CITY OF OAK RIDGE, TENNESSEE
MINIMUM SPECIFICATIONS FOR NEW TRUCK MOUNTED
45FT. AERIAL LIFT WITH MATERIAL HANDLER WITH 24 INCH PLATFORM LIFT
AND
INSTALLATION ON CLASS 7 COMMERCIAL TRUCK CHASSIS
WITH ODYNE HYBRID SYSTEM

Listed below are the minimum specifications for a new truck-mounted aerial lift to be used by the Electric Department of the City of Oak Ridge for maintenance, construction and repair of High Voltage Power Lines on the electric system. The desired vehicle will consist of a High Ranger TL45M mounted on a Freightliner 2014 M-2 106 Truck Chassis specified with the GVWR required by High Ranger for the unit specified. The truck will also include a utility bed that is the manufacturer's latest design and production, complete, serviced, ready for work, and includes all standard equipment.

It is the intent of the City of Oak Ridge to choose the best truck based on truck specifications and price. Please submit with your quote a copy of the **vehicle shipper information** for the truck you are bidding. This information is vital to the City's evaluation process. Please contact Jerry Dover, Electric Operations Manager at (865)425-1803, with any questions concerning this specification.

Bidders must use these minimum specifications in their entirety to submit their bid. Bidders are to indicate on these minimum specifications if each specification item **exactly** matches the specification of their unit being quoted by putting a check mark in the far left column next to the specification. If specifications do not match exactly, bidders must explain by stating why it does not match specification in the space to the right of the item. "Exceeds specification" is not an acceptable answer; bidders must state to the right of the item how they exceed or deviate from the specification. If a specified item is not available, bidder is to so note to the right of each such item. Any bid received where the bidder has removed pages from these required specifications will be disqualified. Failure to follow the format or answer the specifications may cause your bid to be disqualified.

This unit is being purchased under the DOE/AQMD/EPRI/TVA Plug in Hybrid Truck Program (PHEV) class 7-8 chassis. The hybrid system is to be installed on the chassis by Odyne. The bucket vendor needs to closely examine these specifications to be sure they comply with the requirements of the Odyne system and make comments and exceptions where required. The Odyne Hybrid System will be paid for by the Hybrid Truck Program directly.

The chassis is to be dropped shipped to Odyne and Odyne is to ship the modified chassis to the FSM of the bucket unit.

Manufacturer's technical data sheets describing the equipment offered shall be submitted with the bid. Bids not adequately supplying the requested technical information will not be considered.

LIFT SPECIFICATIONS

This specification is to set forth minimum requirements for an aerial device. This specification covers the procurement of the installation, testing and certification of an aerial platform and other equipment designed for mounting on a truck cab and chassis.

Trucks completed to these specifications, unless specifically stated otherwise herein, shall conform to the Transportation General Vehicle and Equipment and Specification.

Design criteria shall be in accordance with current industry and engineering standards applicable and accepted for structural and hydraulic design safety factors. The design criteria shall consider the effects of fatigue from dynamic loading and field proven past designs on aerial devices. Designs shall be verified with state of the art test equipment, including non-destructive and destructive load testing, plus life cycle and field operational tests.

This aerial device shall be to the manufacturer's standard. It shall be equipped with the manufacturer's equipment and accessories which are included as standard in the advertised and published literature for the unit. No such item of equipment or accessories shall be removed or omitted for the reason that it was not specified in the bid.

MINIMUM LIFT SPECIFICATIONS (Based on 40 in. frame height and a 58 in. Pedestal)

BIDDER COMMENTS

Please check:

- ☐ The aerial device shall be mounted behind the cab. Model # of Unit Bid _____
- ☐ Insulated telescopic/articulating aerial device with a minimum platform height of 45ft., 0in.
  State height to bottom of platform in feet _____ _____
  State working height to top of platform in feet _____ _____
  Horizontal reach to be a minimum of 33ft, 0in. in from the centerline of rotation to outside of aerial device platform
- ☐ State horizontal reach in feet _____
- ☐ Travel height not to exceed 12ft. 0 in.
- ☐ State travel height in feet _____ inches _____
- ☐ Minimum platform capacity of at least 700 lbs.
- ☐ State platform capacity in pounds _____
- ☐ The upper boom extension shall be at least 116 inches
- ☐ State upper boom extension in inches _____
- ☐ The upper boom travel shall be from -20 degrees to 76 degrees using a double acting hydraulic cylinder equipped with an integral holding valve
- ☐ State upper boom travel in degrees Fm _____ To _____
- ☐ Continuous rotation of the boom shall be provided
- ☐ The unit must be manufactured in a ISO 9001 certified facility
- ☐ The completed unit must be certified to Category "C" (46kv) rating by the subsequent Stage Manufacturer to meet all applicable State and Federal requirements including ANSI A92.2.2001

1.0 Control System

1.1 Non-metallic, Three Function Singlestick – Full pressure controls on side of platform control to activate the upper boom lift, lower boom lift, boom extension and rotation, with platform tilting and leveling. An emergency stop control is provided.

