



NKANGALA DISTRICT MUNICIPALITY



**Supply, Registration and Delivery of (two) fire response vehicle for
Thembisile and Dr JS Moroka Fire station
PROJECT NO. 101848**

SCOPE OF WORK

Part C3: Scope of work

C3 Scope of work



C3 SCOPE OF WORK

SCOPE

Branding

200mm white stripe with red.
50mm lettering alongside the vehicle
200mm Fire and Emergency Services with the emblem on the bonnet
Fire logo 350mm wide and 400mm long stickers to be placed on both doors

Licensing

The vehicle shall be register and licence as per the requirements, and the cost will be included on the price of the unit.

Delivery

The 4x4 Rapid Respond vehicles will be delivered at Thembisile Hani Fire Station & Dr JS Moroka Fire Station

PERFORMANCE CHARACTERISTICS

The vehicle, under full load conditions shall be capable of rapid acceleration and shall be able to maintain its designed top speed for prolonged periods.

- a) As an integral part of their offer, tenderers must indicate in writing, the time required for the fully laden vehicle to accelerate from 0 to 80Km/h.
- b) In addition to the requirements stated under (a) above, tenderers are to indicate the top speed of the vehicle offered, full load conditions shall apply.
- c) With their offer, tenderers shall submit full technical information of the vehicle (/s) offered, this information shall include all the relevant details to the engine, transmission, gearbox, suspension, axles and road wheels.

Minimum required dimensions:

Width:	1760mm
Height:	1810mm
Length:	5130mm
Fuel tank:	80 litre

Reliability: The materials used in the construction of the vehicle shall be selected for their proven reliability in service. This requirement shall include all equipment and ancillary equipment forming an integral part of the finished vehicle.

Maintainability: All components used in the manufacturing of the vehicle shall be selected for ease of maintenance and shall be easily accessible for servicing.

The manufacturer shall ensure that all parts used are easily obtainable in the case of replacement due to breakdown; preference shall be given to components of a modular design, components that are easily replaced as a unit.



All components shall be locally available for a period of 10 (ten) years from the date of delivery.

Service Maintenance plan - 6 year / 120,000 km

Warranty - 6 year / 150,000 km

Environmental conditions: The vehicle will be required to operate in conditions that will vary from dry conditions to that of high humidity, and shall be capable of being operated continuously in ambient temperatures that will vary in range from -10°C to 80°C.

All components selected for the manufacture of the equipment shall be suitable for operation within the same stated weather parameters.

Design and construction: Tenderers shall provide full technical details of the chassis, engine, gearbox, axles and road wheels, including any modifications that will apply to the basic chassis on which the vehicle shall be built.

- a) Vehicles Cab: The cab shall comprise of two doors capable of housing the driver and one crew member.
- b) Access to the vehicle for the driver and the crew member shall be unobstructed, and as large as possible with wide opening doors to facilitate members fitted with personal protective clothing.
- c) The engine compartment must be easily accessible to give easy access to the engine and gearbox.
- d) The cab side windows shall be manually or electrically operated from inside the vehicle.
- e) Mirrors shall be electrically operated from within the vehicle.
- f) Vehicle chassis shall have an approach angle of not less than 35° and a departure angle not less than 25°. The vehicle will have a minimum ground clearance of 225mm.
- g) The vehicle shall consist of a minimum 2.4 litre Diesel 4x4 configurations with an Automatic gearbox and a high range / low range selection as well as diff lock facility.
- h) The vehicle will be fitted with a brake system complying with SABS 1207. The vehicle shall be fitted with disk brakes on the front axle and drum brakes on the rear axle.
- i) The vehicle shall have a turning circle of 12 meters maximum from wall to wall for easy manoeuvrability in tight spaces. Tenderers are to indicate this in writing.
- j) The vehicle shall be right-hand drive.
- k) The vehicle shall be fitted with heavy duty wheels capable of off road operation, including the spare wheel.
- l) The vehicle shall be supplied with a 3ton winch incorporated into the front bumper with a wrap around bush bar.

Chassis: It is the intention of these specifications to require that the entire rescue module body shall be constructed entirely of aluminium alloy material. Consideration shall be made to the fact that the entire vehicle with its intended load does not exceed the effective carry load of that of a pick up or bakkie type vehicle can only effectively carry 1000kg.

No rivets, screws, or other fasteners will be used for the attachment of any structural member. The entire body shall be completely sanded to assure a smooth finish.

Rear Mud flaps: Black linear low-density polyethylene (proprietary blend) mud flaps shall be installed on the rear body wheel wells.



Vehicle Body Structure: All parts of the rescue body shall, where applicable, be of all welded construction. Where fasteners are used in such areas as hinge attachment, hardware attachment, etc., the fasteners shall be of aluminium or stainless steel, depending on the structural strength requirement.

The apparatus body structure shall be securely fastened to the chassis with 15mm OD steel fasteners. Chassis frame rails shall be lined with 8mm x 50mm fibre reinforced rubber strips to protect the body frame sills from contact with the rails.

All exterior horizontal surfaces, the front and rear of the body shall be constructed of 3mm fire apparatus quality, aluminium diamond plate.

Exterior Compartment Construction

All body compartments shall be constructed from 3mm formed aluminium alloy plate. All compartment seams shall be sealed, by using a permanent pliable silicone caulking. The compartments shall be machine louvered for adequate ventilation.

