Request for Quote

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS
ONE CAPITOL HILL
PROVIDENCE RI 02908

CREATION DATE : 03-APR-19
BID NUMBER: 7598729
TITLE: WORKING HEIGHT AERIAL LIFT TRUCK - DOT

BID CLOSING DATE AND TIME:03-MAY-2019 11:30:00

BUYER: Ward, Alyssa J
PHONE #: 401-574-8472

BILL TO
DOT ACCOUNTS PAYABLE
TWO CAPITOL HILL, RM 230
SMITH ST
PROVIDENCE, RI 02903
US

SHIP TO
DOT MAINTENANCE BUSINESS OFFICE
360 LINCOLN AVE
WARWICK, RI 02888
US

Requistion Number: 1602191

Line	Description	Quantity	Unit	Unit Price	Total
	All questions regarding this solicitation must be forwarded to doa.purquestions7@purchasing.ri.gov no later than 04/25/2019 at 3:30pm. A pre-bid conference will be held on April 18th, 2019 at 2:30pm at 360 Lincoln Ave Warwick RI 02888 2nd floor conference room.				
1	WORKING HEIGHT AERIAL LIFT TRUCK	1.00	Each		

Delivery: _____

Terms of Payment: _____

It is the Vendor's responsibility to check and download any and all addenda from the RIVIP. This offer may not be considered unless a signed RIVIP generated Bidder Certification Cover Form is attached and the Unit Price column is completed. The signed Certification Cover Form must be attached to the front of the offer

Rhode Island
Department of Transportation

Highway Maintenance Division

50 Foot Working Height Insulated
Aerial Lift Truck

GENERAL:

The following specification is for one (1) 50 Foot Working Height Articulated Telescopic Insulated Aerial Lift Truck for the Rhode Island Department of Transportation, Electrical Maintenance Department. The unit shall be the latest current model of standard design manufactured, complete with all standard equipment, special tools and warranties. Bidders are to supply the latest printed literature and detailed specifications on equipment the bidder purposes to furnish. A dimensioned line drawings for the proposed body, aerial lift and component placement on the chassis shall be submitted with the bid package.

The Aerial Lift shall be designed, and all components selected and used according to sound engineering principles. All completed units shall comply and be tested in accordance with all applicable O.S.H.A. ANSI, FMVSS standards and regulations. The specifications listed below shall be considered minimum requirements.

Any manufacture's deviation from the specification, no matter how minor, shall be noted on a separate sheet and be referenced to the section. The deviation shall be explained in detail and identified as an Exception, Clarification or Enhancement.

The dimensions in this specification are not intended to preclude any manufactures. Minor deviations to the dimensions based on sound engineering and proven product life in municipal applications are acceptable.

AERIAL DEVICE MANUFACTURER AND MODEL NUMBER:
Indicate manufacturer and model number of the aerial device quoted.

Aerial Manufacturer:_____

Aerial Model:_____

Body Manufacturer:_____

Body Model:_____

CHASSIS DATA:
The chassis shall be a minimum 35,000 lbs. G.V.W.R., and dual rear wheels. The chassis charging system must be adequate to meet the requirements of the specified equipment.

Comply: _____

CHASSIS MANUFACTURER AND MODEL NUMBER:
Indicate manufacturer and model number of the chassis quoted.

Manufacturer:_____

Model: _____

Year: _____

NOTE: It is expected that chassis providers and respective up-fitting/body builders communicate and understand the coordination that is required for this build.

AERIAL DEVICE

MINIMUM GENERAL PERFORMANCE DATA:

Working Height, Minimum:	54.5'
Working Height with Elevator, Minimum:	56.5'
Horizontal Reach max:	31'-6"
Approx. Stowed Travel Height:	11'-9"
Extension Boom Travel:	120"
Main Boom Travel:	-25° to +75°
Articulating Boom Travel:	+5° to +80°
Basket Capacity with Jib & Winch	400 lbs.*
Basket Capacity without Jib & Winch	550 lbs.*
Jib and winch capacity maximum:	1000#*
Cab to axle:	120"

Comply: _____

The completed unit shall be certified as passing A.N.S.I. A92.2 stabilization tests with the use of outriggers and successful bidder shall demonstrate these capabilities upon delivery. The aerial is to be placed in such a fashion as to be protected within the body and workbench/tailshelf. Rear steps shall be provided for direct bucket access.

Comply_____

MAIN BOOM:

The main boom shall be constructed of 8" X 10" rectangular high strength steel. The section of the main boom that houses the internal cable track shall be expanded to 8" X 14" to allow the hoses and cable track to operate above minimum bend requirements. The minimum travel shall be from 35° below horizontal to 80° above horizontal. The 35° below horizontal movement of the main boom shall allow the operator to place the basket on the ground to reach the rear tailshelf, and to allow access to the compartments of the body without leaving the basket. The main boom shall be equipped with wear pads to separate the main boom and the extension boom. The wear pads must be made of 1/4" thick UHMW polyethylene. The wear pads must be replaceable without disassembly of boom sections.

Comply: _____

MAIN BOOM FIBERGLASS

The main boom shall include a fiberglass insert to provide an insulation gap of 14" when the telescopic boom is fully retracted. The insert shall be bolted and glued to provide a secure connection. The boom shall be clearly labeled to indicate the area of insulated protection.

Comply: _____

CONTINUOUS ROTATION:

The rotation shall be continuous in either direction. A rotation manifold shall provide 10 individual ports; 4 for hydraulic and 6 for pneumatic flow. Each port shall be separated by o'rings. The inner core of the manifold should be attached to the turntable and allow for maintenance of all hoses without removing guards for service or inspection. The outer case should be attached securely to the pedestal to prevent rotation.

Comply: _____

ARTICULATING ARM:
The Articulating arm shall be made from high strength steel. The articulating arm movement shall be from -0° to +80° from horizontal. The articulating arm shall be compensating in design to maintain constant main boom angle during the elevation of the articulating arm.

Comply: _____

EXTENSION BOOM:
The inner boom shall be made from 7" x 9" fiberglass tubing. The inner wear pads must be of threaded adjustable nylon. A hydraulic cylinder shall accomplish the telescopic action of the extension boom. The use of chains or cables to extend is not acceptable. A polyethylene sleeve shall be placed over the basket end of the extension cylinder to increase the distance of dielectric integrity. The polyethylene sleeve shall be certified for 50KV.

Comply: _____

LIFT ASSEMBLY:
The tail side of the Boom (opposite of the platform), if equipped, shall not extend greater than 60" from the center of rotation.

Comply: _____

PEDESTAL:
The pedestal shall be a structural shape and include the hydraulic reservoir, electrical and hydraulic components. An adequate opening shall be provided by a door or cover to allow access to the internal components. A hydraulic reservoir fill indicator shall be clearly visible and labeled to indicate the condition of the oil level. The pedestal shall be machined flat for installation of the shear ball rotation bearing. The pedestal structure must be of a single piece design and bolted directly to the lift subframe. Risers and spacers are not acceptable.

Comply: _____

TURNTABLE:
The turntable shall be constructed of high strength structural plate. The turntable shall be designed to resist all torque loads. All pivot points for the booms and cylinders shall be line bored to allow for proper alignment.

Comply: _____

A 17" diameter shearball rotation bearing is required. Bearing races shall be heat-treated and sealed to prevent entry of dirt and moisture and be equipped with readily accessible pressure (zerk) lubrication fittings. The rotation shall be driven by a worm gear, reduction gearbox. A means of adjustment shall be included to provide for proper gear backlash. The rotation system will be self-locking in the event of hydraulic failure. The input shaft shall be machined with an extended hexagon design to allow for manual rotation. Rotation will be 360° continuous in either direction.

Comply: _____

Specify the distance from the centerline of the turret to the outermost point of the turret wings when rotated at a right angle to the body: _____

SUBFRAME:

An engineered and chassis manufacturer approved subframe shall be secured to the vertical section of the vehicle frame and provide adequate strength to withstand the load of the aerial lift. Upfitter fabricated sub-frames, "U" bolt secured aerial mounting, or mechanical supports to the inner chassis frame will not be accepted.

Comply: _____

TORQUE TUBE

A torsional substructure shall be provided to connect the aerial lift subframe to the outrigger sub frame. The substructure shall be capable of reducing the loads created by the lift to a level within the limits of the chassis.

Comply: _____

BOOM SUPPORT:

A boom support shall be provided to support the aerial lift booms in the transport position. An over-center clamping device, shall secure the booms to the support for road transport. Ratchet type straps will not be considered

Comply: _____

HYDRAULICS & CONTROLS:

The hydraulic system shall be designed as an open center hydraulic system. All hydraulic components including the 17-gallon hydraulic reservoir shall be housed with-in the aerial lift pedestal. Exposed reservoirs or plastic tanks are not acceptable. The reservoir must be equipped with a drain plug, filler cap, air filter vent, sight level gauge, baffle system and shut-off valve at the outlet. A 10-micron return filter shall be installed as close to the reservoir as possible and must be accessible for maintenance. A pressure relief valve must be built into the system to prevent overload. The pressure relief must be set at 2250 P.S.I.

