



STATE OF DELAWARE
EXECUTIVE DEPARTMENT
OFFICE OF MANAGEMENT AND BUDGET

03/15/2016

TO: ALL OFFERORS

FROM: THERESA NEWMAN
STATE CONTRACT PROCUREMENT OFFICER

SUBJECT: ADDENDUM TO REQUEST FOR PROPOSAL NO.:GSS16617-HEAVY_TRUCKS

ADDENDUM #2

The purpose of this addendum is to describe the "Wing Plow" of Specification F.

22. **WING PLOW SPECIFICATIONS:**

22.1. **INTENT STATEMENT:**

- a. The purpose of these specifications is to describe a full floating patrol wing plow with tripping action and telescoping action mechanism and a capability to lower the assembly into the travel position for improved visibility and to allow emergency egress. The plow shall be **The Glendhill Road Machinery Front Mount, Model No. 11RH with 11' length or approved equal. It shall also include the Whelen Model MPBB warning light. Full details is as described in the following documentation.**
- b. It shall be the responsibility of the vendor to certify through proper chassis stress analysis the adequacy of the existing truck frames to accommodate the patrol wing plow in addition to a front mounted plow weighing approximately 3500 LB.
- c. The aforementioned plow will be used for "severe duty" high-speed plowing by the Delaware Department of Transportation.
- d. The Patrol Wing shall be designed to be attached or detached independently from the frame assembly. It shall be installed in such a manner as to ensure quick access to the engine and all accessories. (Hood on dump truck shall tilt without obstruction.)
- e. All parts not specifically mentioned, which are necessary in order to provide a



complete snowplow shall be furnished by the successful bidder. The plow fabrication and assembly shall be to the latest engineering techniques.

- f. All steel unless otherwise specified, shall be hot-rolled steel (HRS) as per ASTM A-36.
- g. When wing assembly is disconnected from the truck, no parts may extend past the bodyline of the truck.
- h. Areas of the wing plow tubes and cylinders that are likely to be stepped on when in the down position shall be coated with anti-skid paint, tape is unacceptable.
- i. All bolts shall be grade 8.
- j. All cylinder rods shall be Chrome or Nitride plated

22.2 **Wing Plow Shock Absorbing Rear Wing Brace:**

- a. The rear wing brace shall be a minimum of a single fixed hinge pin type with an adjustable bottom wing brace, or the formed type wing tube support to attach to a single fixed hinge pin. The rear wing brace shall be equipped with a telescoping arm and an adjustable type tension spring. If required by manufacturer. The rear wing "A" frame support strut/girder arrangement of MC 7 inch x 22.7 LB/feet, minimum channel, or fabricated from 7 inch x 12.25 LB/feet channel, 6 inch/feet x 8.2 LB/feet channel, .500 inch plate, 6 inch x 4 inch x .3750 inch structural tubing and other component pieces. It shall be attached in such a way that the load is properly distributed to both chassis frame rails. "A" frame shall be detachable for summer use. Ref: EQN-60A. One (1) top wing brace cylinder constructed of 3 inch x 15 inch minimum single acting ram, chrome/Nitride plated piston rods. Adjustable trip-spring mounted from wing lift cylinder housing to the back of wing. The rear brace shall be equipped with a 3 inch x 24 inch or 3 inch x 15 inch DA cylinder to actuate the telescoping strut with crossover relief. Bottom wing brace constructed of four in/10cm O.D. square outer tubing with a 3 inch O.D. square inner tube. Wear guides are welded to inner side of four in/10cm tube and to the outside of the 3 inch tube to prevent binding. The rear wing lift cylinder will be a double acting 3 inch x 27 inch minimum cylinder, chrome plated piston rods with neoprene packing. Cylinder shall float with a 500-PSI relief on the down side. The tripping spring/eyon rubber compression will be mounted to allow the wing to trip in any of the telescoping positions. The spring/eyon rubber compression shall be adjustable and have a quick release handle to remove tension for detaching the wing. The spring/eyon rubber compression will also be mounted to have tension on the wing in all telescoping positions. The telescoping strut cylinder shall have incorporated



in the hydraulic system an adjustable pressure relief valve for safety, when contacting heavy objects.

22.3 Front Wing Mast:

- a. Wing mast shall not block the O.E.M. headlight. Minimum 7 inch x 15.3 LB/feet I Beam shall be used for the wing post. 5/8" inch minimum steel wing post slide lift with 10" minimum lift from ground to bottom of plow edge for travel. Front wing post cylinder double acting ram - direct (no cables) with float and 500 PSI relief on the down side is required. Cylinders shall be chrome/Nitride plated piston rods with adjustable chevron type packing, neoprene wipers and bleed screw. All hydraulic hoses, shall be SAE 100RZ, 022700. Front wing post and support strut/girder arrangement shall be attached in such a way that the load is properly distributed to both chassis frame rails without the use of bracing tubes. Support struts shall be 1.250-inch diameter schedule 80 ASTM A106 Grade A or B seamless pipe brace, minimum of two. One strut shall be mounted to chassis frame. One strut shall be mounted to plow frame. Horizontal support girder 7 inch cross channel or 7-inch ship and car channel at 22.7 LB/feet or tubing 7 inch x 4 inch x .3750 inch. Bolts shall be minimum grade 8, .6250 inch N.C. Hinge assembly shall be detachable from the slider assembly of the wing mast. Formed wing post mounted on cross tube mounted to truck frame members. Wing slide plate bears on flanged surfaces of formed channel enclosing single acting cylinder, which provides full power up. Wing Plow Alarm (Mechanical): Wing plow shall have a mechanical alarm system to alert the operator of the position of the plow. It must be visible from the driver's seat. Ref: EQN-60A.

