

SPECIFICATIONS  
A-48-DN-A-AL

**60800**

TRUCK, PAINT SUPPLY

**20 FOOT BODY, 72,000 LB GVWR, CONVENTIONAL CAB, W/ TAG OR PUSHER AXLE**

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I. SPECIFICATION INFORMATION:

A. INTENT STATEMENT:

The purpose of these specifications is to describe a conventional cab dual rear axle truck with tag or pusher axle (**per invitation to bid**), equipped with a 20 foot platform flat bed. It shall be capable of carrying paint and glass bead containers.

NOTE: Pennsylvania Department of General Services, PCID No. 1075, "*General Requirements for Bidding PENNDOT Vehicles/Equipment*", most current version effective at the time and date of bid opening is included as a part of this specification. PCID No. 1075 may be reviewed and downloaded from the Department of General Services website, <http://www.dgs.state.pa.us>.

Delivery as required per Department of General Service PCID NO. 1075 Section "G". All units must be delivered within **240 days** after receipt of the purchase order by the successful bidder.

B. WEIGHT DISTRIBUTION:

Weight slip shall be submitted with the Pilot Model.

It is understood that the components specified are minimum and if the truck manufacturer's Engineering Department recommends or deems necessary, due to their particular weight distribution, a larger component or a large GAWR totally, the burden of responsibility is hereby placed upon the Manufacturer's Engineering Department to supply a unit that is totally engineered.

1. Frame
2. Axle
3. Tires
4. Steering components
5. Rims
6. Suspension
7. Brakes
8. Any other items as required

The dynamic and static loads created by the unit, plus operational stresses, must be reviewed to insure the Commonwealth of a properly designed/engineered unit.

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II. GENERAL TRUCK SPECIFICATIONS:

A. POWER TRAIN OVERVIEW:

**ENGINE** – DIESEL, MIN. 425 HP AT GOVERNED RPM, MIN. PEAK TORQUE OF  
1540 LB/FT TORQUE, MIN. 12.4 LITER (actual engine liters).

**TRANSMISSION** – AUTOMATIC ALLISION 4500 RDS

**REAR AXLE** – DANA D46-170-P  
MACK S462  
MERITOR RT46 -164 -P

NOTE: All rear axles must provide axle shafts with a minimum diameter of 2.19 inch at the spline.

NOTE: LUBRICANTS FOR FRONT AXLE HUBS AND DIFFERENTIALS, AUTOMATIC TRANSMISSIONS,  
TRANSFER CASES AND ALL REAR DIFFERENTIALS SHALL MEET OR EXCEED ALL  
APPROPRIATE MIL AND SAE SPECIFICATIONS FOR SYNTHETIC LUBRICANTS AND SHALL  
HAVE ALL PLUGS IDENTIFIED AS SYNTHETIC OR PAINTED RED.  
(The OEM shall provide written exemption if synthetic oil is not installed).

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II. GENERAL TRUCK SPECIFICATIONS: (Continued)

B. VEHICLE COMPONENTS:

1. ALARM - BACKUP:

Shall be an Ecco Back-up Alarm Model 450 with shock mounting.

2. AXLE, FRONT:

20,000 LB capacity, minimum or equal.

The front axle, drag links and tie rods shall have grease zerks installed.

Sufficient tire clearance at maximum turning angles.

Complete "STEMCO" or INTERNATIONAL oil seal assembly, including hub, window type seal, or approved equal.

Each unit shall have the front end aligned.

The front axle king pin bushings shall be the bronze type.

3. AXLE, REAR:

See POWER TRAIN OVERVIEW for acceptable axle.

Air ride suspension

STEMCO or INTERNATIONAL rear wheel seals, or approved equal.

Magnetic drain plug.

There shall be an inter-axle differential lock that is manually cab controlled.

ALUMINUM OR LIGHTWEIGHT HOUSING IS NOT ACCEPTABLE.

NOTE: Rear axle ratio selection will be made after the award and may be a mix of ratios as required. The successful vendor/manufacturer shall present three (3) computer runs showing three (3) most likely candidates for consideration for a speed range up to 65 mph maximum and this information shall be presented at the pre-build meeting.

3A. TAG AXLE OPTION:

Stemco oil seals, or approved equal.

Capacity of axle – 20,000 LBS, minimum.

Tires, Wheels, and Service brakes shall match the front axle.

Illuminated air gauge – dash mounted.

Separate air holding tank, 1000 cubic inch capacity for axle lift control.

The tag axle must be reinforced by means of 4.5 inch X 4 inch X 27 inch steel flat bar, bolted to the truck frame to reinforce the arms.

The ground clearance shall be at least 4 in minimum to 6 in optimum with the "unit fully loaded" and the tag axle in raised position.

The tag axle shall be the rear axle as mounted on the unit.

The tag axle shall be completely equipped and ready for immediate operation. RE" Neway, Watson and Chalin.

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II. GENERAL TRUCK SPECIFICATIONS (Continued)

B. VEHICLE COMPONENTS: (Continued)

3B. PUSHER AXLE OPTION:

Stemco oil seals, or approved equal.

Capacity of axle – 20,000 LBS, minimum.

Tires, Wheels, and Service brakes shall match the front axle.

Illuminated air gauge – dash mounted.

Separate air holding tank, 1000 cubic inch capacity for axle lift control.

The pusher axle must be reinforced by means of 4.5 inch X 4 inch X 27 inch steel flat bar, bolted to the truck frame to reinforce the arms.

The ground clearance shall be at least 4 in minimum to 6 in optimum with the “unit fully Loaded” and the tag axle in raised position.

The pusher axle shall be installed by the truck manufacturer or authorized truck, or authorized axle dealer.

The pusher axle shall be the front rear axle as mounted on the unit.

The pusher shall be completely equipped and ready for immediate operation. RE” Neway, Watson and Chalin. Ridewell or prior to bid approved equal.

4. BRAKES:

Full air antilock in compliance with the most current FMVSS requirements.

The ABS shall incorporate a diagnostic fault switch that is capable of illuminating a fault light for diagnostic purposes. The switch shall be easily accessible and can be either dash or under-dash mounted. A dash-mounted display that will show all SAE message descriptions for the ABS is an acceptable means of diagnostics in lieu of the fault switch.

Rear brakes: 16.5 inch x 7 inch "S" cam with quick-change type single or double pin. **(No substitute, standardization).**

Steer-axle-brake: 16.5 inch x 6 inch or a power front disc brake system providing equal performance.

Quick-change type single or double anchor pin if drum type brakes are furnished.

Drum brakes shall have automatic slack adjusters and they shall be clearance-sensing type only, with adjustment on application of the brake. **(No substitute, standardization).** Backing plates shall be installed on all drum brakes.

Air compressor and dash mounted gauge. Note: If air compressor intake is connected to engine air intake, an inlet check valve must be used.