Comply: _____

Aerial device shall be equipped with basket and turntable mounted control stations. Individual control levers at both the upper control station and the lower control station shall automatically return to neutral position when released.

Comply: _____

The controls shall use full pressure proportional hydraulic valves. To prevent inadvertent actuation of the boom position controls at the basket, the use of an unlocking device shall precede the use of the control itself and shall be maintained simultaneously during the use of the controls. When either control is released, boom movement stops and oil flow is redirected to the reservoir. The basket mounted control station shall permit the operator to control all boom movement; chassis start and stop controls, and emergency backup functions.

Comply: _____

The turntable mounted lower control valve overrides the upper control valve. It shall be capable of maintaining override of the upper control valve while unattended.

Comply: _____

The aerial lift shall be powered by a hydraulic pump, which produces up to 7 GPM. The hydraulic system will also include a 12-volt D.C. emergency backup system. The D.C. motor and pump delivers 1.4 GPM.

Comply: _____

All hydraulic hoses shall be placed within a cable track located inside of the main boom. Hoses shall be protected against abrasion, twisting, and normal wear.

Comply: _____

Hydraulic hoses shall have a 4 to 1 safety factor from operating to burst pressure.

Comply: _____

HYDRAULIC CYLINDERS:

The main boom double action lift cylinder shall have a minimum 5" bore. The extension boom double action cylinder shall have a minimum 2-1/2" bore. The articulating arm double action cylinder shall have a minimum 5" bore. Cylinder ends shall have spherical self-aligning rod ends. Holding valves shall be attached to each cylinder to prevent boom creep and to lock the cylinders in the event of line failure. Hydraulic cylinders shall have welded and threaded end caps for maximum safety. Piston shaft shall be highly polished chrome finish.

Comply: _____

TOP MOUNTED MATERIAL HANDLING JIB AND WINCH

The material handling function includes a jib and winch that is positioned on the platform support bracket. The location allows the jib and winch to self level along with the operator and basket to reduce the amount of load repositioning required. The jib pole shall be hydraulically adjusted to position the length of the reach required. A load chart near the operators control station informs the operator of the jib and winch carrying capacities. Depending on boom and jib configuration up to 1000# of winch and jib capacity is available. The hydraulic jib cylinder shall include its own holding valve, which prevents cylinder creep and to lock the cylinder in the event of hydraulic hose failure.

Comply: _____

The self-locking worm gear winch is controlled from both the upper and the lower control valves.

Comply: _____

80' of 1/2" double braid polyester rope with clevis hook is provided.

Comply: _____

FULL BODY HARNESS:

An "extra-large" full body high visibility vest style harness with reflective striping made of 1 3/4" type 13 nylon webbing. The waist and chest straps use the pass thru-style buckles for positive securement. Leg straps have tongue and pass thru buckles.

Comply: _____

A 4' X 1/2" nylon-filament lanyard with double latching hooks is provided.

Comply: _____

MANUALS:

Each unit shall include a separate operator's manual and a separate parts/maintenance manual. There must be two sets of manuals for each unit.

Comply: _____

A manual box mounted to the rear cab interior wall shall be provided for one (1) set of the provided manuals

Comply: _____

END HUNG BASKET:

The end hung basket shall place the basket at the end of the telescopic boom and shall provide 3 sides of the basket to be unobstructed by controls or attachments.

Comply: _____

The basket must be supported from the bottom presenting access to work area from the bottom and eliminating the boom from blocking access.

Comply: _____

The use light duty telescopic booms, buckets secured to boom from the top of the bucket will not be accepted as a suitable substitute. The basket must be supported from the bottom and allow accessibility from all four sides without obstruction from the boom.

Comply: _____

HYDRAULIC BASKET ROTATOR:

A hydraulic basket rotator shall rotate the basket 180° about the end of the boom from curbside to streetside. A control valve located at the upper controls shall control the rotation.

Comply: _____

JOYSTICK CONTROL:

A one-hand joystick control constructed of non-conductive material with trigger activation will be used to operate the upper controls. Boom movement cannot occur if the trigger is not activated. With the booms stowed in the rest, the control handle is oriented, so the operator will operate with the joystick handle in the right hand when facing away from the truck. Pulling up on the joystick handle is to raise the booms. Pushing down on the joystick is to lower the boom. Pulling the joystick back is to retract the extension boom. Pushing the joystick forward extends the extension boom. Pushing the joystick to the right or left rotates the booms. Twisting the joystick handle clockwise and counterclockwise, raises and lowers the articulating arm.

Comply: _____

BASKET

The basket shall be a 24" X 42" X 42" side mounted, square molded fiberglass, mounted to the curbside of the boom. A hydraulic rotator shall rotate the basket 180° about the end of the boom, from curbside to streetside. The 180° basket rotation shall be unobstructed in the full arc when the jib boom is retracted. A control valve located at the upper controls shall control the rotation. Entry is gained by an inner/outer molded step. The basket shall be completely enclosed and shall not have any holes for drainage or otherwise. The basket shall be automatically leveled as the main boom raises. The hydraulic basket leveling shall incorporate two enclosed loop, leveling cylinders, and appropriate valving. A control valve to stow/trim the basket shall be located at the upper controls and is optional at the lower override controls. The basket stow requires simultaneous activation with the locking valve to prevent inadvertent movement.

Comply: _____

The control pod must be mounted on the top of the bucket rotator to allow for 3 side access from the bucket without an extending the operator's reach

Comply: _____

BASKET LINER

A basket liner shall be provided to fit inside of the fiberglass basket. The liner shall be designed to be supported by the bottom of the basket. The liner should include a lip that fits over the top of the fiberglass basket to prevent sharp objects from lodging between the basket and the liner. The basket liner shall also have a molded integral step inverted inside of the liner to assist in basket entry/exit. The basket shall be certified to 50KV minimum.

Comply: _____

VINYL BASKET COVER

A basket cover shall be provided that completely covers the top molded lip of a standard 24" X 42" X 42" basket and the control pod. The cover must be of a good quality vinyl material and shall include an elastic cord or band to keep the cover secured to the basket. A strap with latching hook shall be permanently attached to the cover to allow for securing to the boom tip, preventing accidental loss.

Comply: _____

LOWER BASKET STOW CONTROL:

A lever control at the lower control station which will be used to for basket tilt/dump.

Comply: _____

UPPER CONTROL LOCKOUT:

An upper control valve lockout shall be available for the basket-stow and the rotating basket if so equipped. The lockout requires releasing a mechanical lock prior to the movement of the valve handle

Comply: _____

MID MOUNT A-FRAME OUTRIGGERS W/ SUBFRAME:

Hydraulic activated outriggers shall be attached to the frame of the chassis between the cab and the body. For the ease of service and access notching or cutouts in the body are not acceptable. A subframe attached to the frame of the truck shall secure the outriggers to the torsional sub frame. The outriggers shall have a minimum vertical travel clearance of 14". Outriggers should be capable of stabilizing the chassis with an extended spread of 11' 4" spread. The outrigger legs shall consist of inner and outer telescoping structural tubing. Adjustable, polyethylene wear pads, to prevent wear and vibration during road transport shall center the inner and outer tubes. High load wear pads shall be made of brass.

The hydraulic cylinders shall be double action heavy duty welded with threaded end caps for maximum safety. The piston is to be made of aluminum with square bi-directional seals made of polyurethane material and a highly polished chrome finish shaft. Holding valves shall be attached to each cylinder to prevent creep and to lock cylinders in case of line failure.

An interlock device shall be incorporated into the design of the outriggers which prevents the booms from being operated from the stowed position until the outriggers have been deployed.

A manual diverter valves shall direct flow from the lift, to the outriggers, capstan and ground tools. Controls for each cylinder will be supplied and mounted at the rear of the chassis so the outrigger legs can be seen when in use.

Comply: _____

STABILIZATION:

Install a stabilizer bar system to enable complete unit to comply with the aerial device stability requirements of Section 4.5 of ANSI A92.2-1990 specifications. The torsion bar shall be attached to the rear axle of the chassis.

Comply: _____

Supply stiff rubber load boosters on the front axle for added stability

Comply: _____

The aerial device must be stable at all positions. If necessary integral aerial mounting structure ballast may be placed to maximize stability

Comply: _____

HIGH ELECTRICAL RESISTANCE COMPONENTS

The upper operator controls shall incorporate control rods, links and handles that provide high electrical resistance components. These High Electrical Resistance Components shall be incorporated into the joystick and lockout control handles. These controls are tested initially at time of manufacture in accordance with the testing requirements of ANSI A92.2-2009. High electrical resistance controls are subject to periodic inspection requirements. The aerial lift shall be clearly marked as including High Electrical Resistance Components

Comply: _____

TOOL CIRCUIT AT BASKET:

A hydraulic tool circuit shall be provided at the upper control station with RIDOT compatible fittings. Activation must disable all boom functions to prevent inadvertent movement.

