

## PennDOT Dump Truck Specification Changes

**Disclaimer:** The following is being supplied for the benefit of potential bidders. It is the sole responsibility of the bidder to meet "ALL" the requirements within the specifications and drawings in the bid package.

- The single axle and crew cab have been changed to read "DIESEL, MIN. 270 HP AT GOVERNED RPM, MIN. PEAK TORQUE OF 860 LB/FT TORQUE, MIN. 7.6 LITER (actual engine liters)."
- Section I. D. 3. For the Single, Crew cab and Tandem have had the following option added. "Trailer air brake: Per invitation to bid; Unit shall be equipped with factory installed trailer air brake control package. To include dash mounted, graduated, hand operated, trailer service brake trolley control valve. Body builder to mount and install Phillips STA-LOCK glad hands (1 each part numbers 12-4906 and 12-4908), location to be determined at pre build meeting Ref: EQN-81X. "
- Section I. D. 4. For the Single, Crew cab, Tandem and Tri axle have had the following added.
  1. "Grab handles shall be supplied on all cab entry locations. Three points of contact shall be achievable at all cab entry locations."
  2. "Dual windshield wipers, arctic type with the heaviest arms, linkages and motor available. Wipers shall be minimum 2-speed electric with intermittent feature."
  3. Seats section (Seatbelts shall be High Visibility Orange).
- Per the Intent statement and EQN-76 for the Single axle and Crew cab. The body length has been changed to 11 feet. Therefore the Wheelbase and CA was increased by 12 inches.
- Section I. D. 4. For the Single, Crew cab, Tandem and Tri axle have had the following added. "Battery Mounting: Mounting shall include the following:
  - a.) 0.25 inch thick rubber shock pad under the battery.
  - b.) Box with cover. Cover shall be constructed of fiberglass, poly, or aluminum (if aluminum there shall be an insulated liner).
  - c.) Mounting bolts shall be grade 8 with self-locking nuts."Mounting of accessories within the battery box is prohibited."
- Section I. D. 8. For the Single, Crew cab, Tandem and Tri axle have had the following added.
  1. Automatic idle shutdown shall be set to five (5) minutes.
  2. ECM shall be set to a maximum of sixty five (65) miles per hour.
  3. Replaceable heavy-duty oil filter(s) as recommended by the manufacturer and bearing a legible OEM part number.
  4. A non-charged spin-on coolant filter shall be installed if required by engine manufacturer.
- Section I. D. 9. For the Single and Crew cab have had the following option added. "Engine Brake: Per invitation to bid: Engine shall be equipped with a minimum 2 stage, full engine compression brake, Ref: Jacobs."
- Section I. D. 14. For Single axle, Crew cab, Tandem and Tri axle has been changed. "Cab shall be painted PennDOT yellow Ref: Dupont F9885, PPG 85246, Sherwin Williams 73266, or NAPA 73266 for shade only."
- Section I. D. 18. For Single axle and Crew cab was changed. "Trucks shall

have one (1) 80 GAL minimum total capacity tank, frame mounted, under the left door.

- **Section I. E. 1. For the Single, Crew cab, Tandem and Tri axle have had the following added or changed.**

1. Rear Bolster: Shall be one-piece design, 3/8" x 6" minimum 6061-T6 aluminum, it shall be completely welded. Ref: EQN-81X. **The notch cut out for the hydraulic hose access was removed.**
2. Underride protection shall be supplied in accordance with EQN-118.
3. Spinner and auger hydraulic lines shall be supplied in accordance with **EQN-100**. Lines shall be properly sized and hard piped. Each side shall have 1 each male and female series 5600 quick couplers. Lines shall have a permanent metal tags identifying each line, IE: Spinner, Auger & returns.
4. **Note:** There shall be 2 steps mounted on the front, inside of the bed on the driver's side. Steps shall be Bustin part # DE0602, installed on a diagonal and evenly spaced. Ref: **EQN-81Y**.
5. **Single Axle, Crew cab and Tandem** "There shall be 2" by 10", full length, rough oak side boards securely installed on both sides."
6. **Tri axle** "There shall be 2" by 4", full length, rough oak side boards securely installed on both sides."
7. Steel Body Props: EQN-62 has been revised/
8. **For the Single axle and Crew cab** Front Body Bulkhead: Height was raised to 56 inches.
9. **For the Single axle, Crew cab and Tandem.** Wind Deflector: There shall be a full width wind deflector **bolted** to the top of the front bulkhead to completely fill the gap between the front bulkhead and the stationary cab protector. Wind deflector shall be constructed using .190" thick aluminum. Ref: EQN-76. and EQN-79A
10. Whelen lighting system part numbers have been changed as follows.
  - Body Lighting System: Whelen model # PADOTSY1 = Single Axle
  - Body Lighting System: Whelen model # PADOTSY2 = Crew cab
  - Body Lighting System: Whelen model # PADOTSY3 = Tandem
  - Body Lighting System: Whelen model # PADOTSY4 = Tri axle

