TRANSNET ENGINEERING

Technical Specification for the Phelophepa Mobile Clinic Vehicle

REVISION 04

DATE RELEASED:

21 October 2026

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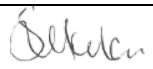
Compiled	Prince Makala Mechanical Engineering Product Development Coaches		21.10.2026
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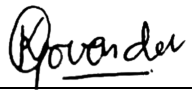
Reviewed	Krish Govender Coaches National Engineering Manager Coaches		21/10/2026
Approved	Daniel Kraal Principal Engineer Product Development Coaches		21/10/2026

LIST OF REVISIONS

Rev.	Date	Responsible Person	Amendment	Classification
0	09/02/2026	Prince Makala	Original	
1	27/08/2026	Wade Arendsen	Various changes	Minor
2	21/09/2026	Prince Makala	Various changes	Minor
3	25/09/2026	Prince Makala	Various changes	Minor
4	21.10.2026	Prince Makala	Various changes	Minor

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1. BACKGROUND

The Phelophepa Healthcare Trains have a well-earned reputation for delivering affordable, accessible, quality comprehensive primary healthcare services to patients, bringing them an ethos of dignity, care and respect. The Phelophepa project vision and mission is to bring affordable, accessible, and quality services to communities, including conducting community outreaches.

Phelophepa requires two new customised mobile health clinics to ensure that it reaches thousands of patients who are unable to come to the trains as they are either too frail or are unable to afford the taxi fares. Two new mobile health vehicles ensure continuity of Phelophepa mobile outreach services to rural communities and bring services to the doorstep of those who are unable to get to mainline health services.

Phelophepa mobile health clinics:

- Have the ability to target and reach people that are in hard-to-reach geographical locations.
- Improve access to quality healthcare services for frail, marginalised and impoverished patients.
- Can reach patients in areas where healthcare services are inaccessible to people,
- Take services to the people.
- Focus on patient-centred health services.

The Phelophepa mobile Health vehicles are to be retrofitted with specialised equipment and the means to provide critical health services to patients. These health services are life-saving and contribute to vulnerable patients' dignity and quality of life.

2. SCOPE

The scope of the document is for the design, modify and fit-for-purpose two customized, rugged mobile health vehicles for the Phelophepa trains. The two customised, rugged Phelophepa branded primary healthcare mobile health vehicles with upgraded technology capable of traversing rural terrain to take mobile comprehensive primary healthcare services to impoverished communities.

The customised, rugged mobile health vehicles will be equipped to deliver comprehensive primary healthcare services, including screening, testing and treatment of patients for a variety of ailments.

3. APPLICABLE STANDARDS, LEGISLATION AND REGULATIONS

The contractor shall comply with all applicable South African legislation, regulations, by-laws, standards and codes of practice whether specifically listed in this specification or not. The following standards are applicable to ensure that the vehicle will be roadworthy, registrable, licensed, insurable and compliant with the OEM body builder guidelines:

- National Road Traffic Act 93 of 1996.
- Occupational Health and Safety Act of 1993.
- NAAMSA – The Automotive Business Council - *formerly known as the National Association of Automobile Manufacturers of South Africa*.
- ISO 14505: Ergonomics of the thermal environment — Evaluation of thermal. environments in vehicles. Part 3: Evaluation of thermal comfort using human subjects.
- ISO 19642 Series - Road Vehicles – Automotive Cables.
- SANS 10047 - Testing of Motor vehicles for Roadworthiness.
- The Medicines and Related Substances Act No. 101 of 1965.
- SANS 164-1 – Plug and Socket Outlet Systems.
- The Engineering Profession Act 46 of 2000.
- National Health Act 61 of 2003.

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4. OPERATING ENVIRONMENT

Table 1: Operating Environment for the Mobile Clinic.

Item	Requirement	Description
1.	Climatic Conditions	Severe dust laden conditions prevail in the areas where this coach will operate and severe lightning, snow and ice also occur occasionally. The maximum altitude at which the trains will operate is 2070m and minimum at sea level. The vehicles will lie over in an atmosphere of 86 % to 100 % humidity. The maximum air temperature is 50 ° C (in shade) and minimum -10 °c.
2.	Road conditions	Ability to drive on gravel road (off road capabilities).