Comply: _____

TOOL CIRCUIT AT GROUND:

A hydraulic tool circuit shall be provided at a lower remote location. Activation must be by a manual valve and must divert fluid away from the aerial lift.

Comply: _____

HYDRAULIC POWER

Hydraulic power shall be provided by a PTO operated by the chassis transmission. The PTO shall be activated by the PTO manufacturer's dedicated switch with an indicator which shall illuminate when placed into operation.

Comply: _____

A properly sized direct mounted hydraulic pump operating at idle shall also be provided.

Comply: _____

SAFETY INTERLOCKS

The following ANSI and OSHA required interlocks shall be installed:

Emergency Brake

Comply: _____

UPFITTING Warranty:

Two (2) year warranty on all components shall be supplied by the body builder covering 100% parts and labor for all components.

Comply: _____

SERVICE BODY

Fiberglass Service Body

BODY DESIGN AND STANDARD EQUIPMENT

156" long x 48" high x 20" deep.
Aluminum under structure comprising of channel and tubing
Aluminum front bulkhead
Aluminum Treadbrite floor.
Drop in composite tailgate board.
Fixed cable door stop on all doors.
Molded fiberglass side packs.
All interior walls and door surfaces fiberglass gel coated white with smooth finish.
Lightweight non-warping door with PVC foam core.
Stainless steel paddle "ROTARY SLAM" latches, all keyed alike.
Fully adjustable door strikers with safety catch.
Body specific designed automotive style weather-strip.
Full height Aluminum Tread Brite front rock guards.
Stainless steel rear wheel well rock guards.
HD Stainless steel 14 gauge hinges.
All stainless steel bolts and self-locking nuts.
Extruded aluminum drip rails above all side doors.
Fiberglass bulkhead between compartments.
Floor drains in front and rear vertical compartments.
Dual fuel recess molded into streetside side pack.
Matching non-skid surface on compartment tops.
Drop in composite tailgate board.
Aluminum treadplate overlay as follows:
- Load bed walls
- Compartment tops

Four (4) tie-off loops with recessed hinged loops shall be provided in the floor of the load bed

Comply: _____

ELECTRICAL

LED continuous compartment lighting, top and sides of the door opening, switched
All required ICC/clearance lighting to be LED

Comply: _____

FRONT BULKHEAD

The rear cab window is protected by an aluminum fabricated bulkhead. The bulkhead includes a perforated window protector and a full square tubing framework. The tubed framework shall be completed with a "brushed" finish

Four (4) rope sliding rope hooks and a mounting bar shall be provided

Comply: _____

COMPARTMENT LAYOUT

STREETSIDE COMPARTMENTS

Front #1
25.75" wide x 48" high x 20" deep
Two (2) aluminum shelves with removable dividers
Four point aluminum shelf track

Front #2
25.25" wide x 48" high x 20" deep
Two (2) aluminum shelves with removable dividers
Four point aluminum shelf track

Front #3
27.25" wide x 48" high x 20" deep
Two (2) aluminum shelves with removable dividers
Four point aluminum shelf track

Over Wheel Well
53.5" wide x 19" high x 20" deep
One (1) aluminum shelf with removable dividers
Four point aluminum shelf track

Rear
24.25" wide x 48" high x 20" deep
0-3-0 Swivel rope hooks
One (1) aluminum shelf with removable dividers
Four point aluminum shelf track

Comply: _____

CURBSIDE COMPARTMENTS

Front #1
25.75" wide x 48" high x 20" deep
Two (2) aluminum shelves with removable dividers
Four point aluminum shelf track
CTECH Drawer System #550127, Black
- 18.75" wide
- 28.32 high
- 18" deep
- Telescopic shelf
- Drawers to include:
  - 4-3", 1-5", 1-7"
  - 250# max capacity

Front #2
25.25" wide
Access stepway
Gripstrut Steps
Two angle grab handles

Gripstrut rubber suspended step below the stairway
Stepway walls overlaid with aluminum treadplate

Front #3
27.25" wide x 48" high x 20" deep
Two (2) aluminum shelves with removable dividers
Four point aluminum shelf track

Over Wheel Well
53.5" wide x 19" high x 20" deep
One (1) aluminum shelf with removable dividers
Four point aluminum shelf track

Rear
24.25" wide x 48" high x 20" deep
0-3-0 Swivel rope hooks
One (1) aluminum shelf with removable dividers
Four point aluminum shelf track Comply: _____

BULB BOX
A 54" x 18" x 20" aluminum treadplate storage box shall be supplied for the storage of specialty signal bulbs and emitters. The box is to be constructed of .125" aluminum treadplate and include open back, flat design, continuous stainless-steel hinge and gas props. Additionally, dual, locking stainless steel paddle latches are to be provided. The lid is to be fully gasketed with an automotive grade bubble type gasket.
The box shall be on the cab side of the street side compartment top.
Comply: _____

TAILSHELF
The chassis frame rails shall extend to the rear of the tailshelf to create a rugged mounting area for the tailshelf and pintle plate. This structure shall contain an ICC bumper, side access steps and support a separate pintle hitch and receiver assembly. The tailshelf surface is to be treadplate which shall include curbside stairway and shall have an aluminum "loop" type railing for side step access.
Comply: _____

A 2" receiver with an adjustable plate and "multi-hitch" equipped with a 2" ball and pintle combination.
Comply: _____

A trailer plug compatible with RIDOT equipment shall be supplied
Comply: _____

Supply and install a 25-ton Pintle Hitch and a pair of air trailer brake (Gladhand) connections in an area adjacent to the hitch assembly.
Comply: _____

Supply and install an Electric Trailer Brake control compatible with RIDOT equipment.
Comply: _____

All ICC lighting shall be placed in the tailshelf along with surface mounting of a LED Traffic Advisor

Comply: _____

The rear of the tailshelf shall be provided with a 5" wide integral bumper reinforced with steel channel.

Comply: _____

CONSPICUITY MARKING

Conspicuity marking shall be installed along the rear of the tailshelf on the bumper surface.

Comply: _____

HYDRAULIC TOOLS AND EQUIPMENT

Tool ports with RIDOT approved fittings and dust covers as follows:

At bucket controls with 90 deg. adapters
Recessed At the rear of the tailshelf

Comply: _____

Advanced Construction Products, model #B30F capstan shall be installed at the rear between the body and tailshelf. A diverter control and a double acting control valve shall be installed at the rear. The capstan will have the following performance criteria:

Telco standard bayonet shaft
Maintenance free
Forward/Reversible
Flows up to 6 GPM
50 RPM @ 4gpm/75 RPM @ 6 GPM
2000# max. line pull @ 2200 psi

Comply: _____

CAPSTAN

This general purpose capstan sheave shall be supplied a wide variety of pulling and hoisting applications.

Cast from a high strength aluminum alloy for low weight
Must fit on any 2 7/16 in. (62mm) diameter winch extension shaft equipped with a bayonet or pin type mount
The working surface is 7 1/4 in. diameter x 8 in. (184mm x 200mm) wide. The maximum allowable pull is 4000 lbs.

Comply: _____

CR COLLAPSIBLE POWER REEL

The CR Collapsible Power Reel is to be supplied and used for rapidly stringing or taking up wire or small diameter cable. It must also be capable for placing or removing aerial cable, taking down wire, or pulling winch line into conduits.

It must be capable of pulling in poly rope or tape, where the reel will only be used as a pulling capstan and not as a storage device
Maximum of 3 wraps
Excessive wraps of poly rope or tape will cause the reel to fail, voiding the warranty.
The reel mounts on the end of any 2 7/16 in. (62mm) winch drum extension shaft, bayonet or pin type mount unit
Has a capacity of 1,600 ft. of 1/4 in. (490m of 6mm) wire rope with a maximum allowable pull of 3500 lbs. Bare Drum (1600kgs) Can also store a 200 pound coil of wire.

A half turn of the locking member collapses all six movable segments, allowing you to quickly mount or remove coils

Consists of a spindle with a fixed spider and sliding spider to which are attached six rim segments. Is made of heat treated aluminum, with a durable yellow finish.

Reel O.D.: 28 in. (expanded), 18 3/4 in. (collapsed). ID: 20 in.

Comply: _____

VANAIR® V2™ MULTI-DRIVE INTEGRAL
125 CFM UNDERDECK PTO SHAFT DRIVEN AIR COMPRESSOR/HYDRAULIC PUMP PAD

Type: Vanair® V2™ Multi-Drive integral underdeck single PTO shaft driven system with air compressor and auxiliary drive provision for hydraulic aerial pump drive.

Comply: _____

Capacity: 125 CFM free air at up to 150 PSIG. Up to 77 Ft. Lbs. hydraulic pump provision.