- **Section I. E. 2. For the Single, Crew cab, Tandem and Tri axle have had the following changed.**

**Pre-wet: Per invitation to bid**

Single 120 gallon poly tank and plumbing kit with stainless tank enclosure and mounting hardware. Tank fill shall be at ground level. Prewet pump shall have a flushing system utilizing a common garden hose. Reference: Component Technology tank part number SG06030044-A, plumbing kit SG06090041. Pre-wet tank shall be securely mounted to the fixed cab shield as per EQN- 76. Pre-wet enclosure part Number SG06010050. Final mounting location shall be determined at pre-build meeting. Pre-wet liquid supply line shall be plumbed to the rear module. Ref: EQN-81X.

Or

Single 120 gallon poly tank and plumbing kit with stainless tank enclosure and mounting hardware. Tank fill shall be at ground level. Prewet pump shall have a flushing system utilizing a common garden hose. Reference: GVM tank part number 52-00786, Pre-wet tank shall be securely mounted to the fixed cab shield as per EQN- 76. Pre-wet enclosure part Number 52-00875. Final mounting location shall be determined at pre-build meeting. Pre-wet liquid supply line shall be plumbed to the rear module. Ref: EQN-81X.

- **For all Wing equipped trucks Section I. G. 7. WING PLOW LIGHT:** The rear of the wing plow shall have a Whelen part # PAWINGIL 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

- **Section I. E. 3. Tandem option.**

**TARPING SYSTEM: (Option Per Invitation to Bid)**

Tarp Spool: Shall have a one piece aluminum wind deflector, this can be integrated into the body. It shall include an extruded aluminum roll pipe with 5 full length threaded grooves for easy tarp installation. Extrusion shall be a 6005 T5 aluminum and shall have a steel stub shaft to connect it to a grease able bearing on the idler end of the roll pipe. The steel stub shaft shall be Nitro Carburized to prevent corrosion. Zinc plating is insufficient.

Gear Motor: Shall be a 12 volt Electric Gear Motor designed to operate at under 35 amps. Gear case to be chrome plated, snap or bolt over gear case covers are not acceptable. Gear case output shaft shall be tool steel and be nitro carburized to prevent corrosion. All gears and gear motor assembly to be made in America. Gear motor to have a minimum of a 3 year non-prorated limited warranty against wear out and manufacturing defects.

Controls: System to be operated by a low voltage in cab switch - relay and all high voltage wires to be kept outside the cab of the truck. For safety there is to be a maximum of a 35 amp circuit breaker mounted at the power supply in the tarp system circuit.

Pivots: Shall be mounted on the flat face of the shedder rail on a 1 ¼" aluminum pivot pin. Pivots shall contain Teflon coated spiral torsion springs. Double helix spiral torsion and other forms of torsion springs are not acceptable. Spring tension to be adjustable by simply relocating a tension adjustment pin without unbolting the pivot pin itself. Where the arm connects to the pivot pin it must ride on a self lubricating poly bearing. Metal on metal pivots will not be accepted.

Spring pack to be an open design allowing moisture and contaminants to naturally clear out of the springs. Enclosed spring packs are not

acceptable. Pivot arms shall be American made 6005 T5 aluminum extrusions and be universal driver to passenger side.