Buzzer-type, low air pressure indicator.

Parking brake: Parking brake: Rear wheel spring-type, MGM 30/30 or Anchorlock 30/30 gold seal chambers. Parking brake shall provide modulated emergency braking via the foot valve in the event of a rear service system failure. **(No substitute, standardization).**

Air tank: Automatic drain valve, on wet (first) tank. Each of the remaining air tanks shall have a manual drain valve.

Air dryer: With heater, mounted away from road splashing and a minimum of 20 inches above road surface. Dryer shall be compatible with the body company clearance requirements for sub-frame, valve body, etc. Per: Haldex DRYest or Bendix AD-IP installation made in concurrence with the air compressor manufacturer's recommendations.

Air dryer shall be placed to accommodate the changing of filter cartridges without disconnecting any hoses or removing dryer base from its mounting location. Final mounting location shall be determined at Pre Build meeting. All electrical connectors for drain valve and air dryer shall be covered with heat shrink material or have sealed connections.

Brake valve shall be mounted away from road splashing.

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II. GENERAL TRUCK SPECIFICATIONS (Continued)

B. VEHICLE COMPONENTS: (Continued)

5. CAB:

Conventional steel or aluminum cab.

Hood: Fiberglass, tilting. (Fenders are part of tilting hood).

Fenders: Front fenders shall have extensions to cover the width of the front tires.

Air deflector: Clear or smoked. Front end tilt handle shall not be blocked. Extra handle acceptable. Full width of hood. Ref: DEFLECT-SHIELD Corp., Tel. 1-800-247-2440.

Seats: Driver's seat shall be high-back, adjustable BOSTROM 915 Series with lumbar support or National 195 or National 2000 Series with lumbar support or DuraForm Air Command Series (fabri form cushions with lumbar support), with body cloth inserts and three-point retractable seat belt (**Seatbelt shall be High Visibility Orange**). A bellow-type or protective skirt shall cover the seat suspension mechanism. There shall be an inside arm rest on the driver's side. No substitute on seats reference. Color coordinated to cab interior.

Passenger seat: With three-point retractable seat belt (**Seatbelt shall be High Visibility Orange**). Manufacturer's standard non-suspension (static), high back type. Color coordinated.

**Note:** If due to cab configuration a Bostrom 915 or National 195 seat cannot be used, a Bostrom 910 may be substituted. All other requirements must be met.

Drivers and passenger side windows shall be power.

Windshield: One (1) or two (2) piece construction, tinted.

Heater: Deluxe fresh air hot water heater and defroster, manufacturers, highest output.

Dual windshield wipers: Wipers and heaviest arms, motor and linkages available. They shall be minimum two (2) speed, intermittent.

Washer system: shall be electric. Minimum capacity of two (2) quarts of washer fluid and shall be filled with an anti-freeze type solvent.

Mirrors: Drivers and passengers side power mirrors, west coast style minimum 7 inch X 14 inch manufacturers standard heavy-duty breakaway arms.

Mirrors shall be heated with a lighted toggle switch mounted within accessible reach of the operator, automatic on/off is acceptable. The wires shall be fitted in such a way that the mirror glass/element can be changed by unplugging the two-wire lead. There shall be a heated convex mirror both sides, minimum 6 inch X 7 inch or 8 inch diameter.

A heated blind-spot elimination mirror shall be mounted on the right front fender and it shall be minimum 7 inch X 7 inch or 8-inch diameter, stainless steel or aluminum head with mirror. Mirror shall be a conventional convex mirror, and shall not be of the half-round cross view type. All arm/s and hardware shall also be stainless steel. Fender type washers stainless, or aluminum, with rubber pads to be placed on both sides of the fender shall be included. Pedestal system shall be single, double or triple mounting assemblies (stainless steel or aluminum). Mirror shall be mounted in rubber or vinyl. Ref: Grote (800-628-0809).

Drivers and passenger entrance steps: Shall be aluminum, serrated.

The outer step edge must be serrated in lieu of plain. (Overlay is not acceptable).

Step design material must be the same both left and right side.

Ref: Bustin No. NST4 full size, Ohio Grating No. JA21195G4 serrated, IKG. Industries Type B54 or Mack Part # 85QM4230M4

Top of the first step to the ground shall be approximately 21 inch above the ground.

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II. GENERAL TRUCK SPECIFICATIONS: (Continued)

B. VEHICLE COMPONENTS: (Continued)

5. CAB: (Continued)

Grab handles shall be supplied on all cab entry locations. Three points of contact shall be achievable at all cab entry locations. Handrails shall be coated with non-skid paint (non-skid tape is unacceptable) or have OEM anti-slip rubber inserts, both non-skid paint or rubber inserts must extend the full length of the grab handle.

Exterior grab handles shall be supplied if available from OEM.

Manufactures standard or aftermarket. Non-skid paint or rubber may be utilized, (non-skid tape is unacceptable).

Inside dome light.

Driver arm rest.

Dual sun visors.

Air horn(s). Minimum 1 with snow cover (unless mounted under hood).

Safety glass Tinted throughout

All controls shall be properly identified.

The cab floor covering shall be heavy-duty rubber with closed cell rubber or heavy felt backing.

The engine components facing wheel areas, on both sides, and the areas to the rear of wheels shall be shielded to protect the engine, fan, radiator and areas behind tires from the stones and debris.

One (1) pair of CB power connections, at the dash, per EQN-78.

There shall be a cup holder in the cab within easy reach of the operator.

Cab shall have an air suspension system.

Steering wheel shall be 18 inch (approx.) diameter. Manufacturer's Standard.

Steering Column: Steering wheel and column shall be tilt and telescopic, infinitely adjustable to multiple positions.

AM/FM radio.

Air conditioning. Highest output available from OEM.

Cruise control

There shall be a permanent decal, 2 inch high red letters on white back ground affixed by the driver side door handle stating the overall maximum travel height of the completed and unloaded unit.

(Example) HT-\_\_' \_\_" Ref. EQN-552

There shall be a permanent decal, "Three Point Contact" located at each entry point of the truck cab and at the bed ladder area per EQN – 552-1. Exact location to be determined at pre build meeting.

6. CHASSIS:

Cab-axle (CA) dimension: CA dimension may be adjusted to provide the optimum legal weight distributions with maximum payload, while allowing for the shortest CA possible.

The frame AF shall be reinforced by cross-member(s) at the rear of the frame as required. (Local installation is acceptable if required).

Heavy duty bumpers.

Front mounted tow hooks or eyes: Two (2) front, or a center mounted tow pin.

License plate bracket: Securely mounted to prevent damage when backing.

There shall be a centralized on board chassis lubrication system installed. Ref: EQN-501.