Comply: _____

V2™ Multi-Drive System: Vanair V2™ Multi-Drive system driven by PTO. Gearbox to be capable of direct driving an air compressor and auxiliary pump simultaneously with no belts, pulleys or tensioning devices. Compressor to be direct mounted to gearbox via custom flange designed to accept Sullair® 10 series air end. The gearbox to have provision direct to mount a hydraulic pump via SAE B pump pad. Entire unit with compressor and hydraulic pump to fit within the frame rails of the chassis and achieve maximum ground clearance.

Comply: _____

Compressor: Sullair® 10 series design oil flooded rotary screw. The air compressor air end shall be completely manufactured and assembled in the USA. Air compressor inlet control valve shall be an integral design incorporated in the cast iron housing. No bolt on inlet control valves.

Comply: _____

Input Speed: Air compressor shall produce 125 CFM at 1330 RPM input speed

Comply: _____

Gear Ratio: Air compressor gear ratio shall be 3.95:1 to ensure lowest possible engine speed.

Comply: _____

Air Intake Filters: Separate two-stage, heavy duty, dry-type air filters shall be provided for air compressor.

Comply: _____

Air Receiver: The tank shall be ASME code approved rated at a 250 PSIG working pressure. It shall be equipped with an ASME air pressure relief valve located upstream of the final oil separator. The receiver shall be equipped with a fill cap and easily readable sight glass, ." service valve and a 25 micron full flow spin-on replaceable filter canister with built in bypass protection. Receiver tank (In.): 10.25D x 21.5L

Comply: _____

Air/Fluid Separator: Separator element to be located internally in air receiver tank. Separator shall be constructed with metallic end cap and in-flow nozzle plate with O-ring seals. Vanair® separator shall provide for enhanced air quality, reduced operating and maintenance cost and optimized compressor performance. Separator to be warranted for 5 years or 3000 hours.

Comply: _____

Instrument Panel and Speed Control: The V-TEC™ system consists of an I/O Module and an LCD display module that communicate with each other utilizing J1939 protocol. The I/O module receives sensor information and modulates engine speed based on air demand. The display module presents system information including system hours, service intervals, air pressure, oil temperature and engine speed.

Comply: _____

Instrument Panel and Speed Control: The Vanair® V-TEC™ speed control utilizes a micro-processor, solid state electronics, and is designed with a chassis specific plug and play wiring harness. Wiring harnesses will use weather proof connectors and woven loom material. The V-TEC™ controller is preprogrammed to specific applications based on engine, transmission, PTO gear ratio and Vanair underdeck model. The V-TEC™ system is capable of commanding the engine speed in response to air demand.
The V-TEC™ speed control allows for troubleshooting of the PTO, torque converter, cooler fan(s) and programmed engine speed(s) using a laptop computer and Vanair® provided software. The system also notifies of maintenance alerts and out of range conditions as well as monitoring system pressure, temperature, engine RPM and compressor hours. The V-TEC™ controller logs faults and fault conditions for easy troubleshooting diagnostics. PTO will disengage in case of high compressor temperature, over pressurization, and excessive engine RPM.

Comply: _____

Safety System: V-TEC™ protective features include J1939 neutral safety system, and prevention of engagement of PTO at engine speeds above 1000 RPM.
Compressor to automatically shut down in case of high compressor temperature or over pressurization. Additional protective features provided include automatic blow down valve, receiver relief valve and minimum pressure valve.

Comply: _____

Cooling System: Compressor cooling system shall allow rated air delivery and pressure operation continuously in 125 °F ambient temperatures. Cooler to be mounted in a powder coated sheet metal enclosure with a suction type fan assembly and utilize SAE O–ring fittings (No ABS+ plastic shrouding). When using the V-TEC™, a fan temp switch is not used. The thermistor and V-TEC™ control the compressor cooling. A dual cooler shall be provided for 185 at 150 PSI.

Comply: _____

Controls: Pneumatic inlet control valve shall be integrated into compressor system and automatically modulate output from 0 to 100% in response to air demand.

Comply: _____

Driveline: 2″ 1310 series driveline with universal joint, yoke and companion flange.

Comply: _____

General: The compressor shall be manufactured in an ISO 9001 certified quality system.

Comply: _____

Warranty The air end is warranted for life when adhering to the prescribed maintenance schedule. This warranty does not cover damage caused by accident, misuse, or negligence. If the compressor unit is disassembled the warranty is void. All other parts including the compressor unit shaft seal are warranted for twenty-four months subject to the same conditions mentioned above.

Comply: _____

Service Centers: The air compressor manufacturer MUST have factory authorized service centers located in each state of the United States of America and Canadian provinces.

Comply: _____

Provide Name and Address of Service and Installation Center:

_____

_____

_____

Does the service center or dealer shall have road service.

Comply: _____

Installation: Systems shall be installed by a factory authorized installation center.

The additional items must be included:

External, Spin-on Air-Oil Separating Element
Service/Control Line Moisture Separators
Filter/Lubricator/Regulator (FLR)
OSHA Safety Valve (Velocity Fuse)
Tool Oiler/Lubricator

Comply: _____

Provide a Reelcraft #D83075-OLP Spring Rewind Reel and air supply equipped with the following:

250 psi, max. pressure
75' of .75" hose
Adjustable 4 way captive roller guide
RIDOT compatible fitting
Main ¼ Turn Shutoff at the hose reel
The reel is to be installed on the top of the curbside front outrigger

Comply: _____

ELECTRICAL, WARNING and LIGHTING SYSTEMS

Electrical System:
All electrical equipment installed must conform to current automotive electrical system standards. The wiring shall be individually and permanently color-coded on the insulation. The insulation shall meet SAE Standard J1128 in its latest edition for GXL or SXL temperature rating. All exposed wiring shall be run in a heat resistant loom or conduit. All wiring looms or conduit shall be properly supported and attached to body members along the entire run. At any point where wire or looms must pass through metal, rubber grommets shall be installed to protect the wire from abrasion.

Comply: _____

The main low voltage chassis to body Flex-Panel interface point and distribution panel shall be provided at the rear of the chassis cab interior, behind the seat. This area must provide easy access for service. The distribution panel shall be labeled and shall contain body electrical relays, and wire connection bar. The distribution panel must contain electrical harness quick disconnects or connectors to facilitate removal of the body module in the future. Additionally, the Flex-Panel shall include an integral 6 position switch console.

Comply: _____

Electrical connections in exposed areas shall be made using heat shrink or weatherproof connections. All circuits shall be protected with automatic reset circuit breakers.

Comply: _____

All electrical equipment switches shall be mounted on a switch panel mounted in the cab convenient to the operator. These light switches shall be rocker type with integral indicator light to show when the circuit is energized. All switches shall be appropriately identified as to function.

Comply: _____

WARNING LIGHTS
Whelen #M7AC, 3.375" x 7.625" semi-oval, amber LED warning lights, integral flasher, scan lock patterning and clear lenses with chrome plated surface mount flange adapters shall be mounted in the following locations:

Two (2) mounted on the front grille area, one (1) each side
Two (2) mounted on the rear of the body, one (1) each side
Two (2) mounted on the rear of the tailshelf, recessed one (1) each side
Two (2) mounted on the front fenders, below the chassis designation, one (1) each side
Two (2) mounted on rear fender skirts, one (1) each side

NOTE: Each directional LED is to be programmed and flash in a RIDOT selected pattern

Comply: _____

Two (2) Whelen #L31HAF Amber Beacons shall be installed on the top of the front bulkhead mounting plates, one each side with brush guards

Comply: _____

One (1) Whelen #TAL-85-STA35, 46.875" long, 8 module, TIR6 Amber LED Traffic Advisor with extended control cord shall be installed surface mounted on the tailshelf. Compatible controls shall be placed in the cab console with access to both the driver and passenger

Comply: _____

WORKLIGHTING

Supply two (2)-Akron #ELSS-XLDC-RIDOT-PS-PL/pole/MT-SM2-PLMT, LED, 19,000 lumen, floodlight with integral on/off switch being operated from 12 VDC chassis power

Comply: _____

The floods shall be mounted as follows:

One (1) each side front of body

12 VDC weatherproof twist lock receptacles are to be installed as follows:

Driver's side front body bulkhead
Driver's side rear tailshelf
Passenger's side front body bulkhead
Passenger's side rear tailshelf

Comply: _____

Two (2) 4" dia. LED recessed mounted load bed lights shall be provided

Comply: _____

Four (4) LED "tip down" step way light shall be provided as follows:

Front of aerial pedestal
Rear of aerial pedestal
Rear tailshelf steps
Curbside body side step

Comply: _____

SWITCHING

The chassis supplied upfitter switches shall operate the following:

Aerial Master/PTO Control
Compartment Lights
Load Bed/Step Lights
Opticom Test Emitter (future installation by RIDOT)
Spare

Comply: _____

CAB CONSOLE

Supply a Troy Products center console with a raised viewing area for the radio and switches, compatible with the chassis purchased shall be configured as follows:

Floor Mount, model #AC-FHD11-MNT
Console Housing, model #CC-FHD11-20
Dual Holder, model AC-INBHG
Bezel, for Motorola DOT RISCON Radio
Bezel, for a Whelen model #PCC6W Switch Control
Bezel for the Whelen model #TAL85 Traffic Advisor
Two (2) Cup holders
Arm Rest, one on the driver's side and one on the passenger side
All required blank panels to fill console openings
I Pad mounting bracket with rapid release feature

Comply: _____

IN CAB POWER SOURCE:

600 Watt invertor (Vanner 600W no exceptions) installed under passenger seat, this unit will power the operators lap top computer and cell phone with 120 V power.