1.2 Individual full-pressure lower controls at the turret actuate all boom functions including activate boom lift, boom extension, rotation and platform tilting and leveling. The lower control station is equipped with a selector valve to override the upper controls.

1.3 The hydraulic control valves are full pressure and full flow.

1.4 Start/stop controls are located at the upper and lower control stations.

1.5 Engine throttle control gives a choice between idle speed or higher speed for increased hydraulic flow. This system can be operated from the upper or lower controls.

1.6 Emergency hydraulic power system consisting of a hydraulic pump driven by a DC motor, powered by the truck engine battery. The system is connected in parallel with the main pump and is designed for non-continuous operation. EHP system can be operated from the upper or lower controls.

Note: Please check with Odyne this function may be provided by Hybrid Systems.

2.0 Articulating/Telescoping Aerial Device Assembly

2.1 The upper boom assembly shall be constructed of high strength steel. The hoses routed thru the boom assembly are non-conductive and fully contained in the boom assembly.

2.2 The extendable second section of upper boom shall be constructed of high strength filament wound fiberglass. The extension of the second section shall be accomplished by a hydraulic cylinder equipped with integral holding valves. State length upper boom second section must be extended to meet Category "C" rating (46kv) in inches _____.

2.3 The lower boom shall be constructed of high strength steel tube with a rectangular high strength fiberglass insert providing an insulation gap of 16".

2.4 58" PEDESTAL – To work with up to 66" cab height chassis. The pedestal shall be of high strength steel construction and designed with access ports for maintenance of hydraulic plumbing. The pedestal top plate shall be machined from a single piece of plate and the top plate bearing surface machined after welding to maintain a flat mounting surface for the rotation bearing.

2.5 Aerial device turntable shall be constructed with an offset configuration to provide maximum strength and rigidity. A self-locking worm gear rotation drive shall be provided and equipped with a bi-directional motor. A 7/8" hex shaft extension shall be provided for manual rotation. A heavy-duty "shear-ball" rotation-bearing turntable designed for use on aerial devices shall be provided.

2.6 The hydraulic system shall be full pressure, open center. An integral 50 gallon hydraulic oil reservoir shall be provided and include a 100 mesh suction screen with bypass, a 60 mesh filler screen and a 10 micron return line filter. The tank shall have a sight gauge and a clean out access port.

2.7 The boom assembly and aerial device shall be designed as a Category "C" machine and dielectrically tested and certified for operation up to 46,000 working line voltage per ANSI A-92.2 – 2001.

3.0 Material Handling Jib and Winch

3.1 The material handling jib and winch consists of a Hydraulic Side Mounted winch and a jib pole.

3.2 Minimum 1,500 #'s material handling capacity can be provided at elevated boom angles.
State material handling capacity in #'s _____

3.3 Jib winch is hydraulically powered.

3.4 Seventy-five feet of ½ in. diameter polyester rope with a clevis hook is provided.

3.5 Infinite positioning through the 125 degrees of articulation envelope with 1 to 6 ft. of extension and 5 manual pinning positions every 17 inches.
State jib rotation in degrees Fm _____ To _____
State jib length in inches _____ and _____ Pinning Positions

3.6 Hydraulic jib articulation and hydraulic jib extension under load.
State hydraulic jib extension in inches _____

3.7 Includes a 1500 lb. full drum capacity self-locking worm gear winch. Includes jib and winch controls at platform controls and winch control at lower controls.
State winch capacity in pounds _____

3.8 Provide winch and jib capacity chart with bid
State jib and winch capacity chart provided _____

3.9 Provide single phase conductor holder A.B. chance for jib

3.10 Provide an adapter for jib that provides attachment of A.B. chance three phase conductor lifting device.

4.0 Turret/Rotation

4.1 Rotation is continuous and unrestricted in either direction.

5.0 Install Aerial Device Behind Cab & Install All Associated Components

5.1 Final test and inspect completed unit including stability and dielectric testing per manufacturers requirements and ANSI A92.2.2001.

5.2 Prefer complete installation of unit behind cab, pump and all necessary items on chassis including hydraulic power supply shall be made by the lift manufacturer.

