INTRODUCTION

The Greater Dayton Regional Transit Authority (RTA) is seeking bids for the replacement of two (2) Aerial Tower Platform Line Work trucks that are used by the RTA’s Line Crew to make repairs to our Trolley System Infrastructure in Dayton, Ohio. These trucks support daily maintenance operations by being fully equipped to meet the demands for a myriad of trolley system infrastructure work. The preferred cab/chassis is a **Freightliner M2** equipped with Single Axle, Dual Rear Wheels, Medium/Heavy Duty, truck with a minimum 33,000 GVWR. The purpose of this cab/chassis specification is to describe a 30’ aerial tower platform and a line construction body to be mounted on a suitable chassis. The tower and associated equipment are to be manufactured, installed, and tested in accordance with all federal, state, and local laws and regulations in effect at the time of delivery. This includes, but is not limited to, all ANSI standards and OSHA regulations. A 2020 model truck is required.

There will be several sections below describing the ideal Aerial Tower Platform Truck for the RTA. This type of vehicle is unique and will require the manufacturer to work closely with the RTA team to ensure that all elements of the cab/chassis, vehicle configuration, platform design and operational functionality meet the RTA’s requirements. We have attempted to provide significant details of a “Preferred Design” to help narrow down what we believe to be the best/preferred aerial platform truck design and configuration.

The RTA is willing to consider items other than the Preferred Design as an approved equal so long as the item submitted can perform all of the essential functions equal to or greater than the same item preferred by the RTA. Any platform truck design and/or configuration submitted as an approved equal shall meet all of the salient characteristics, specifications and options of the RTA preferred platform truck design and/or configuration and shall be operationally and functionally equivalent. Any proposed approved equal platform truck design shall have the same warranty, performance standards and shall have a proven track record of being used in a similar environment or under similar operating conditions. RTA reserves the right to approve or reject all “approved equals” submitted by potential vendors.

**DUE TO THE MANY CUSTOMIZATIONS OF THESE TRUCKS, THE FINAL DESIGN OF TRUCK CONFIGURATION, THE UTILITY BODY, AND RELATED ACCESSORIES WILL BE DETERMINED AFTER A CONTRACTOR HAS BEEN SELECTED BASED ON THE PREFERRED DESIGN.**

Several photos of our current platform truck are included as part of this package for vendors to have a visual representation our current platform trucks.

*Created by Daron Brown, Director of Maintenance, 4-16-20*
PLATFORM TRUCK – REQUIREMENTS

The following requirements represent the ideal setup for RTA Platform trucks. Any vehicle submitted MUST, meet these minimum vehicle requirements or submit a request for an approved equal.

1. Interior/Exterior Cab Details
   a. ALL Paint shall be White
   b. 4 Door conventional crew cab
   c. Minimum cab width 80”; pickup truck style cab is not acceptable
   d. Heated Mirrors
   e. Auxiliary convex spot mirrors
   f. Power locks
   g. Power Windows
   h. Air & Electric Horns – Air Horn mounted under hood
   i. Sliding rear cab window with standard flip latch
   j. Cab assist handles
   k. Variable delay wipers with washers
   l. Gauge package on instrument panel (Warning lights only will not be acceptable)
   m. Monitor for Back-up camera appropriately mounted in cab (Utility Body Supplier to provide)
   n. Heavy Duty Rubber Floor Mats
   o. 4 Heavy Duty Extra Wide Air Ride Heated Seats, if available
   p. Storage Console between seats—Front and Rear with Cup Holders
   q. AM/FM Radio with CD Player
   r. Heavy Duty HVAC system to include Rear Heat and AC with Dual Controls
   s. Minimum “8” Spare Switches on Dash for auxiliary items, lighting – fused separately
   t. Two (2) Exterior Rotating Spotlights with Interior and Remote Controls (Utility Body Supplier to provide)
      i. One mounted on front of vehicle – final location to be determined
      ii. One mounted on the Utility Body – final location to be determined