Bow Set: Shall be a 3 piece 6005 T5 aluminum straight arm extrusion set. Pre-bent side arms will not be accepted. They shall connect to the pivots in a telescopic fashion and be universal driver to passenger side allowing for ease of install and adjustment. Shall provide the following options for bolt on accessories to accommodate varying truck configurations:

30° or 45° offset elbows

Pivot tube mounted tension bow (in cases where there is more than 8" of drop behind bulkhead)

Tarp: Shall be a 22 oz vinyl coated material. Material shall have a "Rip Stop" construction consisting of a 1300 x 1300 denier – 24 x 23 thread per inch weave. To have 18" Rear Corner reinforcements.

Shall be equipped with the following:

- 12" Side Flaps
- 12" Tail Flap
- Full Flap Length Shock Cords (for tie down purposes)

Ref: Roll Rite

• **Section I. E. 4. Tandem option.**

**ZERO VELOCITY SPREADER: (Option Per Invitation to Bid)**

Truck shall be equipped with a Tyler Ice ZV spreader.

Spreader shall be completely controlled through the Freedom controller. Spreader, brackets and quick mount brackets shall be stainless steel.

The venturi is to be rigidly mounted from the rear of the truck frame with provisions for quick detachment / installation.

The venturi mechanism shall be constructed from stainless steel material.

The auger portion of the unit shall also allow for quick disconnect/installation of the air and liquid systems. There shall be a direct drive hydraulic motor for the auger and air system.

There shall be a hydraulic valve for the spreader to provide for fan, auger and swing cylinder functions. The auger motor shall be a 21 cubic inch hydraulic motor with integral pulse pickup for monitoring RPM. The hydraulic system shall have overload protection (pressure relief) to protect both motor and mechanical systems.

There shall be a 6 inch centrifugal fan.

The auger shall be 6 inch and be powered by a Char-Lynn hydraulic motor with integral RPM sensor. The salt brine system shall have a check valve with a 5 psi setting.

The opposing end of the auger shall be supported by a sealed four bolt mounted bearing. Auger shall have a nominal .3750 inch flight thickness.

The liquid injection system shall be capable of injecting an activation liquid into the venturi air system. All electrical wiring shall be sheathed and all connections heat shrunk and/or connected with weather pack connections.

Where final connections are to be made at installation, all shrink tube and pack connections shall be supplied by the successful vendor in the kit.

Hydraulic connections shall be quick disconnect, with boots for use during storage.

There shall be an auger empty sensor with indicator light. There shall be a venturi positioning sensor with three (3) position indicator lights.

All hosing, valves and fittings shall be supplied and come as a complete turn key unit. Spreader shall be tested and calibrated. Each unit shall bear the manufacturer's model number and shall incorporate a non-rusting metal individual serial number properly affixed.

- **Section I. E. 5. Tandem option.**

**TOW PLOW, ANTI ICE UPGRADE OPTION: (Option Per Invitation to Bid)**

The following shall be supplied in lieu of base hitch assembly.

Intent: Vehicle shall be capable of towing / operating a Viking Cives TP26 tow plow. It is understood that the components specified are minimum and if the vendor's Engineering Department recommends or deems necessary, additional components, it shall be the successful vendor's responsibility to ensure complete 100% compatibility and successful integration / operation. The burden of responsibility is hereby placed upon the vendor's Engineering Department to supply a unit that is totally engineered.

Hitch: Shall install a heavy-duty 1" hitch plate attached and be reinforced to chassis frame.

Incorporate ICC bumper.

Provide and install, at 26" from ground to center of hitch eye, a Holland PH400 pintle hitch.

Install (2) heavy-duty 1" diameter D-ring safety chain loops rated at 47,000 lbs.

Hydraulics: Shall supply and install any additional circuits to operate tow plow (with anti-icing package), including all hydraulic components, valves, hoses, fittings and electrical components to control plow lift, steering and anti-icing system on tow plow. All functions shall be operated through the Freedom controller.

Truck shall be a complete turn key to operate a Viking Cives TP26 tow plow.