The body shall have a body side protection rub rail along the length of the body on each side and at the rear. The rub rail shall be constructed of minimum 7mm thick anodized aluminium extrusion. The rub rail shall be constructed of minimum 7mm thick aluminium extrusion. The rub rail shall be a minimum of 69mm high x 38mm deep and shall extend beyond the body width to protect the compartment doors and the body side. The design of the rub rail shall protect any specified marker lights that are mounted inside its C-channel. The rub rail shall be spaced away from the body using 7mm nylon spacers. The ends of each section shall be provided with a rounded corner piece. The area inside the rub rail C-channel shall be inset with a white or yellow reflective material for increased visibility.

Corrosion Protection

All body components and attachments made from dissimilar metals shall be fastened to the body utilizing a gasket between the parts to prevent metal to metal contact. All fasteners used in attaching these components shall be stainless steel.

Apparatus Body, Roller Shutter Doors

All compartment doors shall be lockable roller shutter doors, manufactured under uniform specifications for fire fighting vehicles.

Compartments – 7 in total

Both Sides

There shall be one (1) compartment ahead of the rear wheels at the forward most portion of the body. This shall be a transverse compartment from the left side to the right side.

There shall be one (1) compartment above the rear wheels.

There shall be one (1) compartment behind the rear wheels.

Back Of Body

There shall be one (1) compartment centred in back of the body.

Electrical System

The electrical system shall be 12V. The alternator shall be of a high duty type. Two batteries of 12V shall be installed. One to supply the vehicle of its normal power and the other to supply power to the lights and radios.



All exposed wiring shall be run in a loom. All wiring looms 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.

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

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

Mast Light: Two 3m telescopic extendable mast lights, capable of both electrical and manual operation, shall be fitted to the rear of the vehicle, one on either side of the rear locker. Each light shall be fitted with 2(two) x 500Watt halogen lights that will be fitted facing opposite directions and be capable of separate light operation but should also enable functionality of both lights at the same time.

Search Light: A 50W LED search light shall be supplied and fitted to the cab roof. The search light shall be remote controlled and shall rotate 360 degrees.

Rear locker requirements

Generator: A 3,2 Kva petrol driven generator shall be supplied and fitted to the rear locker and shall be mounted on a slide out tray. This will allow for operation of the generator without having to remove the generator from the vehicle. Operation of the generator shall only be possible if the tray is in the "slide out" position, due to engine cooling requirements.

Hydraulic Rescue power unit shelving: Shelving shall be installed at the rear locker to house a hydraulic Rescue tools power unit (**supplied by the service**), also fitted to a slide out tray. This shelving and slide out tray must have sufficient enforcement to carry the weight of the hydraulic unit in the "slide out" position for extensive operating periods.

Body Lighting: One (1) 100mm circular single bulb light shall be flush mounted in each body compartment (two (2) in all full height compartments). The light shall be in a resilient shock absorbent mount for improved bulb life. The wiring connection shall be made with a weather resistant plug in style connector. The light shall operate automatically when the compartment door is opened, utilizing a heavy-duty magnetic style door switch. The switch shall only allow the light to illuminate if the compartment door is open.

A license plate light shall be installed on the rear of the vehicle.

Step Lights: Indirect lights with clear lens shall be provided to illuminate the rear step area. Step lights shall be activated with work lights switch in cab when the park brake is set.

The apparatus shall have sufficient lights to properly illuminate the work areas, steps, walkways.

Electronic Siren: A light bar comprising of 2 rotators, 2 LED or Strobe, 2 driving lights and 1 speaker will be mounted on the cab roof. The control unit to be able to activate the rotators, LED / strobes and driving lights separately or simultaneously. Two red LED or strobe beacons will be fitted on each rear corner of the vehicle. Strobe lights to be installed in the front head lights.

A 100 watt PA function system will be installed in a readily available position for the driver in the cab of the vehicle.

Clearance Lights Rescue: Upper body clearance lights shall be provided with chrome shields. Located at each body corner shall be body reflectors.

Sign writing: Sign writing- lettering and numbering shall be done by the Council.



Chassis Paint Finish: A complete procedure listing shall be included and submitted by the candidate tenderer. This list shall indicate the procedures to be followed for the painting of both chassis as well as body paint finishing. Final paint color shall be red.

Cab and Body Stripe: Two straight reflective stripes, 50mm minimum in width each, shall be applied horizontally around the cab and body to comply with NFPA 1901. All exposed, non-aluminium parts of the rear section of the vehicle shall have diagonal “chevron”-type reflective taping in bright orange or red and white as per new design for visibility of emergency vehicles.

EQUIPMENTS

THE FOLLOWING EQUIPMENTS MUST BE FITTED IN RAPID RESCUE VEHICLES

3 Meter hard suction hoses	2
Suction strainer	1
Hard suction hose spanners	2
Three way collecting head	1
Rechargeable torches	4
SCBA set complete with composite cylinder	4
Airbag protection device	1
Set of Stabilizing chocks and blocks	1
Dividing breeching	1
Collecting breeching	1
5kg CO2 extinguisher	1
9kg DCP extinguisher	1
Round tread standpipe	1
Standpipe Key and Bar	1
Large flat head axe with hickory handle 900mm	1
Ceiling hook with hollow fiberglass handle	2
900mm Crow bar	1
750mm Bolt Cutter	1
6.3kg Sledge hammer	1
450mm orange road cones	10
30m x 45mm Double Jacket Hose c/w BIC couplings	10



Pistol Grip Nozzle 110- 550	4
30m extension lead	1
Pair of rubber hose ramps	2
Carborandum Cutter	1
Petrol Chainsaw with 63 cm blade length. Engine power not less than 3.9kW and 72.2 cm ³ displacement..	1
20 litre Jerry Can	1
Hooligan Tool	1