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II. GENERAL TRUCK SPECIFICATIONS: (Continued)

B. VEHICLE COMPONENTS: (Continued)

7. DRIVE LINE:

Main driveline: Spicer Life XL or Meritor MXL Series. "**Factory balanced**" greasable, (one zerk minimum). Heavy-duty driveline shall be engineered and be compatible to engine, drive train and transmission torque. Heavy-duty center bearing, if required, with due consideration to drive shaft angles, length, location, proper bolting based upon engine and transmission selection. Inter-axle driveline: Spicer Life XL or Meritor MXL Series.

8. ELECTRICAL:

All copper system, negative ground.

Batteries: Three (3) heavy duty 12-volt, maintenance-free, with stud type posts and anti-corrosion treatment on each terminal. 2500 total cold cranking amperes (CCA) at 0 degrees F minimum.

Battery mounting: It 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 insulating liner).
- c. Mounting bolts grade-8 with self-locking nuts.
- d. **Mounting of accessories within the battery box is prohibited.**

Circuit-breaker equipped electrical system in easily accessible location. Fuses acceptable in circuit(s) so identified by manufacturer as safety factor.

Alternator: Delco 36SI (No substitute, Standardization) 160 A minimum, high performance, solid state (brushless) Dual-drive alternator belt assembly, energy efficient belts, or prior-approved heavy-duty single.

Starter motor: Delco 39 MT (No Substitute, Standardization) with thermal over-crank protection and high torque capacity. Suitable for the diesel engines offered as per starter manufacturer's recommendation. Battery cable from battery negative terminal to starter motor.

Note: Starter shall have (OCP) either built in or controlled by the Vehicle's control system, (if required).

Alternator and starter mounting bolts: Grade 8 minimum.

Flasher: (All) heavy-duty electrical, Ref: Tridon Model EL 12 or equal.

Note: If an audible alarm is supplied for the 4-way and turn signal circuit, it shall have on/off capability.

Any fuse or switch liable to be damaged during truck operation shall have an easily removable protective cover.

All exposed junctions: Waterproof and sealed against salt.

Flat bed body lights shall have their own dedicated circuit.

GPS Combo Radio Antenna: There shall be a pedestal mount base with built-in GPS, PCTEL model GPPB-204-54-12-S1-M1 and a low profile black antenna, PCTEL model BMLPU700. Assembly shall be mounted on pedestal (**with mini light bar**) with the antenna cable routed to the floor area between the seats. There shall be a minimum of 4 feet of antenna cable coiled at the base of the floor to allow for connection of department radio. Antenna shall be prewired with a MINI - UHF MALE connection. (No substitute, standardization). No mounting in roof. REF. EQN-120Q

Power Distribution Center: There shall be a 4-way power/ground distribution center located on the underside of the dash for connection of department state radio. The lugs shall be configured in the following manner: (1) lug shall be a 30 ampere constant hot circuit, (1) lug shall be a 10 ampere ignition controlled circuit. (2) lugs shall be chassis ground. All connections shall be enclosed in a weatherproof enclosure.

Electrical wiring: Chassis wiring harness protected at areas prone to cause chafing by installing convoluted plastic conduit and clamped using steel band clamps with rubber inserts.

All pass-through points shall be properly sealed and protected.

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II. GENERAL TRUCK SPECIFICATIONS: (Continued)

B. VEHICLE COMPONENTS: (Continued)

9. ENGINE:

See POWER TRAIN OVERVIEW for acceptable engines.

Replaceable heavy-duty, full-flow type fuel filter(s) and oil filter(s) as recommended by the engine manufacturer, bearing a legible OEM part number.

Cooling system: The system shall be the largest factory engine cooling capacity, compatible with engines and transmissions referenced for continuous high engine output under extreme temperatures and/or operating conditions due to prolonged snow plowing operations in low gears. The water pump shall be adequately sized to provide proper cooling and be of sufficient size to accommodate the larger pulley to adequately handle the specified options. Shall be fitted with provisions for visually monitoring coolant without necessitating removal of the cap from the radiator or expansion tank (e.g. sight glass, transparent expansion tank). The antifreeze solution shall meet all applicable EPA requirements. A non-charged spin-on coolant filter shall be installed if required by engine manufacturer.

The engine components facing wheel areas, on both sides, and the areas to the rear of wheels shall be shielded. The shield shall protect the engine, fan, belts, radiator and areas behind tires from stones and debris.

Radiator core and shell: Heavy-duty design with construction-type heads.

The oil dipstick must have tubing and dipstick of sufficient length to provide reasonable access for checking the oil level.

10. ENGINE ACCESSORIES:

Automatic idle shutdown shall be set to five (5) minutes. An audible warning alarm shall be provided to alert operator prior to engine shutting down.

ECM shall be set to a maximum of sixty five (65) miles per hour.

Engine Heater: Immersion in-block type for cooling system, with waterproof plug flush-mounted in an accessible location at the front/roadside of the vehicle, outside the cab/hood. 115 volt, 3-prong plug. The electrical cable from the heater to plug shall be one-piece and waterproof.

Air Cleaner: Air filter shall be manufacturer's heaviest duty air cleaner that meets all the requirements of the extended engine warranty.

Fan: Thermostatically controlled viscous type or manufacturer's recommended automatic fan.

Screening system: Mounted in front of radiator grill that protects radiator from stones and bugs. System to be approved by engine and truck manufacturer(s).

Air restriction gauge: Flush, dash-mounted with indicator slide for engine air cleaner.

Lubricating oil lines shall be high quality flexible wire braid type, "AEROQUIP or approved equal system, minimum standard if hoses are used.

Diesel Fuel Filter: There shall be a DAVCO 382 or a 482 filtration unit installed and mounted (Higher than fuel tank) per manufactures recommendations in a location to accommodate filter replacements, yet be protected from road debris(**No substitute, standardization**).

Mounting location to be determined at pre-build meeting.

Davco 382 Unit shall be equipped with engine coolant heat and 120 volt heater circuit. The 120 volt circuit and engine block heater shall be powered via the same electrical connection. (**No substitute, standardization**)

Davco 482 shall be equipped with a 12 volt and 120 volt heater circuit. 12 volt heater circuit will activate with the ignition key switch, the 120 volt heater circuit and engine block heater shall be powered via the same electrical connection. (**No substitute, standardization**)

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II. GENERAL TRUCK SPECIFICATIONS: (Continued)

B. VEHICLE COMPONENTS: (Continued)

10. ENGINE ACCESSORIES: (Continued)

Hoses: The air induction system and large radiator cooling system hoses shall be clamped with 0.500 inch wide, 150-inch LB stainless steel, constant torque, spring-loaded worm clamps. Ref: Wittek Manufacturing (Tel: (312) 492-9400) or Breeze Clamp Co, Constant Torque clamps with liner for silicone hoses. Cooling system hoses under 1 inch OD may use factory standard hose clamps, as a minimum acceptable standard.