5.3 Body and associated components installation may be made by a third party.

5.4 Installation shall be on the specified commercial truck chassis.

5.5 Wood spacer (or filler) strips under body or equipment rails <u>shall not</u> be used. If a spacer strip is needed, use steel strap. Each part of spacer shall be secured to prevent it from falling out of place if mounting bolts loosen in service.

5.6 Attachment to the truck frame shall be by shear plates welded to units sub-frame and bolted to the truck frame web and shall be in compliance with the Code of Federal Regulations 49-393.201 (or latest revision).

5.7 Frame attachment bolts shall be Grade 8, UNC, with flanged head on bolt and nut *or bolt heads and nuts without flanges may be installed with hard flat washers). Nuts shall be all-steel prevailing-torque type.

5.8 All other fasteners to be Grade 5 or better. All nuts to be all-steel prevailing torque self-locking nuts. Lock washers shall not be used.

5.9 Hard flat washers shall be used under nuts and under cap screw heads, or flanged bolt heads and nuts shall be used, wherever practical.

5.10 U-bolt mounts (or similar frame clamping mounts) may be used if a steel spacer is secured between the frame flanges (to avoid frame flange distortion), and at least one shear plate is installed on each side.

6.0 Platforms and Options

6.1 One two-person, side-mounted, fiberglass 24” x 48” x 42: platform with a rated capacity of 700 lbs. Includes one outside access step with non-skid surface. Includes two harnesses and lanyards.

6.2 A hydraulic platform rotator rotates the platform 90 degrees of forward hydraulic rotation and is controlled at the upper controls.
State platform rotation in degrees _____

6.3 Provide hydraulic 24 inch platform lift
State platform lift in inches _____

6.4 Platform must be side mounted with hydraulically leveled platform. The leveling system includes a master/slave cylinder arrangement that can be actuated from the upper controls for cleanout or rescue.

6.5 Hydraulic leveling control at the lower control (turret) to aid in cleanout or rescue.

6.6 Supply two anchors so the lanyards are attached to the inner boom.

6.7 Insulated platform liner for 24” x 48” x 42” platform – tested and certified for 50,000 volts AC.

6.8 Soft vinyl, waterproof platform cover for 24” x 48” platform with internal elastic cord around edge.

6.9 Provide platform leveling control at platform controls.

6.10 Provide and install a step assembly permanently mounted to floor of material body for the safe access/egress of operator to aerial platform. This step assembly to consist of at least two steps, the top step a minimum of 18.5” x 37” of grip strut (deck span) material. Said step assembly is to have handrails attached on both sides of steps.

6.11 Manual bucket-dump feature to be provided.

6.12 Provide hydraulic bucket dump feature for personnel basket for rescue and clean out.

6.13 Provide two personnel aerial platform too trays – alliance 8 in. or equal.

6.14 Provide foam rubber foot cushion pad in bottom of personnel aerial basket.

6.15 Provide removable step inside bucket for egress/ingress to/from bucket.

7.0 Platform Tools

7.1 Dual hydraulic tool power is supplied at the upper controls with four ½ " diameter hoses – 2 for pressure and 2 for return – installed at the platform to accommodate two open center hydraulic tools. Provides 5 GPM at 2000psi at engine idle.

7.2 A two-speed engine throttle control is provided at the upper controls. The engine will advance to a pre-set speed when engaged and decrease to idle when disengaged.

7.3 Emergency Hydraulic Pump – Allow the operation of any function for a time period limited by the battery life.

7.4 Tubular Rubber Platform Rest – Provides platform support during road travel.

7.5 A pressure reducing valve in the tool circuit limits the tool pressure. The valve is preset at 2000psi and cab be adjusted from 1000 to 2500psi.

7.6 The hydraulic circuit at the lower controls is open center and allows 2000psi and 5gpm.

7.7 Two (2) shut-off valves installed in hydraulic system for servicing the hydraulic system and filters.

8.0 Hydraulic System

8.1 50 Gallon external oil tank with a 100 mesh suction strainer, a 10-micron return-line filter, mounted above the hydraulic oil level, can be easily changed without draining the reservoir. A gate valve, located below the reservoir, prevents oil loss when the pump is serviced. A magnetic drain plug attracts metal particles from the oil.

8.2 Hydraulic power provided by PTO – tandem pimp configuration – for unit and winch.

8.3 Power-take-off with warning light for Allison automatic transmission.

8.4 Electric/air shift for PTO.

8.5 Exhaust shield for hydraulic system.

8.6 Hydraulic took power outlet is required under the rear of body deck with dual 25ft. non-conductive hoses on spring loaded retractable reel mounted under tail-shelf. Reel must include hose-stop and couplers. Mounting must contain roller to guide hoses on/off reel and/or through body/tail-shelf.