5. TECHNICAL REQUIREMENTS

5.1. Base Vehicle.

5.1.1 General.

i. The vehicle shall be approved and licensed to transport passengers according to the National Road Traffic Act 93 of 1996 and eNaTIS.
ii. The vehicle shall be brand new and purchased from an original equipment manufacturer's dealership within the confines of South Africa.

5.1.2 Vehicle Type and Body.

i. Single-cab, high-roof panel van with fixed bulkhead between the cab and cargo area.
ii. Minimum gross vehicle mass (GVM) of 3.55 tonnes, provided that the space and weight allowance accounts for the equipment to be installed in the vehicle.
iii. Ladder-frame chassis.
iv. Overall allowable vehicle dimensions:
    - Length: 7.1 – 7.6 m.
    - Height: 2.7 - 3.1 m.
    - Width: 2.3 m maximum.
v. Overall allowable cargo area dimensions:
    - Length: 4.8 – 5.2 m.
    - Height: 2 – 2.1 m.

- Width: 1.78 m minimum.

vi. Minimum wheelbase of 4100 mm.

vii. Cargo area access by means of a side-access sliding door (positioned on the non-driving side of the vehicle) and two rear-access swing doors.

viii. Sliding window with frosted glass and interior burglar protection fitted to the sliding door

ix. Vehicle exterior paint colour shall be white as offered in the vehicle manufacturer's standard paint catalogue and shall be the shade closest to RAL 9010 Pure White.

x. Metallic and pearlescent paints not permitted.

5.1.3 Powertrain.

i. Turbo-diesel engine.

ii. Output of 100-140kW and 340-450Nm.

iii. Euro-V emissions-compliant or later.

5.1.4 Transmission and Driveline.

i. Automatic transmission.

ii. Rear- or all-wheel drive permitted.

5.1.5 Suspension.

i. Permitted front suspension types shall be: double wishbone with transverse leaf springs, dampers and anti-roll bar, or McPherson Strut with coil springs and dampers, and anti-roll bar.

ii. Permitted rear suspension types shall be: heavy-duty multi- or parabolic leaf springs with bump stops, dampers and anti-roll bar, or single leaf springs with air springs, dampers and anti-roll bar.

iii. The chosen vehicle and its suspension system must take into consideration the vehicle conversion and equipment described in Sections 5.2, 5.3 and 5.4 with a 5% weight allowance.

iv. Additionally, the suspension system shall be suitable for on- and off-road use.

v. Modifications to the factory suspension equipment shall not be permitted.

5.1.6 Wheels and Tyres.

i. Wheel and tyre size offered as standard by the vehicle manufacturer.

ii. All-terrain radial tyres all-round, including spare wheel.

iii. Single- or dual-rear wheel arrangement acceptable.

iv. The spare wheel shall be full-size and suitable for fitment to both the front and rear of the vehicle.

5.1.7 Steering.

i. Power-assisted rack and pinion steering.
ii. Maximum permissible turning circle of 16 500 mm.
iii. Modifications to that factory steering system shall not be permitted.

5.1.8 Brakes.

i. Disc brakes, front and rear.
ii. Cable-operated parking brake.
iii. Modifications to the factory braking system shall not be permitted.

5.1.9 Fuel Storage.

i. Minimum 70L fuel tank with the maximum available fuel tank capacity preferred.

5.1.10 Cabin and Equipment.

i. Seating capacity for a driver and one passenger.
ii. Air-conditioning.
iii. Radio and sound system.
iv. The driver's cab shall remain standard as supplied from factory; thus, no optional extras unless explicitly defined in this specification.
v. Only the factory-fitted equipment shall be permitted, and remain in their original state as when purchased.

5.1.11 Security System.

i. Immobiliser.
ii. Intrusion alarm system.
iii. Remote locking/unlocking.
iv. Central locking.

5.1.12 Safety Systems & Equipment.

i. Driver and passenger front airbags, including side curtain airbags if available as a factory-fitted optional extra.
ii. Mobile fire extinguisher fitted to the cab.

iii. Equipped with, but not limited to, Anti-lock Braking System (ABS), Traction Control System (TCS), Electronic Stability Control / Programme (ESC or ESP), Electronic Brake-force Distribution (EBD) and Emergency Brake Assist (EBA).
iv. 5-Star Euro NCAP crash safety rating.