Comply: _____

120 VAC POWER:

A Portable Generator shall be provided. The generator is to be stored on the curb side of the platform body. The generator specifications are as follows:

Engine GX200, Displacement 196cc
AC Output 120V 3000W max. (25A), 2800W rated (23.3A), Full Sine output
Receptacles 2-20A 125V Duplex NEMA Plug Number: 5-20P, 20A 125V Duplex, 30A 125V Locking Plug
DC Output 12V, 144W (12A)
Noise quieting protective housing
Electric with integral battery starting system with recoil backup
Fuel Tank Capacity 3.45 gallons
Run Time on One Tank full 7.2 hours @ rated load, 20 hours @ 1/4 load
Dimensions (L x W x H) 25.8" x 18.9" x 22.4
Noise Level 58 dB @ rated load 49 dB @ 1/4 load
Residential Warranty 3 Years
Commercial Warranty 3 Years

The generator shall be secured to a custom fabricated bracket constructed in aluminum. The bracket is too equipped with a hold down/lock assembly. This generator is to be provided with a cover.

Comply: _____

CORD REEL:

Akron model #ERWC-16-6 12 VDC Electric Rewind Cord Reel is to be supplied. The reel is to be placed at the direction of RIDOT. The reel is to be equipped with 150' of 12/3 SO cable. The end of the cable shall be equipped with a duplex GFCI, 5-20R outlets, weatherproof box and spring cover The reel shall be wired to operate from the generator.

Comply: ____

ADDITIONAL EQUIPMENT

5# fire extinguisher, reflector kit, first aid kit and spill response kit
Two (2) grip strut wheel chocks
Pin style cone holder capable of holding 6 cones
One Motorola APX 1500 Project 25, 700/800 MHz digital radio installed and ready for use, powered by key-switch accessory. (Attachment #1)
Three sets of Ignition keys, with keyless entry remote.
Mud flaps
Electronic Kussmaul Inclinometer, installed on cab dash
Co-polymer tool organizer, TO-2C, 18" x 20" x ¼" with bit holder
Leather tool loops, knife sheath and fixed tool bag
Co-polymer Tool Tray, 1TB, 19" x 8" x 8"

Fabricate an aluminum sign rack capable of holding up to six (6) 48" signs. This rack is to be placed in the loadbed.

Comply: _____

UPFIT, CONVERSION and BODY WARRANTY: (No Exceptions)

Two (2) year onsite warranty including all parts and labor. Any repairs that cannot be completed on site shall be transported by the supplier. Two (2) year onsite warranty including all parts and labor. Any repairs that cannot be completed on site shall be transported by the supplier.

Comply: _____

2019 or CURRENT MODEL YEAR CAB & CHASSIS 6-WHEEL TRUCK

ENGINE, DIESEL:	Minimum 330 HP @2000 RPM, 1000 lb-ft Torque @ 1400 RPM Minimum Engine Displacement 8 Liters, Wet Sleeved Engine
TRANSMISSION, AUTOMATIC:	Allison 3000 RDS P, 5th Gen. wide ratio 6-Speed, with double overdrive and PTO Provision
GVWR:	33,000 LBS
WHEEL BASE:	To be verified with body builder
CA:	120" to be verified by body builder
AFTER AXLE FRAME:	80" of integral after axle frame to be included for up-fitting
BODY DIMENSION:	Shall fit 156" Utility body and all additional equipment mentioned within this specification.
AXLE, FRONT NON-DRIVING:	Wide Track, I-Beam Type, 12,000-lb Capacity
AXLE, REAR, SINGLE:	23,000-lb capacity with locking differential.
CAB:	Conventional Cab
PAINT:	Winter White (STD)

CAB SPECIFICATIONS:

CAB: Conventional Cab with Power Window and door locks

- TWO (2) Steps Per Door
- SEAT, DRIVER : Air Suspension with arm rest
- SEAT BELT 3-Point, Lap and Shoulder Belt Type
- PASSENGERS SEAT: BUCKET Fixed Back, Vinyl
- CAB REAR SUSPENSION: Air Bag Type
- AIR CONDITIONER With Integral Heater & Defroster
- RADIO AM/FM/WB/ Clock/ 3MM/Auxiliary Input, with Multiple Speakers, With CD player, Blue Tooth for Hands Free
- HORN, electric and AIR- Black Single Trumpet, Air Solenoid Operated
- Power windows
- Power Door Locks
- POWER SOURCE Cigar Type Receptacle without Plug and Cord.
- HEATED MIRRORS
- TWO (2) front mounted tow hooks
- COMPLETE BODY BUILDER WIRING, with all required modules and sealed connectors

Comply: _____

BACK UP CAMERAS

Furnish one (1) back-up camera and one (1) in-cab monitor system that provides monitoring of all reverse operations from within the cab. Monitor shall be 7" or larger.

Comply: _____

FRAME/SUSPENSION:

Frame dimensions must be coordinated with body builder to ensure proper fit of all equipment and properly rated for the intended use (Aerial Lift Truck).

- FRAME RAILS High Strength Low Alloy Steel (120,000 PSI Yield); 10.250" x 3.6" x .0375" (260.4mm x 91.7mm x 9.5mm); 456.0" (11582mm) Maximum OAL
- BUMPER, FRONT Chrome or powder coated grey
- SPRING PINS Rubber Bushings, Maintenance-Free
- FRONT SPRINGS Tapered leaf, 12,000-lb Capacity with shock absorbers

- REAR SPRINGS 23,500-lb with 4,500 lb auxiliary spring

Comply:_____

BRAKE SYSTEM:

- BRAKE SYSTEM, AIR Dual System for Straight Truck Applications with all necessary gauges, knobs, emergency functions and valves
- BRAKE LINES, Color coded and size coded
- AIR BRAKE ABS Full Vehicle Wheel Control System (4-Channel)
- AIR DRYER with Heater
- AIR DRYER LOCATION inside Left Rail, Back of Cab
- SLACK ADJUSTERS-Automatic
- BRAKE CHAMBERS, FRONT, AXLE, sized appropriately
- BRAKE CHAMBERS, REAR AXLE, sized appropriately
- AIR COMPRESSOR sized appropriately
- DUST SHIELDS, front and rear

Comply: _____

POWER STEERING:

- STEERING COLUMN Tilting
- STEERING WHEEL 2-Spoke, 18" Diam... Black
- STEERING GEAR Power Steering

Comply: _____

EXHAUST:

- EXHAUST SYSTEM Single, Horizontal, After-treatment Device Frame Mounted Right Side Back of Cab, Includes Horizontal Tail Pipe
- MUST FEDERAL EMISSIONS EPA, OBD and GHG Certified for current Calendar Year.

Comply: _____

RADIATOR:

- Aluminum;, Includes In-Tank Transmission Oil Cooler

Comply: _____

ELECTRICAL SYSTEM:

- ELECTRICAL SYSTEM 12-Volt, Standard Equipment
- ALTERNATOR Brush Type; 12 Volt 160 Amp. Cap. With Remote Sense
- BATTERY SYSTEM: Maintenance-Free (2) 12-Volt 1300CCA Total
- STARTING MOTOR 12 Volt; With Thermal Over-Crank Protection
- HEADLIGHTS Halogen; Composite Aero Design for Two Light System; Includes Daytime Running Lights CLEARANCE/MARKER LIGHTS (5) Amber LED Lights, Flush Mounted
- HEADLIGHTS ON W/WIPERS Headlights Will Automatically Turn on if Windshield Wipers are turned on STOP, TURN TAIL & B/U LIGHTS Super 44, With LED Lamps for Stop, Turn & Tail Lights and Truck Lite Super 40 Lamps for Backup lights, Less Power Module, Less Rubber Mount, Includes Separate Rear Reflectors
- BACK-UP ALARM Electric, 107 dBA
- SAFETY LIGHTING PACKAGE, UPFITTING & SWITCHES (see page 7)
- SHALL INCLUDE BODY BUILDER WIRING WITH SEALED CONNECTORS FOR ALL APPLICABLE FUNCTIONS.

Comply: _____

FUEL TANK

- FUEL TANK Top Draw; D Style, Non- Polished Aluminum, 16" Tank Depth, 50 U.S. Gal., Capacity, with Quick Connect Outlet, Mounted Right Side, Under Cab

Comply: _____

TIRES:

- (4) TIRE, REAR 11R22.5 Load Range G, traction tread design, with Powder Coated Hub Piloted Wheel
- (2) TIRE, FRONT 11R22.5 Load Range G with Powder Coated Hub Piloted Wheel

Comply: _____

SPARE WHEELS AND TIRES:

One(1) front and Two(2) rear spare tires and rims matching above, shall be furnished for this truck.