8.7 Fill with hydraulic oil and lubricate unit.

8.8 Hydraulic system is to be variable displacement pressure compensating type with combination power take-off and hydraulic pump. Includes suction filter, strainer and micronic filter.

8.9 PTO shall be Muncie with an electronically-controlled solenoid shift, hydraulic pump mounting flange mounted on the truck's transmission. PTO ratio shall be selected so that the hydraulic pump does not exceed the pump torque required at relief valve setting.

8.10 Install Hobbs hour meter under dash of cab close to engine hour meter to record hours of operation of unit (wired into PTO hydraulic pump on/off circuit).

8.11 Pump manufacturer's pressure rating shall exceed the relief valve setting. Installation shall include a support strap from the rear of the pump to the truck transmission.

8.12 Provide hydraulic filter – return line type.

8.13 Hydraulic oil shall be ISO viscosity grade, anti-wear and water separating type.

8.14 Safety pilot check valves installed in all hydraulic cylinders.

9.0 General

9.1 The complete unit is primed and painted with standard white urethane prior to assembly.

9.2 Two operator's manuals and two service manuals are included.

9.3 All conductive components at the personnel aerial platform shall be electrically bonded together.

10.0 Stabilization and Boom Storage

10.1 A-frame outriggers with pivot feed, with double acting cylinders including integral holding valves and two spool control valves for independent control of each outrigger. Outriggers to be 145 inches spread pin to pin, and 156 inches to outside of pads at 8 inches of penetration and 42 inch frame height with 13" x 12" swivel type stabilizer pads.

State spread of outriggers in Ft. _____ Inches _____

10.2 Outrigger down alarm sounds when outriggers are in motion. Outrigger valves are provided with integral micro-switches.

10.3 Outrigger boom interlock prevents lift from being operated until the outriggers contact the ground. The interlock also prevents the outriggers from being retracted until the boom is properly slowed.

10.4 Boom storage protection is provided to present over-stowage of boom.

10.5 Maximum outrigger cylinder pressure with the lift operated at rated capacity in any boom position shall not exceed 110% of the maximum pressure that the hydraulic power circuit can apply to that cylinder to raise the truck. Outrigger ground penetration shall be at least 5 inches.

10.6 Level indicators, Reiker Instrument Co. inclinometer model 1017SPL2 (or equal) shall be furnished located near the outrigger controls to display the left/right and for/aft attitude of the truck.

SPECIFICATIONS FOR A FRONT-MOUNTED HYDRAULIC PLANETARY WINCH

BIDDER COMMENTS

Please Check:

- ☐ 20,000 lb. capacity hydraulic planetary winch package DP Model 20U only (no subs) with forward and reverse control in cab
- ☐ Install at front of chassis cab with treadplate on flat surface
- ☐ Four-way roller guide for winch cable and drum guard
- ☐ Extended shaft on right side for take-up reel
- ☐ 200 feet of 9/16 inch wire rope cable with safety hook
- ☐ Drum disengage control at front winch
- ☐ Door opening to access winch drum and cable
- ☐ 35 gallon minimum hydraulic oil reservoir with sight and temperature gauge installed in hydraulic system to properly cool hydraulic oil when using winch.
- ☐ All necessary plumbing and miscellaneous parts to operate winch from aerial personnel platform lift unit hydraulic system
- ☐ Install two front tow shackles on bumper/winch structurally tied and braced to truck frame to prevent shearing of winch package to chassis frame mounting bolts when truck is being pulled by front tow shackles. Leave the factory installed hooks on the chassis frame, if present.
- ☐ Provide one collapsible wire take-up/payout reel with storage bracket installed location to be determined
- ☐ Provide traffic safety cone RH & LH storage brackets installed on front of truck- location to be determined
- ☐ Provide RH & LH traffic flag holder brackets in front corners of winch/bumper deck mounted at 45 Degree vertical angle with flags to side of truck (recessed, 1” ID round stock flush with deck surface And mounted at a 45 degree angle and large enough to receive flag handles is preferable)
- ☐ Provide RH & LH front bumper corner-marker staff with amber light – visible from driver seat

MATERIAL BODY SPECIFICATIONS

Materials: All body and shelving material to be fabricated from A40 galvanized steel and to meet the following minimum gauge thickness:

- Body Sides: 14 gauge
- Body Top Panel: 14 gauge
- Body End Panels: 14 gauge
- Door Inner Panel: 16 gauge
- Door Outer Panel: 16 gauge
- Shelving: 18 gauge
- Wheel Panels: 14 gauge
- Floor Sheeting: 12 gauge tread-late with 1 3/8 return flange on each side

