics and Control (MDC) station for the broom.
- 13.7 It shall use a seven (7) inch minimum color liquid crystal display screen and use CAN (Controller Area Network) serial bus system technology.
- 13.8 As stated the MDC station must incorporate diagnostics which displays what is wrong with a particular system.
- 13.9 All systems for the broom and broom engine must be part of the diagnostics.
- 13.10 All functions and displays must be in easy reach of the operator.
- 13.11 The main MDC station shall be a removable control box at the top of a pedestal with base plate capable of mounting to the chassis cab floor.
- 13.12 The control in the chassis cab shall have all the necessary functions to operate the broom and air blower and shall have the following.
 - 13.12.1 System on / off: To include a 1½ (1.5) inch diameter e-stop type push button (twist for on, push for off).
 - 13.12.2 Multifunction CAN controlled joystick for broom head lift/lower and left/right swing. It shall also incorporate the snow shed hood lift / stow, deflector angle and broom speed control.
- 13.13 The broom swing, lift and blower nozzle shall be microprocessor controlled (no relays) and have automatic one (1) touch for cycle complete control. This allows the operator to have hands free operation during cycle movement. Moving the joystick in the opposite direction can reverse the cycle. A switch shall allow the operator to use the automatic control or disengage the system.
 - 13.13.1 MDC monitor display
 - 13.13.2 Five (5) mechanical sealed pushbuttons.
 - 13.13.3 Broom engine main operating screen.
 - 13.13.4 Engine, broom and air blower speed control and display.
 - 13.13.5 Oil pressure with visual and audible warning alarms.
 - 13.13.6 Coolant temperature with visual and audible warning alarms.
 - 13.13.7 Hydraulic oil temperature with visual and audible warning alarms.
 - 13.13.8 Engine tachometer.
 - 13.13.9 Voltmeter and warning indicators.
 - 13.13.10 Air filter restriction warning and alarm.
 - 13.13.11 Alarms for engine diagnostics and visual warning indicators and displayed faults.
 - 13.13.12 Mode selector: Auto / Manual
 - 13.13.13 Status display for:
 - 13.13.13.1 Broom / air duct coordination
 - 13.13.13.2 Weight Transfer System.

- 13.13.14 Menu selection screen, specific MDC function screens are accessed through this screen.
- 13.13.15 Video screen: Enables a video system to be manually turned on or off.
- 13.13.16 Lighting screen: Daytime / Nighttime display screen brightness selection.
- 13.13.17 Joystick / touch pad screen: This screen mimics the features of the joystick and touch pad.
 - 13.13.17.1 Joystick lift: Up / Down
 - 13.13.17.2 Joystick swing: Left / Right
 - 13.13.17.3 Deflector: Up / Down
 - 13.13.17.4 Mode: Auto / Manual
 - 13.13.17.5 Broom: On / Off
 - 13.13.17.6 Blower: On / Off
 - 13.13.17.7 Snowshed Hood: Up / Down
 - 13.13.17.8 Vibrator: On / Off
- 13.13.18 Engine Hydraulics Screen:
 - 13.13.18.1 Engine boom and blower speed control and display.
 - 13.13.18.2 Per cent engine power.
 - 13.13.18.3 Engine hour meter.
 - 13.13.18.4 Inlet air temperature.
 - 13.13.18.5 Broom hydrostatic pressure.
 - 13.13.18.6 Blower hydrostatic pressure.
- 13.13.19 Setting Screen:
 - 13.13.19.1 Joystick control, boom only, blower duct only, or both.
 - 13.13.19.2 Air blower nozzle direction: coordinate / opposite boom swing.
 - 13.13.19.3 Weight transfer with audible alarm when in off position.
 - 13.13.19.4 Core life hours.
 - 13.13.19.5 Maintenance hours.
 - 13.13.19.6 Broom hydrostatic pressure.
 - 13.13.19.7 Automatic broom pattern control.
 - 13.13.19.8 Broom Pattern: Increase / Decrease.
 - 13.13.19.9 Broom height position.
- 13.13.20 Engine diagnostics screen:
 - 13.13.20.1 Display active faults.
 - 13.13.20.2 Active faults codes.

- 13.13.21 Output diagnostics screen (display only):
 - 13.13.21.1 Individual systems output test function.
 - 13.13.21.2 Output diagnostics, last 100 fault history.
- 13.13.22 Set Up Screen: Allows authorized users to change setting, password protected.
- 13.13.23 Separate backlight touch pad.
 - 13.13.23.1 Deflector: Up / Down
 - 13.13.23.2 Mode: Auto / Manual
 - 13.13.23.3 Broom: On / Off
 - 13.13.23.4 Air Blower: On / Off
 - 13.13.23.5 Snowshed.
 - 13.13.23.6 Hood Lift.
 - 13.13.23.7 Hood Stow.
 - 13.13.23.8 Vibrator.
- 13.14 Controls located in the broom engine enclosure shall be a single circuit breaker with a master battery disconnect.