2. Chassis Details
   a. Wheelbase to be 218”
   b. Back of Cab to Rear Axle 113” (For Tower Assembly Installation space)
   c. After Frame to be 75”
   d. 33,000 lb. GVWR minimum
   e. 12,000 lb. Spicer front axle
   f. 12,000 lb. Front springs
   g. 21,000 lb. Spicer single speed rear axle
   h. 23,500 lb. Rear springs with auxiliaries
   i. Heavy duty frame, 50,000 PS I steel 3/8” steel frame
   j. Full length inverted "L" frame reinforcements, 18.0 minimum combined section modules
   k. Dual maintenance free batteries, 1100 CCA
   l. 80 gallon R.H. Step fuel tank
   m. Power steering
   n. Air Disc brakes with spring set parking brake
   o. Automatic slack adjusters front and rear

Created by Daron Brown, Director of Maintenance, 4-16-20
p. 22.5" x 7.5" 10 hole steel disc rims
q. 11R22.5G highway tread front tires
r. Goodyear G177 OAE mud and snow rear tires
s. Spare tire to be highway tread 11R22.5G and mounted.
t. Spare does not require a mounting bracket to the vehicle.
u. Two front 30,000 rated tow hooks
v. Tilt hood and fenders

3. Engine/Transmission/Drive Axle/Suspension
   a. Cummins L9, 280 HP
   b. Idle Speed set to 700 / Advance (Fast) idle at 1200
   c. No Idle Limiter
d. Engine Block Heater – 110v
e. Allison Automatic Transmission properly configured with TES 468 Synthetic Transmission Fluid
f. Heavy Duty 200 AMP Alternator
g. Heavy Duty Transmission Cooling
h. Heavy Duty Radiator Cooling
i. Single Axle, Dual Rear Wheels
j. Driver operated differential lock
k. Air Ride Suspension

4. Other Equipment/Items to be included
   a. (4) Paper and (2) Electronic Parts Manuals
   b. (4) Paper and (2) Electronic Service Manuals
c. (4) Paper and (2) Electronic Electrical Schematics
d. Diagnostic Software for ALL Components and/or Equipment
e. BOTH Platform trucks keyed the same
f. (2) Additional Set of keys for EACH Platform truck
g. Backup Alarm
h. Backup Camera with monitor in cab
   i. Paint color shall be White
j. Both Platform trucks shall come with temporary tags
k. All Special Tools required for maintenance of installed equipment and/or accessories

5. Warranty
   a. Platform Truck Factory Warranty – PLUS Optional Pricing for Extended Warranty
   b. Utility Body to have 7 Year Structural Warranty

PLATFORM TRUCK – PREFERRED DESIGN OPTIONS

1. Aerial Tower, Platform and Accessories
   a. Heavy Duty telescoping tower – Challenger 3400 Series Tower
   b. Heavy duty tower base, integral with tower section, mounted between cab and body.
c. Curbside telescoping ladder assembly for access from ground to platform at any platform height
   extended or fully retracted.
   i. Hand rails installed for fixed ladder section.
d. 1200 lb. minimum platform capacity.
e. Non-skid platform floor with integral provisions for draining rain water.

Created by Daron Brown, Director of Maintenance, 4-16-20
f. 360 degree continuous unrestricted platform rotation powered by a hydraulic motor driven, self locking worm gear set. This system shall provide infinite positioning without pinning. Systems which utilize platform rotation indexing positions that lock platform in place are not acceptable.

g. Cylinder to be double acting type to permit tower to be raised and lowered under power. Gravity lowering platforms and/or single acting cylinders are not acceptable.

h. Heavy Duty Insulated Hand and Electric foot operated platform controls.

i. Remote and/or Wireless Platform Controls, if available

j. Maximum required operating height to bottom of platform is 30’

k. Maximum travel height of truck and assembly not to exceed 11’8”

l. Platform shall be 5’ x 14’ minimum work platform, with 4’ 10” split

m. Formed fiberglass work platform with 5” perimeter kick plate

n. Platform and kick plate to be molded together to constitute a single unit

o. Platform shall be insulated from sub base by means of porcelain or polymer insulators, capable of sustaining 10,000 volts without flashover. The platform shall maintain full dielectric integrity in its fully lowered (stowed) position

p. Platform rail assembly to enclose all four (4) sides of the platform. All rails to be made of fiberglass and shall be 42” high in the operating position. Rails shall collapse completely when not in use to provide the lowest possible travel height.