Body Dimensions:

- Body Length: 156 inches overall length
- Body Width: 94 inches outside
- Front of Body Height: 40 inches
- Rear of Body Height: 40 inches
- Compartment Depth: 18 inches
- Deck Width: 58 inches

Note: If vendor is unable to match following compartment dimensions exactly, provide drawing of utility bed to be constructed with actual dimensions indicated

Compartmentation – Curbside

- First Vertical Compartment (24”) – 5 fixed material hooks 1-3-1
- Second Vertical Compartment (24”) – access steps to cargo area with grab handles both sides
- Third Vertical Compartment (24”) – 3 adjustable shelves with removable dividers on 3” spacing
- Horizontal (60”) – 2 adjustable shelves w/ removable dividers on 3” spacing
- Rear Vertical (24”) – 5 material hooks (1-3-1)
- Rear Horizontal – horizontal (chainsaw) compartment w/ drop-down door under tail-shelf extension

Compartmentation – Street Side

- First Vertical Compartment (24”) – 2 adjustable shelves with removable dividers on 3” spacing
- Second Vertical Compartment (24”) – 3 adjustable shelves with removable dividers on 3” spacing
- Third Vertical Compartment (24”) – 3 adjustable shelves with removable dividers on 3” spacing
- Horizontal (60”) (Wheelhouse) – 1 plain shelf extending through rear vertical with removable dividers on 3” spacing
- Rear Vertical (24”) – 5 fixed material hooks 1-3-1, lower portion open below through shelf

- Rear Horizontal – horizontal compartment w/ dropdown door under tail-shelf extension
- Thru shelf across horizontal wheelhouse and first rear vertical with length-wise dividers for rubber goods
- Hotstick compartment with 84” shelf at top of rear vertical and wheelhouse with rear drop with lock

Doors:

1. All doors are full double-paneled, self-sealed with built in drainage for maximum weather tightness.
2. Double spring over center returners on vertical doors. Chain stops on horizontal doors.
3. Doors are to have zinc-plated, cold-rolled, steel hinge rods extending full length of door.
4. Door hinges are to be stainless steel or zinc-alloy material.
5. Doors are to have cadmium plated flush type, single point, paddle type, recessed handles with two stage strikers, locks keyed alike.
6. Door handles to be riveted to outer door panel. Back panel to provide opening to back of handle.
7. Doors to be equipped with automotive type non-porous door seals mechanically locked to inside door panel. Self-adhesive or glued door seal not acceptable.
8. Master locking system with full length locking rod each side of body.

Other Requirements:

1. Four traffic sign holders mounted inside of cargo area attached to street side compartments with access from rear. Size – stack two 8”h X 10” X 30”l on top of two 8”h X 5”w X 60”l.
2. Cargo tie-down rail both sides of cargo area attached near top of compartments with six sliding material hooks street side.
3. Four (4) outrigger pad storage brackets located near outriggers under compartments.
4. Four (4) laminated wood outrigger pads with rope handles.
5. Triangle reflector kit.
6. Six-inch diameter by 105” (minimum) long extendo stick tube with access door mounted on top of left (street) side compartment.
7. Treadplate with non-slip covering installed on top of body compartments. Top shall be suitable for a person to stand on for access to boom or for carrying light material.
8. Provide and install storage bracket for A.B. Chance 4806-1 (or equal) wire-holder and A.B. Chance three phase conductor lifting attachment near front of body (location to be determined).
9. All step areas on top of material side bodies shall have non-slip surface.
10. All step areas on ladders or steps to have grip strut installed.
11. Provide and install a 25 ton swivel pintle hook hitch for 2 ½ “ drawbar eye on rear of truck with center of hook 22 to 28 inches above the pavement and two (2) safety chain hook attachment rings.
12. Fire extinguisher, 10# ABC with bracket: install between cab and body streetside.