Air intake hoses shall be 0.250-inch minimum thickness, molded hoses. Ref: Gates, Goodyear or equal. Silicone or premium rubber, radiator and heater hoses. Hoses shall not be painted.

Governor: Set at manufacturer's recommended maximum engine speed (rpm).

Engine brake: Two or three position full engine compression brake, Brake lights shall activate when engine brake is activated Ref: JACOBS

11. EXHAUST:

DPF (diesel particulate filter) and exhaust system shall meet the latest EPA emission requirements.

Vertical tailpipe with elbow and muffler system or horizontal muffler and vertical tail pipe with elbow.

Exhaust system shall neither interfere with body nor will it be close to any fluid tank.

The muffler and tail pipe shall be shielded or insulated to protect personnel from burns when entering or exiting the cab. The shield shall be 180 degrees. RE: RIKER or equal.

12. FAST LUBE OIL CHANGE SYSTEM (FLOCS):

This FLOCS system shall be installed with all fittings, brackets, clamps and hoses. Hose from oil pan to FLOCS fitting shall be hydraulic hose with a 100R2 rating and properly secured. The system shall be compatible with all fittings presently used by the Department. The final placement of the male half of the snap coupler, on the equipment, shall be determined at the pre-build meeting. Ref: EQN-351A.

13. FRAME:

The Resisting Bending Moment (RBM) shall be a minimum of 2.5 million inch LB per rail, for the entire length of the frame, including any frame liners, except where engine and radiator adjustments are required. Frame material shall be of at least 110,000 PSI yield strength. (Drop frames are not acceptable).

Main frame and any required liners shall be either straight channel or offset channel, full length. **(No Splicing)**

Minimum frame RBM shall be approved by manufacturer's Engineering Department.

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II. GENERAL TRUCK SPECIFICATIONS: (Continued)

B. VEHICLE COMPONENTS: (Continued)

14. INSTRUMENTATION:

All instruments shall be dashboard-mounted unless specified otherwise.

All standard instruments shall be supplied including but not limited following:

Oil pressure gauge with warning light or audible alarm.

Water temperature gauge

Transmission oil temperature gauge (automatic transmission only).

Air pressure gauge(s) for dual circuit, dual indicator with low-pressure audible alarm and warning light.

Fuel gauge

Hourmeter, that records only when the engine is running.

Speedometer with odometer.

Tachometer

Voltmeter/Ammeter

15. LIGHT - WARNING:

Whelen Light Kit Part # PADOTSY8, Kit contains the following lighting. EQN – 120Q

1 - R10PADOT Light Bar to be pedestal mounted on the driver's side. In no case shall the light bar be mounted on the roof of the vehicle.

2 - M6AD Amber warning lights with brush guard mounted to the rear of bed

2 - M6BTTD Stop, Tail, Turn lights with brush guard

2 - M6BUD Back-up lights with brush guards

4- LINZ6AD Amber warning lights, grommet mounted, mounted 1 to each side (middle/center) of bed and 2 mounted in front grill per EQN – 120Q. Warning lights are to be wired in conjunction with above light bar.

4 - LINZ6 Grommet Kits

10 - W441D Harness side mating Deutch connectors.

The above lights are supplied with male and female Deutsch connectors that shall be utilized to connect the vendor supplied harness to each light source.

There shall be a Truck-Lite Model# 36140C LED license plate light with light bracket PN# 36710. (Installed). Body builder to supply remaining marker and ICC lighting, they shall be protected against damage and shall also be shock mounted. Connections shall be water tight. All Body lighting shall be LED.

The Warning lights / Light bar shall have a lighted, permanently labeled toggle switch located in the dash.

Body wiring shall be Grote, Trucklite, or Prior Approved Equal.

There shall be no splices outside of a sealed box or fixture.

A color-coded electrical wiring chart and schematic shall accompany each body.

Lights: All lights shall meet all Federal and State regulations. The head Lights shall be Halogen with (DRL's) daytime running lights manufacture's STD or aftermarket. Body lights shall have their own dedicated complete circuit. All pass-through points shall be properly sealed and protected. All lights shall be LED.

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II. GENERAL TRUCK SPECIFICATIONS: (Continued)

B. VEHICLE COMPONENTS: (Continued)

16. PAINT:

Cab shall be painted PennDOT yellow Ref: DuPont F9885, PPG 85246, Sherwin Williams 73266, or NAPA 73266 for shade only. Frame and all underside components shall be painted black. Frame 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.

Cab and van body sides except front panel shall be painted.

Frame, all underside components, shall be primed and painted black. Running boards shall be primed and painted black.

Bumper shall be painted black or argent.

17. SAFETY:

Cab shall have reflective enhancement per EQN-127A.

Anti-slip paint is required on all handholds, for the entire length, (tape is unacceptable). All handrails, ladders, and step configurations shall be built for three points of contact.

There shall be two wheel chocks per truck Ref: buyers WC1467 or equal with a rope. Mounting location will be determined at pre-build meeting.

All corners shall be angled or rounded for safety.

There shall be a triangle warning kit mounted in the cab.

There shall be a fire extinguisher mounted in the cab.

Ref: EQN-66A, EQN-82.

Emergency triangle warning kit with hold down (Ref: KD610-464S, KD Lamp Co., Tel. (513-621-4211) or equal, stowed (fastened) in the cab.

Fire extinguisher: Rechargeable with vehicle mount. Mounted in the cab for easy and quick access.

Ref. 3A:40B: C (5 LB).

Under ride protection per EQN-118.

Reflectivity enhancement per EQN-127

There shall be a permanent decal, "Three Point Contact" located at each entry point of the truck cab and at the bed ladder area per EQN – 552-1. Exact location to be determined at pre build meeting.

18. STEERING:

Dual integral or single integral type hydraulic power steering.

The pump shall not be the integral filter type unit.

Steering system (e.g. flow, pressure, relief valve etc.) shall be selected considering the full front-GAWR axle loading. Ref. ROSS, SHEPPARD or TRW gear assembly.

Hydraulic supply pump, vane type or roller type supply pump with sufficient oil flow to permit one (1) steering wheel revolution per second with front axle loaded to rated capacity, in a "park" condition.

Power Steering Reservoir, "remote mounted", incorporating a filter which is easy to remove and replace.

The remote filter referenced above shall be factory mounted.

Glidecoat steering shaft, Bendix wedge lock lube-for-life shaft or ZF type steering shaft.

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B. VEHICLE COMPONENTS: (Continued)

19. SUSPENSION: FRONT:

Tailored to match or exceed the front axle and GVWR, minimum. Two (2) shock absorbers.

20. SUSPENSION: REAR:

Suspension shall be tailored to axle loads and shall be adequate to sustain maximum GVW without overload or permanent set.