14.0 AUTOMATIC BROOM PATTERN CONTROL:

- 14.1 Automatic broom pattern control: In addition to manual brush pattern adjustment, there shall be automatic broom pattern control.
- 14.2 A time based system shall be used to readjust the broom pattern by counting the time in the broom down position.
- 14.3 When the preset time is reached, the broom head will index down a preset amount.
- 14.4 At that time the timer is reset and restarts counting. Time running in the up mode is not counted.
- 14.5 Manually adjusting the pattern from the cab or broom head will reset the timer.
- 14.6 A manager controlled activation / deactivation setting shall allow operator to adjust broom pattern from inside the cab when activated.
- 14.7 Manual adjustment (Push a button) increases the pattern in predetermined increments. Same for pattern decrease.
- 14.8 These broom pattern adjustments can be achieved in the cab while moving and without raising the broom head.
- 14.9 There shall be an additional pattern control switch at the broom head for control from outside.

15.0 PAINT:

- 15.1 The color of the truck cab and the auxiliary engine housing shall be FAA approved Yellow Chrome.
 - 15.1.1 A closed door paint job is not acceptable.
- 15.2 The top of the truck cabs hood shall be painted flat black.

- 15.3 The underside of the exterior sunvisor shall be painted flat black.
- 15.4 Two (2) poly urethane paint finish coats shall be applied with no imperfections including fish eyes.
- 15.5 The primer coat shall be an epoxy type.
- 15.6 Prior to application of the primer coat, the surfaces shall be adequately cleaned.
- 15.7 The truck wheels may be black, grey, or white.
- 15.8 The frame of the truck shall be gloss black.
- 15.9 The entire broom head shall be flat black (low gloss is acceptable).
- 15.10 Non stainless (hydraulic motors, gearboxes, hoses and electrical fixtures to be cleaned of all contamination and millscale by media blasting (exception to hoses and electrical) and then primed and painted, minimum 3.5 mils, with urethane product to manufactures recommendations, black powder coating would be acceptable.

16.0 PUBLICATIONS: (OPTIONAL ITEMS, REFER TO SECTION IV – BID PRICE SCHEDULE)

- 16.1 Two (2) each sets of the following shall be supplied upon broom delivery.
- 16.2 Operation, Maintenance, and Troubleshooting manual
- 16.3 Supplied equipment manual
- 16.4 Parts manual identifying every part on the unit both in parts list form and exploded view or schematic form in the case of electrical and hydraulic.
- 16.5 The end user will have the option to select either two (2) sets of paper publications, or two (2) sets of electronic version publications.
- 16.6 Bidder to provide pricing for either option on the Bid Price Schedule.
- 16.7 Also refer to Section I – Special Terms and Conditions, item 8.0 through 8.7.

17.0 START UP AND TRAINING: (OPTIONAL ITEM, REFER TO SECTION IV – BID PRICE SCHEDULE)

- 17.1 Bidders must be an established, authorized dealer of the broom and air system being bid and employ factory trained service technicians.
- 17.2 The unit must be fully assembled and tested prior to delivery.
- 17.3 Shipping costs is the responsibility of the bidder.
- 17.4 A qualified factory representative must fully install, start-up, and tests the unit prior to training.
- 17.5 Training on the broom and air system shall be performed by a factory trained and authorized technician(s).
- 17.6 The purpose of this training is to review safe and effective procedures for use and maintenance of the machine, review and test all systems, assure the full function of the machine.
- 17.7 The vendor shall provide factory trained service representative(s) to be in attendance when the unit is delivered.

- 17.8 The 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.
- 17.9 Two (2) days of training to be at the Barrow Airport maintenance facility.
- 17.10 The bidder is responsible for the instructors being on time for the training.
- 17.11 The training shall be performed at the customer's site and shall be a total of eight (8) hours for operators training and and eight (8) hours for mechanics training (mechanics shall attend the operating training first). Training will be for two (2) different shifts of personnel, split into two (2) days
- 17.12 Training to be done Monday through Friday only.
 - 17.12.1 Operator training to include the following, as a minimum applicable agenda for the Broom and Blower Unit:
 - 17.12.1.1 Operating procedures per operating manual.
 - 17.12.1.2 Break-in procedures.
 - 17.12.1.3 Equipment limitations.
 - 17.12.1.4 Operator maintenance.
 - 17.12.1.5 Before operations checks and lubrication.
 - 17.12.1.6 Safety.
 - 17.12.1.7 Cold weather operations.
 - 17.12.1.8 Jump starting.
 - 17.12.1.9 Welding on equipment.
 - 17.12.1.10 Towing or transporting equipment.
 - 17.12.1.11 Instruments and controls.
 - 17.12.1.12 Gauge interpretation.
 - 17.12.1.13 Equipment operation, Do's and Don'ts.
 - 17.12.1.14 Attachment operation, Do's and Don'ts.
- 17.13 Mechanic Training (Journeyman level):
 - 17.13.1 To include a minimum of one (1) each 7 ½ (7.5) hour shifts.
 - 17.13.1.1 Day shift will start at 7:30AM.
 - 17.13.1.2 Swing shift starts at 3:30PM.
 - 17.13.1.3 5 mechanics are to be trained.
 - 17.13.2 Mechanic training including the following theory, trouble shooting, and test procedures for, as a minimum applicable agenda:
 - 17.13.2.1 Electronics.
 - 17.13.2.2 Electrical.
 - 17.13.2.3 Hydraulics.
 - 17.13.2.4 Air system.