13. All shelving to have 2 ¼“ lips (through shelf to have 1 inch lip).
14. Edges either rolled or folded for strength and safety.
15. Door header drip rail to be provided at top of body for weather protection.
16. Body and wheel wells to be undercoated with automotive underseal.
17. Dome style compartment lights: Qty. 9. Master switch installed in cab.
18. Four (4) wheel chock holders to accommodate rubber “V” type wheel chocks, 10” long X 5 ½“ high and 8 inches at base – chock holders to be provided, two each side in front and rear portions of wheel panel, include four chocks with chains.
19. Rubber wheel chock with handle: Qty. 4.
20. 24” minimum platform extension (tailshelf) to extend past edge of platform, with 12 gauge treadplate top and 20 inch deep under body storage box under each side with access door. Tailshelf to have 2 inch strap edge mounted with ¼ inch open space above treadplate floor on three sides to retain material on cargo floor.
21. Provide and install pipe vise mount model Wilton 6” or approved equal mounted on side of tailshelf.
22. Provide for mounting of both lights and emergency directional lighting as indicated in this specification under tailshelf.
23. One pair of rubber dock bumpers at rear and 6” spotlights with swivel base – location to be determined – on both sides of material body.
24. Cargo tie down rail full length on both sides of cargo area attached near top of compartments with six sliding material hooks street side.
25. Vertical ladder box with rubber covered rear roller, 120” storage capacity. Install in street side cargo area.
26. Expanded metal storage basket 18”h X 18”w X 156”l installed on top of street side compartments.
27. Front of cargo area framed with box tubing (headache rack) with expanded metal insert to protect rear cab window. Tube frame to extend approximately flush with cab roof line and to outside edge of material compartments. Install pipe tie down rail across front. Install mounting plate for ratio antenna, go light, emergency lights and light bar.
28. Structural under-frame in body base.
29. Bridge frame and floor and installation of the sub-rame and outriggers.
30. (2) “T” type storage brackets for small copper reels. Location to be determined.
31. Two (2) cable steps are to be installed, one each side at rear for access to body floor.
32. Two (2) grab handles or rails are to be installed, one each side at rear.
33. Lights and reflectors in accordance with FMVSS #108 lighting package are to be installed.
34. All truck chassis OEM lights are acceptable.
35. Marker, identification and clearance (unless combined with turn signals) lights shall be 2 ½ - inch round, sealed, grommet-mounted LED lamps.
36. Stop, turn, tail and backup lights shall be flush mounted 4-inch round, sealed, grommet-mounted LED lamps.
37. Three sets of LED stop and turn lights are required. Two sets (total four 4 inch lights) should be mounted in rear compartments as high as possible (immediately below emergency strobe as

specified later in this document). One set is to be mounted on face of tailshelf. One set of back up lights are to be installed on tailshelf apron.

38. One set splash aprons (mud flaps) is to be installed behind rear wheels.
39. Install one Balkamp NAPA #730-1068 (87 to 112dB) back up alarm with automatic volume adjustment to background noise.
40. Seven-way RV electrical trailer connector, to be installed at rear near receiver hitch.
41. Paint lift, line body, outriggers, compartments, tailshelf and cargo deck white, matching the truck cab. Paint under body black, matching truck chassis. Paint shall be polyurethane enamel Dupont Imron or equal, applied according to the paint manufacturer's recommendations.
42. All fabricated bare metal parts shall be treated with rust inhibitor, primed with rust preventive primer, and painted with polyurethane type Dupont Imron or equal to match truck cab. All painted areas to be primer painted before finish painted. Paint aerial lift device white to match chassis.
43. Paint cargo areas, platform extension (tailshelf), curbside access steps and street side compartments tops with non-skid coating paint.

Paint on body, fabricated metal parts, tailshelf, lift unit, boom, steps, ladders and all parts to be fully warranted against peeling or rusting for five years. Vendor will repaint unit to specifications at no cost under this warranty. Vendor is to provide written paint warranty and performance bond with completed unit on delivery.

Emergency Lighting and Headache Rack

Emergency and warning lights are an important part of this bid. Any deviation from these specifications must be called out in detail with the bid documents. All controls, cabling, mounting hardware and other items as required in making a complete and working system, are to be included. All controls to be in cab with all controls to be clearly labeled.

1. Acceptable suppliers standard to the City of Oak Ridge are Whelen, Target Tech and Code 3.
2. Directional light bars with control box in cab, Qty. 2. One installed at rear of tailshelf with treadplate guard and one installed on headache rack.
3. Strobe system: Includes (2) 4" recessed round amber LED strobe heads mounted in the rear, and (2) 4" recessed round amber LED strobe heads mounted in the front winch bumper.
4. Go-light #10251 clear-top remote control spotlight with guard. Install on top, curb side of headache rack.
5. Streamlight lightbox spotlights, Qty. 2, with direct wire charging brackets installed in cab.
6. Emergency warning lamps – two (2) "Whelen" brand model 800 Amber strobe lights with high and low beam and removable wire mesh brush guards shall be installed above roof line of cab, mounted on plates welded to square tube frame at front of cargo area, with control switches mounted in cab. Strobes are to be fully visible from both sides, and from the front and rear of vehicle.
7. One halogen cargo light mounted in front of cargo area with control switch in cab.
8. Two (2) "Unity" brand model #AG-R-4007 deck chrome lights with 200,000/50,000 candlepower lamps with high/low switch mounted on front-top of side of curb and street compartments reachable from ground with individual control switches in cab.
9. All wiring shall be adequately secured under the vehicle, protected from abrasion. Minimum acceptable wire size is 16-guage. All splices and termination shall be made with crimp-on plated copper sleeve type connectors specifically designed for the number and size of conductors being joined. Blade type splice connectors are not acceptable. All splices and terminal wire barrels shall be covered and sealed with sealant lined heat-shrink tubing. All wire-to-splice and wire-to terminal connections shall be capable of withstanding a 50lb. pullout force. Maximum allowable unsupported length of wire or harness is 24 inches.