Comply: _____

Warranties

Engine - The Engine shall have the standard manufacturer's warranty extended for the period of 60 months/100,000 miles to include 100% parts, labor and other incidentals which are cover under the standard new vehicle warranty.

Engine After treatment system and EA Harness and sensors – 60 months/100,000 miles – 100% parts and labor

Chassis - The standard manufacturer's warranty shall be extended for the period of 60 months/100,000 miles to include 100% parts, labor and other incidentals which are cover under the standard new vehicle warranty

Transmission – 60 months/no mileage limits – 100% parts and labor

No engine hour limitation in above warranties

A breakdown of the standard manufacturer's warranty when it is in excess of the 2 years requested shall be listed for each component of the cab and chassis and included in the manual set.

Comply: _____

MANUALS:

Vendor shall provide current editions of all available cab and chassis manuals. This shall a hard copy of the manufacturers upfit documentation and all available overhaul and tune-up manuals, diagnostic, wiring, troubleshooting, and parts manuals for engine, transmission, differential and all components.

The service manuals shall include a complete wiring diagram of the chassis connections for all components. It shall be color coded and include sketches and pictures of how the wiring is installed

The operator's manual shall detail the recommended operating procedure of each vehicle and the installed components.

The manuals shall fully and clearly cover all components of the unit, including the pump, valves, controls, tanks, etc. Manuals shall also include comprehensive trouble shooting and diagnosis information for all functions.
Manuals shall also cover all allied equipment and components installed on chassis provided by body installer.

Shop manual shall explain, in detail, procedures for overhauling all major components.
Any deviations from this system shall be noted on the bid and approved by the RIDOT Division of Highway & Bridge Maintenance Administration. A complete system description and product literature for major components shall accompany the bid. Failure to provide manuals may result in 5 percent of total bid being withheld.

Comply_____

TRAINING:

A 1 day, "hands on" operator/technician training session shall be provided at RIDOT Division of Highway & Bridge Maintenance Headquarters. The training session topics will be coordinated through RIDOT Motor Pool section and may include but are not limited to engine maintenance and operation, proper unit maintenance and complete unit operation. The training session shall accommodate at least 28 RIDOT employees at each session. Training shall be provided approximately 3 weeks after delivery of the first unit.
A follow up session is required for operators after the unit has been used one season. These sessions are to be held Division of Highway & Bridge Maintenance Headquarters. The operator's session is to be approximately 4 to 6 hours. All training sessions shall be scheduled on a date mutually agreed upon by RIDOT and the supplier. All training sessions shall be performed by competent technician thoroughly trained in the use, service, and operation of the unit.

Comply: _____

CUSTOMER SERVICE:

The Vender(s) shall provide a single, local point of contact and a backup to handle questions and resolve problems that arise. At least one Customer Service Representative and one backup shall be available at all times. All service representatives shall have access to information to provide immediate response to inquiries concerning the status of orders, service call information, delivery information, back-order information, contract pricing, contracted product offerings/exclusions, billing questions or issues, contract compliance requirements, and general product information. Representatives shall be available by phone, fax, or email (local or toll free number preferred).
Primary Customer Service Representative _____
Primary Customer Service Representative Contact Number _____
Backup Customer Service Representative _____
Backup Customer Service Representative Contact Number _____
Upfitter Customer Service Representative _____
Upfitter Customer Service Representative Contact Number _____

Comply _____

The vender shall have a designated Service Representative assigned to oversee all warranty repair resolution and timely return to service. The chassis manufacture and upfitter are responsible for providing on-site service if they or an authorized service center are located outside a 50-mile radius from Warwick.

Primary Service Representative _____
Primary Service Representative 24/7 Contact Number _____
Backup Service Representative _____
Backup Service Representative 24/7 Contact Number _____
Upfitter Service Representative _____
Upfitter Service Representative 24/7 Contact Number _____

Comply _____

At the time of bid, the vender shall be certified by the respective chassis manufacture as an accelerate service provider. Examples of these certifications are as follows:

Mack/Volvo	Certified Uptime Center
Freightliner/Western Star	Elite Support Dealership
International	Accelerated Service Dealership
Peterbilt	Rapid Check Center
Ford	BPN Dealer
Hino	Certified Ultimate Dealer

Please indicate your company's ability to provide this level of service, and any other services you provide. A current copy of the above certification shall be included with the bid.

Comply _____

TRUCK DELIVERY SCHEDULE:

Fabrication of the unit shall be completed within one hundred twenty (240) days of the successful proposal. All bidders shall provide as part of their bid a schedule for the delivery of all trucks to RIDOT 360 Lincoln Ave, Warwick, RI 02888. This date shall be listed as the number of days following issuance of a Notice-to-Proceed (allow 14 days for approval of the prototype) that the bidder shall successfully deliver all units to the Rhode Island Department of Transportation. Failure to submit a schedule will result in the bid being considered non-responsive. Failure to meet the schedule will result in 3% retention on the total order.

Comply_____

PREPARATION FOR DELIVERY:

The vendor shall be responsible to complete new vehicle delivery inspection. The engine, transmission, differential and cooling system shall be filled to the manufacturer's recommended capacity. The vehicle will receive a new vehicle cleaning and preparation prior to delivery. All equipment shall be completely installed, and adjustments made prior to delivery and to make the vehicle available for immediate use. The vehicle shall be free of any defects when delivered. All vehicles must be delivered without dealer's name or advertising of any type visible on the body.

If any deficiencies are observed and cannot be corrected within two (2) business days, the vehicle will be deleted from the invoice and payment will not made until corrective action is taken and the vehicle is re-inspected and accepted. It shall be the responsibility of the vendor for the pickup and delivery of the vehicle for re-inspection.

CERTIFICATE OF ORIGIN, TITLE and DELIVERY DOCUMENTATION:

At the time of delivery to the State, each vehicles delivered shall be accompanied by a window sticker, title certificate, "Certificate of Origin," and registration documents.

1. The "Certificate of Origin" shall have the owner listed as "STATE OF RI/FLEET OPERATIONS, ONE CAPITOL HILL, PROVIDENCE, RI 02908." It shall include at a minimum, the following information:
   THE MANUFACTURER, MODEL NAME AND NUMBER
   THE MANUFACTURER'S VEHICLE IDENTIFICATION NUMBER (VIN)
   THE NUMBER OF ENGINE CYLINDERS AND ENGINE TYPE
   A GENERAL DESCRIPTION OF THE BODY AND GVW #
   THE ODOMETER DISCLOSURE MUST BE COMPLETED ON THE VENDOR'S SIDE OF "CERTIFICATE OF ORIGIN".

2. Title certificates must be provided.

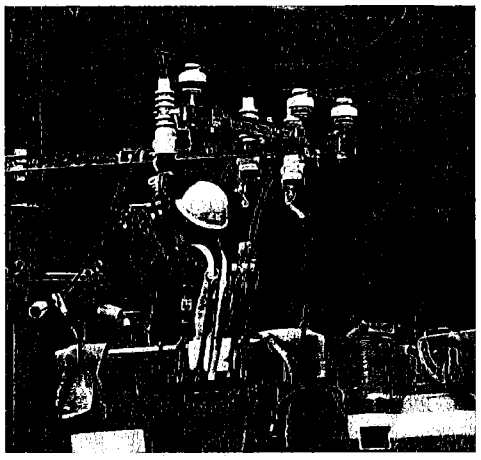
3. The successful vendors will be required to provide the following:
   - A completed application for registration and Title Certificate (TR-1) with the exception of Sections G and H. Owner to be listed as:
     State of RI/Fleet Operations, One Capitol Hill, Providence, RI 02908.
   - A completed Sates or Use Tax Exemption Certification - Motor Vehicles. Purchaser to be listed as: State of RI/Fleet Operations, One Capitol Hill, Providence, RI 02908.

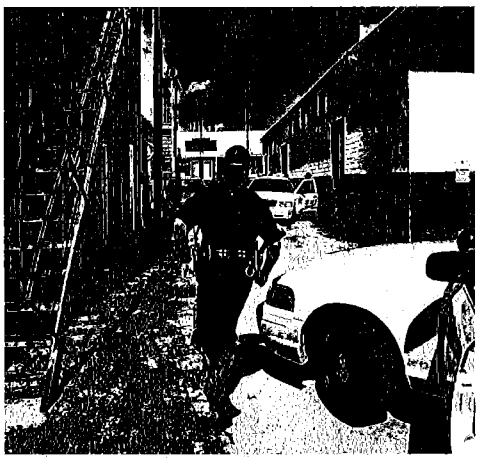
CONCLUDING STATEMENTS:

Responses to this solicitation must be submitted in duplicate and each page shall be numbered (ex. 1 of X) and include the vender's name. A Pre-Bid conference will be held for this bid at a date to be determined. Bids must be predicated on the basis of the bidder's full and unencumbered title to the vehicle(s) as of the date of delivery to the State. Bids subject to lien or assignment at the time of delivery to the State, or which stipulate third party or joint payment, will be rejected. The State may, at its sole option, elect to require presentation(s) by offerors clearly in consideration for award.