- 17.13.2.5 Drive train information relating to machine operation.
- 17.13.2.6 Engine and transmission electronics relating to machine operation.

18.0 MISCELLANEOUS ITEMS:

- 18.1 Weather proof outdoor cab mounted VHF radio loud speaker.
- 18.2 Plug in (weatherproof) broom engine oil heater.
- 18.3 Plug in (weatherproof) hydraulic oil tank heater.
- 18.4 Ether starting system –Engine ECM controlled for the blower and power pack engine.
- 18.5 60/40 coolant mixture to minus 50 degrees Fahrenheit.
- 18.6 Remote drain lines (engine coolant, engine oil and hydraulic fluid) for broom portion shall include ¼-turn ball valves) to be plugged or capped).
- 18.7 Hydraulic tubes, hoses and fittings used shall conform to SAE J514, J516, J517 and J524. A minimum number of fittings, joints and connections shall be used to prevent excessive backpressure, vibration and leakage. Hydraulic lines shall be of sufficient size to permit free flow of hydraulic fluid at temperatures down to minus 40 degrees Fahrenheit.
 - 18.7.1 (*) A letter of certification/approval from the manufacturer of the hydrostatic drive system components for chassis and rotary head shall be included in the bid package.

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- 18.8 Filters: All elements where applicable to be spin-on type and be easily accessible.
 - 18.9 Component Sourcing:
 - 18.9.1 Due to critical nature of vehicle mission and parts support, only current production componentry shall be supplied.
 - 18.9.2 (*) The bidder shall provide assurance that only unused, newly manufactured components are supplied.

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- 18.10 Broom speed tachometer with broom hydrostatic pressure gage, both in cab.
 - 18.11 Broom head vibrator, cab controlled with an on / off rocker style switch.

19.0 PRE-DELIVERY INSPECTION:

- 19.1.1 As per Section I – Special Terms and Conditions.
- 19.1.2 A pre-delivery inspection is required. Refer to Section I – Special Terms and Conditions, paragraph item 12.0.

END OF SPECIFICATIONS

BID PRICE SCHEDULE

BID SCHEDULE INSTRUCTIONS:

All bids must include both unit pricing and extensions and be otherwise complete in the format requested.

DELIVERY: Indicate, in the space(s) provided, the time required to make delivery after the receipt of an order (ARO). Failure to make an entry in the space(s) provided will be construed as an offer to deliver within "Required Delivery" NUMBER of calendar days ARO. Bids which specify deliveries in excess of "Required Delivery" NUMBER of calendar days ARO will be considered non-responsive and the bid(s) will be rejected.

The materials, equipment or services bid will conform to and meet the requirements of the Contract Bid Documents and are hereby incorporated into this document:

Complete the attached bid price sheets and return with other bid documents as required in Section II – Standard Terms and Conditions, paragraph 13.

BID SCHEDULE

LOT #1

Item #	Unit	Description	Total \$ Amount
1a	ea.	Chassis Mounted 16 Foot Runway Sweeper Broom With Air Blower Unit Per specification #549-16FT, contained herein. State Class # 549 Chassis: Year, Make & Model Offered: _____ Air Blower and Broom: Year, Make & Model Offered: _____	\$ _____
1b	ea.	2 sets of Paper Publications (As per Spec. Section III Item 16.5)	\$ _____
1c	ea.	2 sets of Electronic Publications (In lieu of paper) (As per Spec. Section III Item 16.5)	\$ _____
1d	ea.	Training in Barrow AK (As per Spec. Section III Item 17.0)	\$ _____

The actual F.O.B. point for the item purchased under this contract is Fairbanks 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 160 days after receipt of order (ARO). Early delivery is preferred**

Offered Delivered Time: _____ Days ARO.

Publications: Two (2) set, per Section I, line 8.5. (refer to section IV - 1b, and 1c)

Weight Scale ticket, as per Section I Item 10.0 is to be provided along with the Manufactures Statement of Origin.

TOTAL FOR AWARD PURPOSES (Items 1a through 1d) \$ _____

Note: Lot 1 Total is for bid evaluation purposes only, pricing is required for all above items, optional items will not be purchased separately.

Wired LCD Display (Optional, Pricing Not Required)

If you have a wired remote control box that incorporates an LCD display that provides information such as engine tachometer, engine oil pressure, engine coolant temperature, hydraulic pressure, warning lights, etc., please provide us an optional price of that, in lieu of the remote control box required. Additionally, provide with the bid package just what would be provided. This cost will not be used for bid evaluation purposes.

Wired LCD Display -----\$ _____

END OF PRICE SCHEDULE

END OF BID PACKAGE