21. TANK - FUEL

Safety - type tank as per the requirements of FMVSS.

One (1) 100 gallon minimum aluminum or stainless steel, unpainted and mounted, under the left door.

**Dual Tanks are unacceptable.**

Heavy duty mounting straps with rubber shims/liners.

Tank Mounting Hardware and brackets shall be for "severe duty" applications. Heavy-Duty aluminum or stainless steel minimum 1.9-inch wide straps with rubber shims/liners shall be utilized.

Accessible fill pipe (located at either end of tank to avoid interference with steps).

22. OPTION HEAVY DUTY TRAILER HITCH:

**If specified in the invitation to bid a 25 Ton Heavy Duty Trailer Tow Package shall be supplied.**

Hitch Assembly: Pintle plate shall be made using ¾ inch steel. It shall be inserted within the frame rails. It shall extend the full width of frame rails and extend a maximum of 5 inches below the frame rails.

The lower portion of the plate shall be channeled towards the front of the vehicle, with proper gussets added between frame rails and plate. There shall be two (2) safety D-ring chain hooks mounted to the plate. Ref: EQN-81X

Pintle Hook: There shall be one of the following manufacturer's 25-ton pintle hooks with spring loading, swivel design mounted to the hitch assembly, Holland PH760, Buyers BP760A, Wallace Forge.

Pintle hook shall be mounted 28 inch from ground level to center of pintle Ref: EQN-81X.

Trailer air brake: 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.

(1) One 7-way female (pin type) electrical trailer plug connection, Ref EQN-80A.

(2) Two License plate mounting holes, with stainless steel hardware included.

Provision shall be provided for a trailer break away cable clip for a surge brake equipped trailer in close proximity to the pintle hitch.

SPECIFICATIONS  
A-48-DN-A-AL

II. GENERAL TRUCK SPECIFICATIONS: (Continued)

B. VEHICLE COMPONENTS: (Continued)

23. WHEELS AND TIRES:

The truck shall be equipped with hub piloted steel disc wheels for tubeless tires. The wheel end shall be equipped with outboard cast brake drums, and 15 degree tubeless steel wheels, hub piloted, 10 hole - 285.75mm bolt circle with 22mm two-piece flange nuts.

Front: Wheels: 22.5 x 12.25, 10 hole - 285.75mm bolt circle with 220mm bore, tubeless steel disc wheel rated at 10,500 LBS at a maximum inflation pressure of 120 PSIG. Accuride part number 29806 or 29807. **(No substitute, standardization).**

Rear: Wheels: 22.5 x 8.25, 10 hole - 285.75mm bolt circle with 220mm bore, tubeless steel disc wheel rated at 7,500 LBS at a maximum inflation pressure of 120 PSIG. Accuride part number 28828 or 29169. **(No substitute, standardization).**

The dual rear wheel/tire assembly shall have clearance between the tires, which permits the use of dual tire chains.

Wheel-Guard Separators: The wheel ends shall be equipped with the Accuride part number 5903 Wheel Guard Separator as follows:

Front axle - between the wheel and the brake drum.

Rear axle - between the inner dual and the brake drum and between the inner and outer duals.

Paint: The wheels shall be topcoat painted with TGIC Polyester Powder Paint MLD-82008 High Gloss Gray or equal applied over Cathodic Electro-Disposition Gray Primer.

Tires: All tires shall be radials.

Front Tires: 425/65R22.5 (Load Range L).

Rear Tires: 12R22.5H (Load Range H).

MANUFACTURER

Goodyear  
Michelin  
Bridgestone

FRONT TIRE

G-296  
XZY3  
M854

REAR TIRE

G-282 MSD / G-622 RSD  
XDN-2  
L320

24. TRANSMISSION: See POWER TRAIN OVERVIEW for acceptable transmission.

AUTOMATIC:

Oil cooler for transmission required due to prolonged transmission torque converter operation in low gears. Cooler size must be provided to keep the transmission fluid at an acceptable operating temperature under these prolonged conditions. (Water-to-oil type cooler.) An Allison approved cooling system shall be installed regardless of whether retarder is incorporated in the system or not. Automatic transmission cooler lines shall be stainless steel or a **preapproved** no-rusting material.

NOTE: All vehicles shall have a transmission-operated safety starting switch.  
Opening for power-take-off (PTO).

SPECIFICATIONS  
A-48-DN-A-AL

II. GENERAL TRUCK SPECIFICATIONS: (Continued)

C. FLAT BODY AND EQUIPMENT:

1. 20 FOOT FLAT BED BODY:

Minimum 20 feet bed.

The front body bulkhead shall be 0.172 inch minimum, standard aluminum grade 5454H32, one-piece, and shall be a minimum of 12 inch above cab roof.

The front bulkhead shall have an expandable aluminum or pre-punched aluminum area the size of the cab window

There shall be steel racks on three (3) sides and shall connect up to the aluminum bulkhead.

They shall be individually removable. Sections shall be interchangeable and formed from metal and painted Penn DOT yellow. Stake racks shall be a minimum of 36" in height.

Steel racks shall have hinged pass through doors, one (1) pass through door shall be located at the front corner on the driver's (left) side above ladder and one (1) at the rear passenger (right) side above ladder to allow personnel to enter or exit the bed at the ladder location, pass through doors shall be minimum 18 inches wide equal height as stake racks with a positive closing latch. Ref. EQN-371

There shall be entry ladders on the driver side (Left) front corner and rear passenger side (right) corner (minimum quantity of two (2)). Steps/ladders shall be serrated swage lock with end band steel or aluminum. (Overlay is unacceptable)

The outer step edge must be serrated in lieu of plain, smooth metal edge.

All edges must be banded on the outer perimeter.

Top of first step shall be approximately 21 inches above the ground.

Step design and material shall be the same design and material on the left and right side of the equipment if applicable.

Referenced acceptable material – Bustin NST4, Ohio Grating JA2119SG4 or IKG Industries BS4.

Grab handles shall be coated with non-skid paint. Three points of contact shall be achievable at all entry/exits locations.

There shall be a permanent decal, "Three Point Contact" located at each entry point of the truck cab and at the bed ladder area per EQN – 552-1. Exact location to be determined at pre build meeting.

2. FLOOR:

Ref. EQN-225A

Body floor shall be 2 inch min. thick, pressure treated pine. (Oak or Apitong is acceptable).

There shall be four (4) sets of recessed hold-down devices installed front to back evenly place in the floor.

Recessed hold-down devices shall be attached to cross members, attachment to the floor only will not be accepted. There shall be four (4) heavy duty ratchet straps supplied. The straps shall be Goodall, Tel: 1-800-328-7730, Part No. 13-329 or strap equal in size, design and strength.