q. Must be able to activate Fast Idle Speed from platform

r. Full lower controls with platform override capability. Lower controls to be located on curbside, adjacent to telescoping ladder assembly.

s. Welded steel platform sub base constructed of formed steel channels.

t. One set of hydraulic H-frame mounted telescoping outriggers located at the base of the Aerial Tower for optimal stability of the platform. Outriggers must stabilize chassis in all platform positions at manufacturer’s maximum rated load. Outriggers shall not protrude into cargo area load space if possible. Includes an individual control for each outrigger at rear above tail shelf so that operator can view outrigger operation.

u. Electric two (2) speed engine throttle control which activates automatically during aerial tower operation. Includes a push button switch at curbside rear above tail shelf for selective two speed control in conjunction with outrigger and capstan operations. Mounted in weather proof box.

v. Insulated remote engine stop/start at platform with a switch at lower controls and at curbside rear above tail shelf.

w. Insulated 12 volt emergency power system at platform with a switch at lower controls. System shall be capable of rotating platform and returning tower and outriggers to a fully stowed position.

x. 50 gallon frame mounted hydraulic oil reservoir located street-side under body floor to outside of chassis frame rail. Reservoir to be equipped with internal baffles, combination sight and temperature gauge, and fill tube located at front of body. The oil reservoir will be heated by the engine coolant system. A ball type shut off valve will be installed in the system.

y. Suction and return filters with ball type shut-off valves to permit pump and filter replacement without draining oil from reservoir.

z. Hydraulic power for all operations to be supplied by means of a tandem gear type hydraulic pump. Front section shall provide oil exclusively for capstan operations, and rear section for tower and outriggers. Pump to be pad mounted directly to transmission.

aa. S.A.E. power shift P.T.O. installed on Allison automatic transmission with control and indicator light on dash.

Created by Daron Brown, Director of Maintenance, 4-16-20
CAPSTAN WINCH

1. Capstan Winch Requirements
   a. 6000 lb. capacity Capstan/Winch, Braden Model PCD24B-08129-01H with curbside extended shaft. The Capstan/Winch will be mounted directly to chassis frame rails. Capstan/Winch location will be at the 2\textsuperscript{nd} curbside compartment of the utility body. This compartment would normally have 2 doors, but the lower section will house the capstan winch.
   b. Capstan/Winch directional controls shall be mounted on the top right of the rear tail shelf.
   c. Capstan/Winch shall be capable of operating at two different speeds by utilizing a pre-set throttle control. – “Pre-Set throttle control included” at 1200 RPM
   d. 7” aluminum locking capstan for use on extended shaft.