End of Specification

MOTOROLA SOLUTIONS





WORK SAFER WHEREVER THE MISSION TAKES YOU

APX™ 1500 PROJECT 25 MOBILE RADIO

Whether a marathon race is passing through the streets of downtown or a water main breaks in the city's largest pipeline, you need the ability to interoperate seamlessly and securely with other agencies and responders. You need to instantly connect and be informed to make better decisions to keep your responders and the community safe. While the advanced technology of APX radios expertly equips you for your day to day operations and the unexpected, your organization may be challenged to improve operating expenses.

The APX 1500 P25 mobile radio is equipped with all the features you need at a price you can afford. It delivers all the benefits of TDMA technology in the most compact P25 capable mobile in the industry. The APX 1500 brings together powerful technology in an easy-to-use radio that's easy on your budget. It seamlessly unifies public works, utility, rural public safety and transportation users to first responders so they can interoperate effectively in the moments that matter.

BE UP TO THE MINUTE INFORMED

Keeping your crew safe is your number one priority. Like all our APX P25 radios trusted by responders worldwide, the APX 1500 mobile redefines safety. Your crews can count on quick, seamless interoperability and extended range wherever the mission may take them. You can depend on ADP software encryption for secure, tamperproof voice and data communications every time they connect.

The 02 Control Head with color display is easy to read and operate in all lighting conditions, from bright sunlight to dark streets. The intelligent lighting on the 02 Control Head notifies your workers when a call is received, an emergency arises, or when they are out of range. Plus, an enlarged multifunction knob makes it easy to use talk-group and volume settings when they're wearing gloves.

SIZED RIGHT FOR YOUR BUDGET

The APX 1500 gives you the ruggedibility and reliability you need at an affordable price. Since the APX 1500 is P25 Phase 2 capable for twice the voice capacity, you can add more users without adding more frequencies or infrastructure. Count on APX quality for years to come. The APX 1500 can withstand wet, dusty and hazardous conditions.

APX 1500 SPECIFICATIONS

FEATURES AND BENEFITS:

Available in 700/800 MHz, VHF, UHF R1 and UHF R2 frequency bands

Channels: Standard 512

Trunking Standards supported:
- Clear or digital private Trunked Operation

Analog MDC-1200 and Digital APCO P25 Conventional System Configurations

Narrow and wide bandwidth digital receiver (6.25kHz/12.5kHz/20kHz/25 kHz)

Embedded digital signaling (ASTRO and ASTRO 25)

Intelligent lighting

Radio profiles

Unified Call List

Meets applicable MIL-STD 810C, D, E, F, G

Ships standard IP56

Utlizes Windows XP, Vista and Windows 7 Customer Programming Software (CPS)

- Supports USB Communications
- Built in FLASHport™ support

Uses standard Dash mounted APX accessories

Software Key

ASTRO 25 integrated Voice and Data

ADP Privacy

Integrated GPS/GLONASS for outdoor location tracking

OPTIONAL FEATURES:

Programming over Project 25 (POP25)

Text Messaging

12 character RF ID asset tracking

*CPS version R12.00.00 and greater ordered after June 2014 will only support Windows 7 and 8

APX 1500 CONTROL HEAD PORTFOLIO

02 RUGGED CONTROL HEAD
- Large color display with intelligent lighting
- 3 lines of text 14 characters max / 1 line of icons / 1 line of menus
- Built in 7.5 watt speaker
- Multifunction volume/channel knob
- Night/day mode button

TRANSMITTER - TYPICAL PERFORMANCE SPECIFICATIONS

	700 MHz	800 MHz	VHF	UHF Range 1	UHF Range 2
Frequency Range/Bandsplits	764-776 MHz 794-806 MHz	806-824 MHz 851-870 MHz	136-174 MHz	380-470 MHz	450-520 MHz
Channel Spacing	25/20/12.5 kHz	25/20/12.5 kHz	25/20/12.5 kHz	25/20/12.5 kHz	25/20/12.5 kHz
Maximum Frequency Separation	Full Bandsplit	Full Bandsplit	Full Bandsplit	Full Bandsplit	Full Bandsplit
Rated RF Output Power Adj.*	3-30 Watts (2-3 Watts Itinerant)	3-35 Watts	1-50 Watts	1-40 Watts	1-45 Watts
Frequency Stability* (–30°C to +60°C, +25°C Ref.)	±0.8 PPM	±0.8 PPM	±0.8 PPM	±0.8 PPM	±0.8 PPM
Modulation Limiting*	±5 kHz / ±2.5 kHz	±5 kHz/±4 kHz (NPSPAC) /±2.5 kHz	±5 kHz / ±2.5 kHz	±5 kHz / ±2.5 kHz	±5 kHz / ±2.5 kHz
Modulation Fidelity (C4FM) 12.5kHz Digital Channel	1.5%	1.5%	2.5%	1.1%	1.1%
Emissions*	Conducted+ –75/–85 dBc; Radiated+ –20/–40 dBm	Conducted –75 dBc; Radiated –20 dBm	Conducted –85 dBc; Radiated –20 dBm	Conducted –85 dBc; Radiated –20 dBm	Conducted –85 dBc; Radiated –20 dBm
Audio Response*	+1, –3 dB (EIA)	+1, –3 dB (EIA)	+1, –3 dB (EIA)	+1, –3 dB (EIA)	+1, –3 dB (EIA)
FM Hum & Noise 25 & 20 kHz 12.5 kHz	–50 dB –48 dB	–50 dB –48 dB	–52 dB –51 dB	–51 dB –48 dB	–51 dB –48 dB
Audio Distortion* 25 & 20 kHz 12.5 kHz	0.50% 0.50%	0.50% 0.50%	0.50% 0.50%	0.50% 0.50%	0.50% 0.50%

RECEIVER – TYPICAL PERFORMANCE SPECIFICATIONS

	700 MHz	800 MHz	VHF	UHF Range 1	UHF Range 2
Frequency Range/Bandsplits	764-776 MHz	851-870 MHz	136-174 MHz	380-470 MHz	450-520 MHz
Channel Spacing	25/20/12.5 kHz	25/20/12.5 kHz	25/20/12.5 kHz	25/20/12.5 kHz	25/20/12.5 kHz
Maximum Frequency Separation	Full Bandsplit	Full Bandsplit	Full Bandsplit	Full Bandsplit	Full Bandsplit
Audio Output Power at 3% distortion*	7.5 W or 15 W ++	7.5 W or 15 W ++	7.5 W or 15 W ++	7.5 W or 15 W ++	7.5 W or 15 W ++
Frequency Stability* (–30°C to +60°C, +25°C Ref.)	±0.8 PPM	±0.8 PPM	±0.8 PPM	±0.8 PPM	±0.8 PPM
Analog Sensitivity* 12 dB SINAD Digital Sensitivity 5% BER	–120 dBm –121 dBm	–120 dBm –121 dBm	Pre-Amp –123 dBm; Standard –119 dBm Pre-Amp –123 dBm; Standard –119 dBm	Pre-Amp –123 dBm; Standard –119 dBm Pre-Amp –123 dBm; Standard –119 dBm	Pre-Amp –123 dBm; Standard –119 dBm Pre-Amp –123 dBm; Standard –119 dBm
Intermodulation Rejection 25 kHz 12.5 kHz	82 dB 82 dB	82 dB 82 dB	84 dB; 86 dB 85 dB; 86 dB	82 dB; 86 dB 83 dB; 85 dB	82 dB; 86 dB 83 dB; 85 dB
Spurious Rejection	91 dB	91 dB	95 dB	91 dB	91 dB
Audio Distortion at rated*	2%	2%	2%	2%	2%
Selectivity* 25 kHz 12.5 kHz 30 kHz	85 dB 75 dB —	85 dB 75 dB —	89 dB 77 dB 90 dB	83 dB 72 dB —	83 dB 72 dB —

DIMENSIONS

	Inches	Millimeters
Mid Power Radio Transceiver	2 x 7 x 6.4	50.8 x 178 x 163
O2 Control Head	2.7 x 8.1 x 2.1	69 x 207 x 53
Mid Power Radio Transceiver and O2 Control Head - Dash Mount	2.7 x 8.1 x 8.8	69 x 207 x 223
Mid Power Radio Transceiver and O2 Control Head Weight	5.28 lbs	2.45 kg

RADIO MODELS

700/800 (763-870 MHz)	M36URS9PW1AN
VHF (136-174 MHz)	M36KSS9PW1AN
UHF Range 1 (380-470 MHz)	M36QSS9PW1AN
UHF Range 2 (450-520 MHz)	M36SSS9PW1AN

SIGNALING (ASTRO MODE)

Signaling Rate	9.6 kbps
Digital ID Capacity	10,000,000 Conventional / 48,000 Trunking
Digital Network Access Codes	4,096 network site addresses
ASTRO® Digital User Group Addresses	4,096 network site addresses
Project 25 – CAI Digital User Group Addresses	65,000 Conventional / 4,094 Trunking
Error Correction Techniques	Golay, BCH, Reed-Solomon codes
Data Access Control	Slotted CSMA: Utilizes infrastructure-sourced data status bits embedded in both voice and data transmissions.