There shall be a storage box located under the flatbed, Weather-Guard, Tel: 1-800-456-7865, Model 530 or equal (with lock). Location of box is left to the discretion of vendor due to weight distribution.

3. BODY STRUCTURE:

The body sub frame shall be "Stacked Construction".

The body sub frame shall be reinforced to withstand SEVERE duty service.

The Chief of the Equipment Division will approve all methods of alternate design.

The longitudinal I-beams shall be minimum 6 in, 12.5 lb/ft.

Channel 8.2 lb per foot sides with rub rail on the outside of the stake pockets min.

Cross members shall be spaced on maximum 13 inch centers.



SPECIFICATIONS  
A-48-DN-A-AL

II. GENERAL TRUCK SPECIFICATIONS: (Continued)

C. FLAT BODY AND EQUIPMENT: (Continued)

4. PAINT:

Penn DOT yellow color shall match the cab color. Aluminum and stainless steel shall not be painted. Entire wood deck surface shall be painted with Penn DOT yellow non-skid paint. **Tape is unacceptable.** The steel side rails on the flatbed shall have (both left and right sides) - entire length red/silver continuous backing material. Reflexite Conspicuity 11 System or 3M Scotchlite Conspicuity Sheeting Series 980. Side rails and steel stake racks shall be Penn DOT yellow.

5. SPLASH GUARDS:

Ref: EQN-66.

Metal, 0.172 inch thick min. splash guards shall be attached to the body on each side behind the rearmost dual wheels and extend downward approximately 12 inch. The rubber splash guards shall be bolted to these metal splash guards using self-locking nuts and metal strips. The forward splash guards shall be steel and extend downward 3/4 of the length of the rear splash guard/mud flap, with a 1/4 length, unmarked mud flap attached for the remaining distance.

Both front and rear splash guard assemblies shall be properly braced.

6. EMERGENCY SPILL KIT:

Trucks shall be equipped with a Pig Series 303 Kit (1-800-621-PIGS) or equal (wheels are not necessary). Location of kit shall be decided at the pre-build meeting.

7. MISCELLANEOUS

There shall be a storage box located under the flatbed, Weather-Guard, Tel: 1-800-4560-7865, Model 530 or equal (with lock). Location of box is left to the discretion of vendor due to weight distribution.

There shall be entry ladders in each corner (minimum quantity of four (4)). Ladders shall have a minimum of three inch deep Bustin type steps and each ladder shall have grab handles to provide three points of contact achievable at all entry locations.

There shall be a permanent decal, "Three Point Contact" located at each entry point of the truck cab and at the bed ladder area per EQN – 552-1. Exact location to be determined at pre build meeting.

TIE DOWN SYSTEM:

There shall be four (4) sliding webbing track installed full length on the drivers' side of the flat bed.

Tracks shall be approximately six (6) feet in length. Tracks shall allow sliding winches to move easily in both directions and lock firmly in place when tension is applied. Part # 3606 (steel).

There shall be a full length tie down bar to accommodate straps listed below, installed curbside if the body is not already equipped.

There shall be six (6) – 4 inch webbing straps Part # 422721 and six (6) portable webbing winches. Part # 1820P and one winch operator.

Ref: Kinedyne Corp. (785) 841-4000 or strap equal in size, design and strength.

The above shall be supplied with each truck.

SPECIFICATIONS  
A-48-DN-A-AL

II. GENERAL TRUCK SPECIFICATIONS: (Continued)

C. FLAT BODY AND EQUIPMENT: (Continued)

8. ARROW Board Option:

Intent Statement:

This specification is to provide minimum requirements for LED illuminated, self-contained, arrow panel which is to be used on a truck in the Commonwealth to direct and warn traffic of lane closures, roadway diversions and slow-moving maintenance operations. The purpose of these specifications is to describe a warning traffic control unit which shall consist of an all-weather sign panel containing illuminated directional arrow with indicators capable of being readily understood from a distance of one mile minimum during either daytime or nighttime operation. The unit shall contain its own power system sufficient for the total operation of the unit. The unit shall be mounted on the rear of a vehicle and shall be remote-controlled from the cab. The unit shall be used on public streets and highways in the Commonwealth to direct and to warn traffic of lane closures, road diversions, and slow-moving maintenance operations. Only arrow panel models that have been reviewed in accordance with this specification and for which a Certificate of Approval has been issued by the Department shall be used or offered for sale or use on any public highway within the Commonwealth. Ref: Bulletin 15, Section 901.

- Message board manufacture must have a repair facility within the Commonwealth.
- **Unit must be approved and listed for use on PA Bulletin 15.**

Arrow Panel: shall be sandwich type and 15 lamps, LED, shall be mounted on it. Panels shall be fabricated from 0.063 inch thick aluminum sheets of grade 3003H14 riveted to 3 inch aluminum channels. An access panel shall be provided on the rear of the sign panel to allow access to any internal electronic components or wiring connections. The arrow board controller shall be contained in the arrow panel with a wired remote in the cab of the truck.

Weather Resistance: The arrow panel on which lamps are to be mounted shall be fabricated with adequate internal stiffening, and shall be sealed at the edges and all openings so as to be weather or water resistant, except weep holes shall be provided in the bottom of the panel to permit drainage of condensation.

Aluminum panels shall be etched and finished with a minimum of two coats of non-reflective flat black enamel on front and back surfaces.

Panels shall be 48 inch high x 96 inch wide (+/- 1 inch).

The perimeter frame and internal vertical members shall be from extruded aluminum alloy .250 inch thick x 3 inch x 1 inch, minimum, a minimum of two (2) spacers, maximum 30 inch apart. Internal cross members and/or stiffeners shall be heli-arc welded, or riveted using 1.5 inch x 1.5 inches x 3 inch aluminum angles with four (4) rivets minimum, per angle. The panel shall be adequately mounted and braced against vibration and shock.

The frame supporting the sign shall be fabricated from 2 inch x 2 inch steel tubing with wall a thickness minimum of .250 inch. The frame members shall be bolted or welded together. Ref. EQN-203.

SPECIFICATIONS  
A-48-DN-A-AL

- II. GENERAL TRUCK SPECIFICATIONS: (Continued)
- C. FLAT BODY AND EQUIPMENT: (Continued)
- 8. ARROW Board Option: (Continued)

Sign Lamps:

The lamp case shall have a weep hole to allow the escape of moisture. The lamp assembly of each LED lamp shall be so constructed and enclosed as to exclude moisture that would affect the specified operation of the light. The lamps shall be par 46 (5" diameter) LED. The lamp housing shall be constructed of high impact acrylic.

The LED lamps shall incorporate a pulse burst of white light prior to the amber flash. The white flash burst shall be on for 35 milliseconds and off for 50 milliseconds prior to the normal amber flash. The white flash shall be produced by 8 super bright LED's and not affect the normal MUTCD operation of the amber LED flash sequences.