UTILITY BODY AND ACCESSORIES

1. Utility Body Construction Requirements (Preferred Design to be Maintainer or Knapheide)
   a. Body is to be fabricated of galvanized steel and be suitable for mounting on a medium duty dual rear wheel chassis having a 113” C.A. dimension.
   b. 28” between front of body and back of cab for aerial tower installation.
   c. Overall body compartment length - 142 inches.
   d. Overall body width - 96 inches.
   e. Body compartment depth - 20 inches.
   f. Body compartment inside height – 46”
   g. Body side compartment height – 68 inches (Inside Cargo area - for side shelving)
   h. All compartment doors to be double panel constructed.
   i. Body cargo area floor to be constructed of 12 gauge treadplate
   j. Bed and top of utility body to have Rhino liner applied or equivalent
   k. All paddle handles must be pop riveted to doors, not welded.
   l. All bin doors to have an individual key lock, with all locks keyed alike. Locks shall be CH505, standard to all RTA line department vehicles.
   m. Full length rod type hinges on all compartment doors. Piano or continuous hinge not acceptable.
   n. Water shields to be provided above and in front of all compartment doors.
   o. Body bin doors to be sealed with an automotive bulb type rubber seal on all four (4) sides.
   p. All vertical doors to have spring type mechanical door stays and shall be hinged to forward side of body.
   q. Rubber bumpers to be provided for all horizontal doors.
   r. Steel wheelhouse liners.
   s. All compartment bins to have LED strip lights mounted such that all shelving space is lit up and with master switches mounted inside crew cab.
   t. Shelves inside cargo area
      i. Shelves will be rated for 200 pounds and have a 2 inch lip. All will have center support.
      ii. Full length superstructure each side on top of body side compartments, approximately 16" wide by 27" high.
      iii. Full length 10" high enclosure in bottom of each superstructure with drop down doors into cargo area.
      iv. Three (3) full length shelves equally spaced in remaining upper section of each superstructure. Bottom shelf to sit directly on top of lower enclosure. Street side shelves to be open at rear; curbside shelves to be closed at rear.
2. Curbside Compartment Design
   a. First vertical 29" wide
      i. 3 fixed shelves with adjustable heavy duty dividers. Middle shelf to extend through to the streetside compartment. Lower shelf fixed with no lip, equal to height of bed floor, with back wall of cabinet cut out for access to the bed long tool storage. A 5000 Watt Inverter with 8 electrical outlets for battery charging and occasional electric hand tools.
      ii. This compartment may be used for a 6 drawer locking cabinet with heavy duty construction and heavy duty dividers.
   b. 2nd vertical 29" wide
      i. Six (6) stationary material hooks installed as high as possible, 1-4-1. Enclosure tube and door ring for winch extended shaft.
      ii. This space will house the 6000 lb. capacity Capstan/Winch, Braden Model PCD24B
   c. Wheelhouse compartment 58" wide
      i. Two (2) full length fixed shelves with eight (8) adjustable heavy duty dividers each, one (1) in center of compartment with center support.
   d. Rear vertical 26" wide
      i. Six (6) stationary material hooks installed as high as possible, 1-4-1.

3. Streetside Compartment Design
   a. First vertical 29" wide
      i. Three (3) adjustable shelves with adjustable heavy duty dividers.
   b. Second vertical 29" wide
      i. Three (3) adjustable shelves with adjustable heavy duty dividers.
   c. Wheelhouse compartment 26" wide
      i. Two (2) full length plain fixed shelves with 1" lips, one (1) on bottom and one (1) in center of compartment.
   d. Rear vertical 24" wide
      i. Three (3) adjustable shelves with adjustable heavy duty dividers.

4. Utility Body Accessories
   a. Full width 16" treadplate tailshelf installed at rear, level with cargo area floor. Treadplate side skirts tapering up from bottom rear edge of body to bottom rear edge of tailshelf. Tailshelf and bed not to exceed 40" from ground.
   b. One gripstrut stirrup step assembly, curbside side at rear, suspended under tailshelf. Step assembly shall have two (2) steps, with lower step cable suspended and upper step rigid. Lower step to be approximately 20" from ground; upper step to be centered between lower step and top of tailshelf.
   c. Grab handle installed on each rear body panel.
   d. Two frame mounted tow hooks, one (1) each side at rear rated at 30,000 lbs.
   e. Flush mount socket at curbside rear on top of tailshelf with removable vise mounting bracket.
   f. Wilton model 1760 6" heavy duty Tradesman vise, mounted on vise bracket or approved equal.
   g. Reel carrier assembly located at rear top of superstructures with a removable 2 1/2" diameter spindle bar with locking reel collars. Spindle bar supports to be reinforced to body substructure.
   h. Second reel carrier to be located on the left rear corner under body with a 2 1/2" diameter spindle bar with locking reel collars. Reel carrier to be able to hold a 24" X 24" reel minimum.
   i. Six 6" swivel material hooks located each side in cargo area, mounted on superstructure.
   j. Plain black mud flaps with antisail brackets installed behind rear wheels.

*Created by Daron Brown, Director of Maintenance, 4-16-20*
ELECTRICAL ACCESSORIES

1. A 5000 watt Inverter to be installed in curbside cabinet #1. The inverter to have two 900 CCA auxiliary batteries. There shall be at least 8 receptacles for power tool use and/or the charging of battery operated tools. A duplex weatherproof receptacle is to be located at curbside rear on tailshelf riser, and conveniently located near top of platform ladder. Inverter compartment to be provided with weatherproof vents to allow adequate cooling.