POWER AND BATTERY DRAIN

Model Type	136-174 MHz, 380-470 MHz, 450-520 MHz, 764-870 MHz				
Minimum RF Power Output	2***-25 Watts (764-776 MHz), 2***-25 Watts (794-806 MHz), 2***-25 Watts (806-824 MHz), 2***-25 Watts (851-870 MHz), 1-25 Watts (136-174 MHz), 1-25 Watts (380-470 MHz), 1-25 Watts (450-520 MHz)				
Operation	13.8V DC ±20% Negative Ground				
Standby at 13.8V	0.85A (764-870 MHz), 0.85A (136-174 MHz), 0.85A (380-470 MHz), 0.85A (450-520 MHz)				
Receive Current at Rated Audio at 13.8V	3.2A (764-870 MHz), 3.2A (136-174 MHz), 3.2A (380-470 MHz), 3.2A (450-520 MHz)				
Transmit Current (A) at Rated Power	136-174 MHz (1-25 Watt) 380-470 MHz (1-25 Watt) 450-520 MHz (1-25 Watt)	9.5A (25W) 9.5A (25W) 9.5A (25W)	764-870 MHz (10-35 Watt)	(2***-25 Watts)	9.5A (25W)

MOBILE MILITARY STANDARDS 810 C, D, E, F, G

	MIL-STD 810C		MIL-STD 810D		MIL-STD 810E		MIL-STD 810F		MIL-STD 810G	
	Method	Proc./Cat.	Method	Proc./Cat.	Method	Proc./Cat.	Method	Proc./Cat.	Method	Proc./Cat.
Low Pressure	500.1	I	500.2	II	500.3	II	500.4	II	500.5	II
High Temperature Storage	501.1	I	501.2	I/A1	501.3	I/A1	501.4	I/Hot	501.5	I/A1
High Temperature Operation	501.1	II	501.2	II/A1	501.3	II/A1	501.4	II/Hot	501.5	II
Low Temperature Storage	502.1	I	502.2	I/C3	502.3	I/C3	502.4	I/C3	502.5	I/C3
Low Temperature Operation	502.1	I	502.2	II/C1	502.3	II/C1	502.4	II/C1	502.5	II
Temperature Shock	503.1	-	503.2	I/A1-C3	503.3	I/A1-C3	503.4	I/Hot-C3	503.5	I/C
Solar Radiation	505.1	II	505.2	I	505.3	I	505.4	I	505.5	I/A1
Rain Blowing	506.1	I	506.2	I	506.3	I	506.4	I	506.5	I
Rain Steady	506.1	II	506.2	II	506.3	II	506.4	III	506.5	III
Humidity	507.1	II	507.2	II	507.3	II	507.4	-	507.5	II-Aggravated
Salt Fog	509.1	-	509.2	-	509.3	-	509.4	-	509.5	1 Proc
Blowing Dust	510.1	I	510.2	I	510.3	I	510.4	I	510.5	I
Blowing Sand		-	510.2	II	510.3	II	510.4	II	510.5	II
Vibration Min. Integrity	514.2	VIII/F, Curve-W	514.3	I/10	514.4	I/10	514.5	I/24	514.6	I-Cat.24
Vibration Loose Cargo	514.2	XI	514.3	II/3	514.4	II/3	514.5	II/5	514.6	-
Shock Functional	516.2	I	516.3	I	516.4	I	516.5	I	516.6	I, V, VI

ENCRYPTION

Supported Encryption Algorithms	ADP SW
Encryption Type	Digital
Key Storage	Tamper protected volatile or non-volatile memory
Key Erasure	Keyboard command

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature	-30°C / +60°C
Storage Temperature	-40°C / +85°C
Humidity	Per MIL-STD
ESD	IEC 801-2 KV
Water and Dust Intrusion	IP56, MIL-STD

* Measured in the analog mode per TIA/EIA 603 under nominal conditions

** Accuracy specs are for long-term tracking (95th percentile values >5 satellites visible at a nominal –130 dBm signal strength)

+ Specs includes performance for the non-GNSS/GNSS bands

++ Output power in to 8 and 3.2 Ohm external speakers respectively

Specifications subject to change without notice. All specifications shown are typical. Radio meets applicable regulatory requirements.

Version 2, Dec 14

TRANSMITTER CERTIFICATION

700/800 (764-775, 793-805, 806-824, 851-869 MHz)	AZ492FT7055
VHF (136-174 MHz)	AZ492FT4916
UHF R1 (380-470 MHz)	AZ492FT3826
UHF R2 (450-520 MHz)	AZ492FT4915

FCC EMISSIONS DESIGNATORS

FCC Emissions Designators	8K10F1D, 8K10F1E, 8K10F1W, 11K0F3E, 16K0F3E, 20K0F1E

Motorola Solutions, Inc. 1301 E. Algonquin Road, Schaumburg, Illinois 60196 U.S.A. **www.motorolasolutions.com**

MOTOROLA SOLUTIONS

Contract Terms and Conditions

Table of Contents

Terms and Conditions

BID STANDARD TERMS AND CONDITIONS

TERMS AND CONDITIONS FOR THIS BID

RIVIP INFO - BID SUBMISSION REQUIREMENTS

It is the vendor's responsibility to check and download anyand all addenda from the RIVIP. Thisoffer may not be considered unless a signed RIVIP generated BidderCertification Cover Form is attached and the Unit Price column is completed.The signed Certification Cover Form should be attached to the front of theoffer. Each bid proposal must be submitted in a separate sealed envelope withthe bidder's name and address and the specific "Solicitation Number,""Solicitation Title," and the "Bid Proposal Submission Deadline" marked in theupper left-hand corner of the envelope.

The bid proposal must be delivered (via mail, messengerservice, or personal delivery) to the Division of Purchases and date-stampedreceipted by the date and time specified for the bid proposal submissiondeadline. Bidders should mail bid proposals sufficiently in advance of the bidproposal submission deadline to ensure timely delivery to the Division ofPurchases or, when delivering a bid proposal in person or by messenger, shouldallow additional time for parking and clearance through security checkpoints.Bid proposals must be addressed to:

Rhode Island Department of Administration

Division of Purchases, 2nd Floor

One Capitol Hill, Providence, RI 02908-5855

Bid proposals that are not received by the Division ofPurchases by the bid proposal submission deadline for whatever reason will bedeemed late and will not be considered. The submission time will be determinedby the time clock in the Division of Purchases. Postmarks will not be considered proof of timely submission.

Bid proposals in electronic format are not accepted at thistime.

At the bid proposal submission deadline, bid proposals willbe opened and read aloud in public.

DIVESTITURE OF INVESTMENTS IN IRAN REQUIREMENT:
No vendor engaged in investment activities in Iran as described in R.I. Gen. Laws §37-2.5-2(b) may submit a bid proposal to, or renew a contract with, the Division of Purchases. Each vendor submitting a bid proposal or entering into a renewal of a contract is required to certify that the vendor does not appear on the list maintained by the General Treasurer pursuant to R.I. Gen. Laws §37-2.5-3.

PURCHASE AGREEMENT BID

BIDDING (a) A single price shall be quoted for each item against which a proposal is submitted. This price will be the maximum in effect during the agreement period. Any price decline at the manufacturer's level shall be reflected in a reduction of the agreement price to the State. (b) Quantities, if any, are estimated only. The agreement shall cover the actual quantities ordering during the period. Deliveries will be billed at the single, firm, awarded unit price quoted regardless of the quantities ordered. (c) Bid price is net F.O.B. destination and shall include inside delivery at no extra cost. (d) Bids for single items and/or a small percentage of total items listed, may, at the State's sole option, be rejected as being non-responsive to the intent of this request. ORDERING (a) The User Agency(s) will submit individual orders for the various items and various quantities as may be required during the agreement period. (b) Exception - Regardless of any agreement resulting from this bid, the State reserves the right to solicit prices separately for any extra large requirements for delivery to specific destinations.

Mailing Address for Bid Proposals issued by the State of Rhode Island, Division of Purchases:

All Bid Proposals must be submitted to the following address:

State of Rhode Island
Department of Administration
Division of Purchases, 2nd Floor
One Capitol Hill
Providence, RI 02908

DELIVERY PER AGENCY

DELIVERY OF GOODS OR SERVICES AS REQUESTED BY AGENCY.