Additional Documents

The intended use of the vehicle is for a minimum of the (10) year service life. To allow proper evaluation of the total life cycle cost (purchase price, operation expense and maintenance costs) bidder must supply the following information:

1. Daily preventive maintenance requirements.
2. Weekly preventive maintenance requirements.
3. Monthly preventive maintenance requirements.
4. Preventive maintenance requirements during the time between monthly requirements, and annual requirements.
5. Annual preventive maintenance requirements.

6. Time requirements for general overhaul (those items which require periodic disassembly of components for inspection and determination of wear.
7. If any special tools or equipment are required to perform preventive maintenance, bidder must define such tools under “optional equipment” and provide prices for purchasing such tools.

Alternate Pricing

In an attachment to the bid, please list any suggestions for improving the vehicle above specifications or for reducing the cost through elimination of unnecessary features.

General Safety Requirements

There shall be adequate protective coverings for the upper controls, lower controls and outrigger controls to guard against accidental actuation of a control level by any means.

The aerial device, as a completed unit, shall comply with all requirements of OSHA 1926.556 and ANSI a92.2-2001.

The aerial device shall, as a completed unit, be stable throughout its entire working range in accordance with ANSI a92.2-2001 standards with all truck wheels lifted clear of the pavement. The 5 degree slope stability tests shall be passed with the truck chassis parallel to the 5 degree slope; the outriggers are not to be used to level the unit for this on-slope test.

Proper placards shall be supplied at each control station to identify control functions and to remind operators of operational methods. In addition, all decals as required by the Manufacturer of Aerial Devices and Digger/Derricks Council (MADDDC) shall be supplied and installed properly.

All welding of critical metal components shall be inspected by magnetic particle method and certified to be sound and proper.

All hydraulic cylinders shall be tested for proper pressure/burst ratings in accordance with ASTM standards.

Specifications for Certification, Testing and Operational Training

The unit shall be installed on chassis, body and associated components installed with front boom support as needed, filled with dielectric hydraulic oil and lubricated.

Truck frame modifications and attachments shall be in compliance with federal motor carrier safety regulations 49cfr 393.201 or latest revision.

Final test and inspection of completed unit, including function testing and stability testing, per manufacturer's requirements and all other applicable standards.

Hydraulic schematic, using ISO fluid power symbols, of the entire lift with accessories shall be provided and submitted with the completed unit.

Installation drawing showing component outlines and dimensions, and estimated axle weights shall be supplied for approval by City of Oak Ridge (COR) before start of installation work. COR reserves the option to inspect the completed installation before the unit is painted.

The vendor is to submit shop drawings and specifications for review and approval by COR before the unit is built. A factory acceptance trip may be required.

Final testing, certification and inspection of completed unit include function testing and stability testing per unit and chassis manufacturer's requirements and all applicable standards.

Vendor is to furnish a copy of certifications and testing to owner with the delivery of unit.

Dielectric testing is performed as required and furnishes a copy of final dielectric test with unit.

Category C Certification for 69kV per ANSI a92.2-2001 shall be furnished with a copy of the certified qualification test report delivered to COR.

Industry standards – lift installation shall be in full compliance with ANSI a92.2-2001, SAE recommended practice j185 – access systems for off-road machines, and the federal motor vehicle safety standards. Revision of this standard that is current on the bid opening date shall apply. Axle weights of completed vehicle plus 2000lbs. of payload uniformly distributed between front of saddle-mounted storage compartment and rear of platform body shall be in compliance with 23Cfr-658.17 or latest revision (Federal Bridge Formula).

Deliver unit to 100 Woodbury Lane, Oak Ridge, Tennessee.

Vendor to include at least one day (eight hours) of onsite training and instruction of owners' personnel in the proper operation and maintenance of the chassis and unit.

Two operator manuals, two maintenance manuals and two parts manuals shall be supplied with lift. Parts manual shall include component suppliers' part numbers or industry standard designations for all standard vendor-supplied parts and components.

Provide parts and repair manual on CD/DVD.

Operator's manual, parts manual and repair manual to be available online.