2. Custom lighted 8 switch panel assembly installed in chassis cab, tailored and contoured to provide a natural fitting appearance on dash. This panel shall contain lighted control switches for work platform, strobes and compartment lights, etc. Switches shall be regulated by electromagnetic circuit breakers.

3. LED shock mounted lighting package installed on body, to meet F.M.V.S.S. #108. All lights to be recessed, rubber grommet mounted. Rear lights to be recessed in tailshelf riser panel and side skirts. Three 4" diameter lights, recessed each in rear body panel, below directional arrows. Outside lights to have a red lens and shall be wired as combination stop/tail/turn signals. Center lights shall be amber flashers that operate simultaneously with strobes only. Inside lights to have a clear lens, wired to chassis back up light circuit.

4. Three amber strobe lights with brush guards, one (1) on top center of cab roof and one (1) each side at rear on top of body superstructure. Strobes and rear amber flashers to be wired to a single switch on switch panel.

5. Flashing directional LED arrow light boards installed on rear body panels with five (5) lights on each board. Includes a controller installed on chassis dash, capable of activating each board individually or as a pair.

6. 6-8 LED underbody lights to assist with night work, to flood the ground with light, controlled inside the cab.

7. Two (2) Exterior Rotating Spotlights with Interior and Remote Controls (Utility Body Supplier to provide)
   a. One mounted on front of vehicle – final location to be determined
   b. One mounted on the Utility Body – final location to be determined

8. Four (4) recessed white LED lights installed on curbside and streetside of each sidebox in cargo area, with a recessed weatherproof switch to control all light in the cargo area. Lights to be wired through compartment light circuit.

9. Overhead waterproof lighting to be mounted in rear compartment space of utility body for night work. This is intended to light the entire space – final location to be determined

10. White LED light with integral switch installed in the top center of each compartment near outside edge of body, wired to a single lighted switch on dash switch panel. This switch shall be wired through parking light circuit on headlight switch.

11. Back up alarm installed at rear under body, wired to chassis back up light circuit.

12. All wiring to be protected with loom and secured at regular intervals.

13. All body lighting connections to be run to a weatherproof terminal box installed under body at rear.

METAL PREPARATION AND PAINT

1. Entire unit is to be free from all grease, oil, rust, dirt, and scale; then painted with one (1) coat of primer and two (2) coats of polyurethane enamel. Paint will be as specified by RTA.

2. Cargo area and tailshelf floors to have RHINO liner or equivalent

3. Ziebart rustproofing or approved equal of chassis cab and body.

4. Stripe the rear of the body and the front bumper in a 45 degree inverted vee (V) design. Stripes to be 3" wide with 3" space between stripes. Use 3" white reflective 3M tape for striping.

Created by Daron Brown, Director of Maintenance, 4-16-20
DELIVERY INSTRUCTIONS

1. The complete unit shall be delivered to the RTA, 600 Longworth Street, Dayton, Ohio, complete with 30-day temporary tags and ready for service as specified. Delivery shall be within 365 calendar days after notification of award.

TRAINING

1. A manufacturer representative shall provide a four (4) hour on-site training session on truck operation.

COMPLIANCE WITH SPECIFICATIONS

1. All bidders must be in strict compliance with specifications and offer the same equal equipment. Any exceptions are to be requested in writing prior to the scheduled bid opening date and in accordance with the "Approved Equal" clause in the bid document.

USE OF BRAND NAMES AND REFERENCES

1. Unless otherwise stated, the use of manufacturer's name and product are for descriptive purposes, and establishing general quality levels only. They are not intended to be restrictive. Bidders are required to state exactly what they intend to furnish; otherwise it is fully understood that they shall furnish all items as stated.

BROCHURES AND LITERATURE

1. Your bid must be accompanied by descriptive literature, marked and indicating the exact items to be furnished. The term "as specified" will not be acceptable. Please state the nearest authorized service center for parts and maintenance for the unit you propose to furnish.