- **Section I. E. 6. Tandem option.**

**TOW PLOW, GRANULAR UPGRADE OPTION: (Option Per Invitation to Bid)**

The following shall be supplied in lieu of base hitch assembly.

Intent: Vehicle shall be capable of towing / operating a Viking Cives TP26 tow plow that is equipped with an 8 cu yd granular hopper and a 225 gallon pre-wet system. It is understood that the components specified are minimum and if the vendor's Engineering Department recommends or deems necessary, additional components, it shall be the successful vendor's responsibility to ensure complete 100% compatibility and successful integration / operation. The burden of responsibility is hereby placed upon the vendor's Engineering Department to supply a unit that is totally engineered.

Hitch: Shall install a heavy-duty 1" hitch plate attached and be reinforced to chassis frame.

Incorporate ICC bumper.

Provide and install, at 26" from ground to center of hitch eye, a Holland PH400 pintle hitch.

Install (2) heavy-duty 1" diameter D-ring safety chain loops rated at 47,000 lbs.

Hydraulics: Shall supply and install any additional circuits to operate tow plow (with an 8 cu yd granular hopper and a 225 gallon pre-wet system), including all hydraulic components, valves, hoses, fittings and electrical components to control plow lift, steering and anti-icing system on tow plow. All functions shall be operated through the Freedom controller.

Due to dual spreader operation (truck and tow plow), a second control system must be added to the cab of the vehicle. The second control system shall be a Certified Power-Component Technology control system that will control and capture all of the data from the tow plow. The second control system can be attached to the current systems pedestal as long as the weight can be properly supported. All electrical connections, mounting and functionality shall be installed as per the current systems installation standards. There shall be modification to the current Freedom Control System for the operation of all existing and additional circuits to operate the tow plow, including all hydraulic components, valves, hoses, fittings and electrical components to control plow lift, steering and pre-wet system on the tow plow. All newly installed modules and valving shall be mounted in a vendor supplied weather tight enclosure on the tow vehicle. This enclosure shall not interfere with the operation of any other components and shall be securely mounted in an easily accessible location.

Truck shall be a complete turn key to operate a Viking Cives TP26 tow plow.

- **Section I. D. 2A. Tri Axle have had the following changed.**

**PUSHER AXLE:**

Axle shall be mounted forward of rear tandems and shall incorporate air lift.

Height of lift axle shall be determined by successful vendor. Successful vendor shall utilize the same front wheels (quantity- 2) referenced in section: **19. WHEELS/TIRES:** of this specification. Vendor shall supply/mount either Goodyear or Michelin tires with highway tread design on all tag axle wheels (quantity- 2). Vendor shall be responsible for legal air reserves. Axle shall include all in-cab controls and air pressure gauge(s). Ref: Neway tag series with AL series air lift, Turner/Hendrickson, Watsin & Chalin WCAL-2200 Series. **(No substitute, standardization).**

- **Section V.WARRANTY: For the Single, Crew cab, Tandem and Tri axle have been changed.**

1. **ENGINE WARRANTY:**

The successful vendor and or supplying OEM shall provide the Department with a 100% parts and labor engine warranty FOR 60 months / 150,000 miles / 5,400 hours minimum. In addition to the engine warranty,

the engine block shall be warranted against external perforation from corrosion for 10 years, 100% parts and labor.

**NOTE:** The oil pan shall be warranted against corrosion, rust, rust thru etc. regardless of atmospheric conditions for 5 years, 100% parts and labor.

**2. EMISSION WARRANTY:**

The successful vendor and or supplying OEM shall provide the Department with a 100% parts and labor warranty for all emission related components to include the diesel particulate filter (DPF) FOR 60 months / 150,000 miles / 5,400 hours minimum. Shall be warranted against corrosion, rust, rust thru etc. regardless of atmospheric conditions.

**3. CENTRAL HYDRAULIC SYSTEM:**

Complete Central Hydraulic system and components 1-year 100% parts and labor including but not limited to the following:

- Rexroth Valve
- Controller
- Electronic Joysticks

**All wiring harnesses shall be warranted for 5 years 100% parts and labor.**