22.4 Plow Markers/Guides:

- a. There shall be two vertical plow guides on the front wing post. One shall be mounted to the stationary plow frame and one shall be mounted on the lift frame. Guides shall be mounted in close proximity of one another. Guides shall be visible from driver's seat and the tops of the guides shall align when the wing plow is in the down position. Ref: EQN-60A

22.5 Hydraulic Power:

- a. The front wing mast shall have a double acting cylinder vertical lift type, hydraulically controlled by a double acting cylinder direct lift. The front cylinder shall have quick connect coupler/s.

22.6 Double Acting Cylinder:

- a. A 3 inch x 15 inch minimum double acting cylinder from rear "A" frame to



mold board to raise the rear of the wing and fold the wing close to the truck for transport.

22.7 Snow Leveling Wing:

- a. The wing assembly shall in no way interfere with the turning of the right or left front tire. The wing shall not be less than 11 feet long overall, 27 inch (minimum) high at the front and 34 inch (minimum) high at the discharge end. The moldboard shall be fabricated from 0.1719 inch thick (eight USS gauge) minimum steel and weigh a minimum of 755 LBS. It shall be drilled to accept standard AASHTO spacing as shown on attached drawing EQN-16A.

22.8 Steel Blade:

- a. The cutting edge shall be of ½" x 6" C1090 steel, at least 10 feet long. The wing plow shall have two cast wing shoes. The patrol wing shall be hydraulically operated with the controls conveniently mounted, in the truck cab with the addition of three valves to the existing valve bank. These valves shall provide lift to the front of wing, the rear of the wing and the folding of the wing toward the cab and control in and out of the strut. The front of the wing shall be controlled by a single acting ram mounted within wing post that permits the front of the wing to be vertically lifted for transportation purposes. The rear of the wing shall be hydraulically controlled and attached to tele-strut and a 3"/7.6cm x 24"/61cm single acting cylinder with 3/8" quick disconnects, (male, female, cap and plug) which shall be connected to a 7" sloped channel located under the dump body and at the rear of the truck cab. The 7" channel shall be adequately supported by brackets and cross braces to the truck frame. Bottom bracing shall extend to the rear with bridge type bracing.

22.9 Tripping:

- a. The wing shall be of the full tripping type consisting of a special spring-loaded front end. Tripping actuation shall be accomplished through a .8750-inch diameter wire torsion spring at the front end and a tension spring attached to the front and rear of the wing or eyon rubber compression system. Each spring shall be adjustable and shall automatically return the wing to its normal plowing position after it has passed over the obstruction encountered. Provision for locking out the tripping action shall be supplied for operations requiring a rigid wing.

22.10 Knuckle:

- a. The wing knuckle link at the rear of plow mold board connection shall be of a cast design. The use of welded together components is unacceptable.



22.11 PLOW IDENTIFICATION:

- a. Each unit shall bear the manufacturer's model number, serial number and weight affixed to the plow, by means of a permanently affixed non-rusting metallic tag located on the right hand backside of the moldboard as viewed from truck operator's seat.

22.12 PAINT:

- a. Color: DuPont F9885, PPG 85246, Sherwin Williams 73266, or NAPA 73266 for shade only. All metal surfaces shall be cleaned prior to primer and final painting. Frame and mounting hardware shall be primed and painted black (with hardener) low VOC. All bare metal surfaces shall be coated using etching primer prior to paint. All surfaces shall be properly cleaned and prepared prior to paint, with all weld splatter and debris removed.

22.13 CONSPICUITY TAPE:

- a. The rear of the wing plow shall have a strip of retro-reflective sheeting across the top and down the outside in order to outline the plow when viewed from the rear. Material shall be: 2 in/5.08 cm wide Reflexite Conspicuity II System of 3M Scotchlite Conspicuity Series 980, red/silver continuous backing. Ref: EQN-60A.

22.14 WING PLOW LIGHT:

- a. The rear of the wing plow shall have a Whelen part # PAWINGWR light permanently mounted facing rearward and set to be a red steady burn. Light shall be controlled by a COMUS part # CB08-90 mercury switch. Light shall be wired to be on only when the plow is in the down position. There shall be a Deutsch connector installed at the front wing hinge point to allow for easy removal. All wiring connections shall be sealed and water tight. The wing plow manufacturer shall weld a 1/2" ID steel pipe on the rearward face of the plow, **prior to painting**. Pipe shall serve as a conduit to run the wiring for the light. Pipe shall be mounted toward the top and run across the entire length of plow webbing. Ref: EQN-60A
- b. There shall be a Whelen part # PAWINGIL to illuminate the wing plow. Light shall be mounted on the curb side of truck. Light shall be controlled by a dedicated, illuminated, dash mounted switch.

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