The lamps shall be secured to the sign panel face by lamp hoods/visors via (4) four stainless steel screws, threaded into insertion nuts. The hoods shall be of high impact, UV protected, non-reflective, black plastic. Each hood shall have (4) four "keyhole" indexing mounting holes. The sign panel face shall be "notched" or indexed to mate with an indexing tab on each lamp to insure horizontal alignment of all lamps. The lamp hood shall circumscribe each lamp 360 degrees and extend outward from the sign panel face 5" to shade the lamps from sunlight. Each lamp shall incorporate a neoprene foam gasket between the lamp and the sign panel face to secure the lamp and prevent movement and protect against vibration.

The back panel shall incorporate (2) two, 2" diameter, L.E.D. indicator lamps to denote mode of operation. Edge Lamps. The edge of the lamps closest to the four edges of the panel shall be within 3.5 inch of the panel edge.

Power Supply Unit:

12-volt direct current (DC) system

The power shall be supplied by the vehicle. A continuous 10ga power cable shall run from the vehicle battery to the arrow board. A 20a fuse shall be installed at the battery end of the power cable to protect the cable. All exposed wiring shall be sheathed cable or be enclosed in looms or conduit and be routed to minimize chafing and interference.

Control and Circuitry:

The system shall incorporate an automatic, ambient light monitoring system to maximize system efficiency and reduce night time glare. Dimming for nighttime operation shall be 50% reduction in intensity to eliminate glare. The lamps shall be operated electronically. An automatic lamp intensity regulator shall keep the lamp output constant with varying battery voltages. The controller shall be enclosed in the arrow panel with an access panel for service. The remote shall be in the cab of the vehicle within easy reach of the driver.

SPECIFICATIONS  
A-48-DN-A-AL

II. GENERAL TRUCK SPECIFICATIONS: (Continued)

C. FLAT BODY AND EQUIPMENT: (Continued)

8. ARROW Board Option: (Continued)

Control and Circuitry: (Continued)

All sign panel lamp wiring shall be protected to prevent damage to lamps or panel harness in the event of a short circuit. The remote shall be provide graphic lamp intensity and battery voltage display. The remote shall have an LCD display to indicate and verify mode selection and operation. The remote display shall show the operator a preview of the selected mode prior to arrow panel activation. **Instantaneous mode switching is not acceptable.**

The controller shall be, microprocessor controlled, touch pad, back-lighted for nighttime operation, and reverse polarity protected with audible and visual low battery alarm.

All exposed wiring shall be sheathed cable or be enclosed in looms or conduit and be routed to minimize chafing and interference. Short circuit protection shall be provided and the system shall be protected from overload by fuses or similar protective devices and be reverse polarity protected. The board shall be capable of displaying all of the following modes: Per EQN-203.

9. Message Board Option:

Intent Statement:

This specification is to provide minimum requirements for an LED illuminated, self-contained, message panel which is to be used on a truck in the Commonwealth to direct and warn traffic of lane closures, roadway diversions and slow-moving maintenance operations. The purpose of these specifications is to describe a warning traffic control unit which shall consist of an all-weather panel. Unit must be capable of being readily understood from a distance of one mile minimum during either daytime or nighttime operation. The unit shall contain its own power system sufficient for the total operation of the unit. The unit shall be mounted on the rear of a vehicle and shall be remote-controlled from the cab. The unit shall be used on public streets and highways in the Commonwealth to direct and to warn traffic of lane closures, road diversions, and slow-moving maintenance operations. Only models that have been reviewed in accordance with this specification and for which a Certificate of Approval has been issued by the Department shall be used or offered for sale or use on any public highway within the Commonwealth. Ref: Bulletin 15, Section 901.

- Message board manufacture must have a repair facility within the Commonwealth.
- **Unit must be approved and listed for use on PA Bulletin 15.**

Power Supply Unit:

Shall be 12- volt direct current (DC) system. The power shall be supplied by the host vehicle.

The message board power shall come directly from the vehicle batteries. The power supply cable shall be protected by a fuse at the battery end and enclosed in conduit or protective sheaf. A power off/on switch and oversize indicator lamp shall be within easy reach of the operator.

The unit shall be mounted on the rear of a vehicle and shall be remote-controlled via a power off/on switch and a hand held message board controller from the cab. The message board shall include all the necessary hardware for installation and shall be fully operational. All message board manuals and software must be included.

SPECIFICATIONS  
A-48-DN-A-AL

- II. GENERAL TRUCK SPECIFICATIONS: (Continued)
- C. FLAT BODY AND EQUIPMENT: (Continued)
- 9. Message Board Option: (Continued)

Message Panel:

The unit shall have a changeable message board (approximately four feet by eight feet) full matrix, all LED changeable message sign that is fully programmable. Shall be capable of displaying messages in either alphanumeric text or symbolic graphic representation and have the capability of retaining in memory, preprogrammed and user-generated messages, MUTCD Part IV construction signs and all arrow board functions. The sign shall be designed to facilitate vehicle mounting on the flatbed supply truck to support moving work zone operations such as pavement striping.

Message Panel: (Continued)

The outside dimension of the panel shall be a MAXIMUM of 48 inches high x 96 inches wide. The MAXIMUM sign case depth shall not exceed 3". The dynamic sign shall be modular in design. The modular character panels shall be 100 % solid state with no moving parts or switches. Each sign shall be controlled by a single board computer (SBC) providing power and communication inputs to the sign. The (SBC) shall provide necessary non-volatile memory for storing up to 200 sequences, and be able to select preprogrammed messages stored in the sign with a hand held controller. The (SBC) and the hand held terminal shall be separate units. Keyboard type controls are not acceptable. The SBC shall have a built in photo cell and accept communication inputs from manufacturer supplied hand-held terminal and a customer supplied Pentium PC. A mount rail shall provide mounting for modules. Vandal-resistant devices shall secure each display module onto the rail to withstand winds to 90 mph. The sign shall consist of (3) rows of (4) modular character panels, displaying a minimum of 8 characters per row. The frame shall be 1" x 3" aluminum channel and shall be heli-arc welded. The back panel shall be .063 aluminum sheet riveted to the frame. The aluminum frame and back shall be etched and finished with a minimum of two coats of non-reflective flat black enamel. Ref. EQN-203.