Bidder is to state the time of delivery in calendar weeks after issue of purchase order.

Any equipment that vendor recommends in addition to the above specifications is to be listed separately and the price clearly stated as an addendum to the price of the unit.

Statement of Intent

It is emphasized that these specifications are intended to describe the minimum performance criteria of the aerial device and related equipment. The responsibility for design is solely the responsibility of the aerial device manufacturer and the vendor installing the device and related equipment on the chassis, and, if in their opinions, certain exceptions to these specifications must be taken to allow the aerial device manufacturer and the installation vendor to properly discharge that responsibility, such exceptions must be clearly identified and submitted with the bid for consideration.

The owner intends to mount or attach the following existing equipment to the unit after delivery.

- Grounding reel with cable
- Hasting bucket rescue container with rescue kit
- Electric system two way radio and antenna

REPAIR PARTS AND SERVICE

Since the continuous operation of this bucket truck is of the utmost importance and sometimes of an emergency nature, it is necessary that the successful bidder be in position to render prompt parts and service. The successful bidder shall maintain and/or have access to parts inventory within 250 miles of Oak Ridge, TN. Parts inventory shall be of sufficient size and variety to offer a level of parts availability of 95% within 48 hours from time of order by the City. Availability of normal maintenance items such as filters, hydraulic lines and hoses shall not exceed 24 hours. Bidder shall attach his proposed program for parts and service availability for evaluation. Review of the bidder's ability to provide prompt parts and service will be used in determining low, qualified bidder.

PERIODIC MAINTENANCE CHART

Unit shall have permanently affixed charts/diagrams which describe the machine periodic maintenance requirements.

DEMONSTRATION

The vendor or manufacturer of the bucket truck may be required to demonstrate the unit expected to be bid at a location chosen by the City and in the presence of authorized City representatives to prove out any features which may be in question. Failure of the demonstration machine to meet City requirements may be adjudged as nonconformance to these specifications.

BASIS OF AWARD

Successful bidder shall be determined using the following system:

----------AWARD CRITERIA----------

A. CONFORMITY TO BID SPECIFICATIONS
B. AERIAL UNIT JOB PERFORMANCE
C. CRADLE TO CRADLE CYCLE TIME
D. WARRANTY PROVIDED
E. PARTS AND SERVICE AVAILABILITY
F. LOWEST BID PRICE
G. PREVIOUS EXPERIENCE WITH BIDDER
H. UNIT/CHASSIS DELIVERY

Include manufacturer's specification sheets on aerial unit and chassis including standard equipment, optional equipment and suggested items. Failure to include documentation may disqualify bid.

BID

Cost of 45ft. bucket unit with body and installation on chassis as bid less options		$_____	
Vendor recommended options			
_____	$_____		
_____	$_____		
_____	$_____		
Total cost vendor recommended options	$_____	$_____	
Cost of 2014 M2 106 Freightliner truck chassis as bid		$_____	
Cost of FET if any (City is tax exempt)		$_____	
TOTAL PRICE DELIVERED TO 100 WOODBURY LANE		$_____	$_____
DELIVERY TIME IN CALENDAR WEEKS – ARO	_____		Weeks

STATE EQUIPMENT WEIGHT AS DELIVERED

Front Axle _____

Rear Axle _____

Total Pounds _____

Odyne will require a MASS analysis by the FSM.

I, _____ as a duly authorized representative of _____ have fully read, understood and recognized the requirements of this bid. I have enclosed completed copies of this specification, having been filled out in good faith, and to the best of my knowledge for the item(s) bid.

_____ _____

Signature Date

The City reserves the right to select all, any or none of the options.

<u>Bidder to provide scheduled and completed milestones with bid to the City of Oak Ridge</u>

The bidder will provide a schedule of the following items with expected beginning and completion dates listed with the bid. Successful bidder will also provide the information requested as the unit progresses thru the order/build process.

Item/Milestone		Beginning Date	Completion Date
Truck chassis order/receive		_____	_____
Provide truck chassis VIN to Owner when chassis is started in production by truck manufacturer		VIN _____	
Provide truck chassis Line Setting Ticket to owner when chassis is delivered to vendor and before unit assembly begins copy provided on		_____	
Odyne Hybrid System		_____	_____
Aerial Lift	Order/Receive	_____	_____
Body	Order/Receive	_____	_____
Installation on truck chassis		_____	_____
Deliver Unity		_____	_____

The successful bidder will provide the owner with written updates of the schedule as changes or completions occur.

If the successful bidder misses the scheduled completion date of the unit more than 30 days, the City of Oak Ridge has the option of canceling the order for failure to perform