MODULAR PANELS:

The display module shall consist of (4) LEDs per pixel. The individual pixels shall provide both daytime and night time legible viewing angle of 30 degrees. The display modules shall have 96 pixels consisting of 384 LEDs. The LEDs shall be rated for a 100,000 hour service life and shall have an operating temperature range of -22 degrees Fahrenheit to + 165 degrees Fahrenheit. The body of the module shall be composed of UV-inhibited, high impact, ABS thermo-plastic material and be environmentally sealed against contaminants. The modular sign system shall comply with environmental standards set forth by SAE J1455. The display panels shall be identical and interchangeable with all other panels without any programming modifications. **One piece polycarbonate doors or display windows not acceptable.**

SPECIFICATIONS  
A-48-DN-A-AL

II. GENERAL TRUCK SPECIFICATIONS: (Continued)

C. FLAT BODY AND EQUIPMENT: (Continued)

10. OPTION HEAVY DUTY TRAILER HITCH:

Hitch Assembly: Pintle plate shall be made using  $\frac{3}{4}$  inch steel. It shall be inserted within the frame rails. It shall extend the full width of frame rails and extend a maximum of 5 inches below the frame rails. The lower portion of the plate shall be channeled towards the front of the vehicle, with proper gussets added between frame rails and plate. There shall be two (2) safety D-ring chain hooks mounted to the plate. Ref: EQN-81X

Pintle Hook: There shall be one of the following manufacturer's 25-ton pintle hooks with spring loading, swivel design mounted to the hitch assembly, Holland PH760, Buyers BP760A, Wallace Forge. Pintle hook shall be mounted 28 inch from ground level to center of pintle Ref: EQN-81X.

Trailer air brake: 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.

(1) One 7-way female (pin type) electrical trailer plug connection, Ref EQN-80A.

(2) Two License plate mounting holes, with stainless steel hardware included.

Provision shall be provided for a trailer break away cable clip for a surge brake equipped trailer in close proximity to the pintle hitch.

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III. DRAWINGS:

EQN-66	dated	Rev. 07-20-09	2 sheets	SPLASH GUARDS-RUBBER TRAILER & TRUCK
EQN-66A	dated	Rev. 07-20-09	1 sheet	TRIANGLE STORAGE BOX
EQN-78	dated	Rev. 10-27-06	1 sheet	C.B. RADIO CONNECTIONS
EQN-80A	dated	Rev. 08-02-16	1 sheet	7-WAY TRIALER CONNECTOR
EQN-81X	dated	Rev. 08-11-16	2 sheets	DUMP TRUCK REAR MODULE
EQN-82D	dated	Rev. 07-22-15	1 sheet	CHOCK AND HOLDER
EQN-118	dated	Rev. 06-26-09	1 sheet	UNDERRIDE PROTECTION
EQN-120Q	dated	Rev. 08-06-12	sheet 1	TRUCK LIGHTING UNIVERSAL
EQN-127A	dated	Rev. 01-02-09	1 sheet	REFLECTIVITY ENHANCEMENT
EQN-203	dated	Rev. 11-17-06	3 sheets	LIGHT BOARD & TELESCOPIC DEVICE
EQN-225A	dated	Rev. 01-16-07	sheet 1 of 1	PLATFORM BODY DETAILS
EQN-351A	dated	Rev. 06-19-13	2 sheets	FAST LUBE OIL CHANGE SYSTEM
EQN-501	dated	Rev. 06-08-09	2 sheets	CENTRALIZED LUBE SYSTEM
EQN-552	dated	Rev. 05-29-13	1 sheet	MAX. TRAVEL HEIGHT
EQN-552-1	dated	Rev. 03-23-15	1 sheet	THREE POINT CONTACT

The above referenced drawings shall become part of these specifications.

These drawings reflect the intent of the Department and any discrepancies shall be resolved at the line setting ticket meeting between the vendor and the Equipment Chief, or the pre-production inspection of the truck.

**DRAWINGS APPEAR AT THE END OF THE SPECIFICATIONS.**

SPECIFICATIONS  
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IV. MANUALS:

The successful vendor shall furnish all applicable manuals per unit:

- 1 Operator's
- 1 Parts
- 1 Service
- 1 Engine
- 1 Transmission (Automatic or Manual)
- 1 Body and Sub-frame (Parts and Service)
- 1 Complete set of manuals for any additional items/equipment added to a piece of equipment.

The manuals listed shall be official O.E.M. publications supplemented with technical manuals for all components as published by sub-vendors/manufacturers.

Parts Manual presented must be a relative to "all" items utilized to build these units, with appropriate part numbers.

Delivery of these manuals shall be completed within a maximum of 90 days after the pilot model is accepted.

Manuals may be supplied on CD Disc in lieu of paper manuals.



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V. TRAINING:

Mechanic:

The successful vendor shall provide services of qualified factory trained technicians for not more than 0 training sessions of not more than 0 hours at 0 PennDOT locations to train personnel for in-depth preventive maintenance, overhaul and review of the proper usage of parts and service manuals, as well as component/system adjustments that need to be monitored at specified service intervals.

Operator:

The successful vendor shall provide services of qualified factory trained technicians for not more than 0 training sessions of not more than 0 hours at 0 PennDOT locations to train personnel in the proper operation, safety and servicing of the equipment.

**The successful vendor shall submit a training plan to the Fleet Management Division for approval within 45 days after receipt of the Purchase Order. The training plan shall consist of course outline and class schedule.**

**All training must be completed within 60 days after the dates established in the approved training plan unless an extension is mutually agreed to in writing by the Chief of the Fleet Management Division.**

**All training shall be coordinated with the District Equipment Managers, with the exception of Asphalt related training, which must be coordinated with the Statewide Training Coordinator (717) 787-4836, Fax (717) 783-4438.**

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VI. WARRANTY: Per PCID No. 1075.

**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.

**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.

**RADIATOR WARRANTY:**

Manufacturer service and warranty policy for radiator shall be for two (2) years, 100% parts and labor plus an additional three (3) years, 100% parts only.

**TRANSMISSION WARRANTY:**

Manufacturer service and warranty policy for automatic and manual transmissions shall be five (5) years 100% parts and labor.

**BODY ELECTRICAL/LIGHTING:**

Wiring harness shall be 5 years 100% parts. First year shall include 100% labor.

All LED lights shall be 5 years 100% parts.

**NOTE:** WARRANTY REPAIRS SHALL BE COMPLETED AT THE MANUFACTURER'S LOCATION OR IN-HOUSE FIELD REPAIR COMPLETED BY PENNDOT. IT SHALL BE THE DEPARTMENTS DISCRETION TO REPAIR INTERNALLY OR TRANSPORT THE UNIT TO THE DEALERSHIP. THE MANUFACTURER SHALL REIMBURSE THE DEPARTMENT AT THE MANUFACTURERS STANDARD PUBLISHED IN-HOUSE LABOR RATE. THE LABOR RATE SHALL BE MUTUALLY AGREED UPON BETWEEN THE DEPARTMENT AND VENDOR/BIDDER. ALL IN-HOUSE WARRANTY DOCUMENTATION SHALL BE DELIVERED WITH THE PILOT MODEL. ALL WARRANTY DOCUMENTATION SHALL BE DELIVERED WITH THE PILOT MODEL.