5.2. Vehicle Conversion - Mobile Clinic.

5.2.1 General Requirements.

i. The base vehicle described in Section 5.1 shall be converted into a fully functional mobile clinic and shall conform to the specifications defined in Section 5.2.
ii. The bidder shall submit written confirmation from the vehicle OEM that the proposed conversion complies with the manufacturer's approved body builder guidelines and does not invalidate warranties.
iii. The conversion of the vehicle structure, weight distribution and all installed equipment shall comply with NRTA requirements and OEM body builder guidelines and be supported by engineering certification.
iv. The vehicle conversion shall reflect recognised best practices for specialist healthcare vehicles.
v. The structural integrity of the base vehicle must be preserved such that all structural members of the vehicle body and chassis remain intact and unaltered.
vi. Where reinforcements are required, these shall be designed by a qualified ECSA registered professional engineer, and the design validation will be shared for review before implementation.
vii. The vehicle shall remain within the designed GVM to maintain stable handling and the driving characteristics of the original vehicle.
viii. The mobile clinic shall be safe, durable and ergonomically designed, capable of continuous operation under the normal operating and environmental conditions provided in Section 4.
ix. Automotive cable rated to the correct amperage shall be used throughout and fitted in trunking or conduit.
x. All circuits will be wired to a distribution board with adequately rated circuit breakers for safety.
xi. All circuits shall be protected with earth leakage devices.

xii. The conversion shall not produce rattling or movement of installed items during the vehicle's normal operation.
xiii. Only materials suited to healthcare applications will be permitted.
xiv. Sharp edges shall not be permitted.
xv. The materials used and construction should permit repeated cleaning using hospital-grade cleaners and disinfectants.
xvi. All equipment and fixtures shall be permanently secured using engineering fastener systems.
xvii. Mechanical fastener visibility shall be minimised.
xviii. The optimisation of limited internal space shall be prioritised.
xix. All external components shall be ultraviolet (UV) resistant.
xx. All external components shall have coastal grade corrosion protection.

5.2.2 Interior Layout.

i. The interior layout shall be open-plan and comprise:
- Patient examination area, containing:
  - 1x Examination bed.
    - Dimensions: L:1900 x W:650 x H:750 mm.
    - Adjustable backrest: 0 – 70 degrees.
    - Mattress fitted with easy-to-clean, medical-grade upholstery.
    - Sturdy construction for daily medical use.
    - Suitable for both adults and children.
    - Integrated storage in the base of the examination bed.
    - Integrated paper towel roll holder (500mm-wide) (refer to Figure 1).
- Patient consultation area, containing:
  - 1x Integrated clinical work surface (wall-mounted, fold-down).
- Handwash station, containing:
  - 1x Stainless steel basin with overflow port and pop-up drain plug.
  - 1x hands-free elbow tap for cold water only.
  - 1x Backsplash.
  - 1x Soap dispenser.
  - 1x Paper towel dispenser.
  - 1x Hand sanitiser dispenser.

ii. The layout shall allow sufficient space for safe and unobstructed access to the examination bed, all medical equipment and the handwash station by a nurse during patient treatment.
iii. Space allowance shall be made for the following; however, shall not form part of the scope of supply:
    - 1x Nurse consultation chair.
    - 1x Patient consultation chair.

5.2.3 Interior Construction.

i. Construction materials used for the floor, walls and ceilings shall be light.
ii. weight, corrosion-resistant, moisture-resistant, non-porous, impact- and scratch-resistant.
iii. The walls and ceiling, including the bulkhead, shall be clad in white to create a neat, easy-to-maintain environment.
iv. Wall and ceiling panels shall be smooth, easy to clean and disinfect against bacteria.
v. Wall and ceiling panels shall allow for concealed electrical wire routing.
vi. Wall and ceiling panels shall provide maintenance access in locations where equipment/components/wiring/plumbing is concealed.
vii. Aluminium extrusions shall be used to join all panels, and be suitably sealed.
viii. Insulation:
    - The floor, walls and ceiling shall be insulated, thermally and acoustically, in accordance with ISO 14505 series.
    - The insulation shall minimise heat transfer between the interior and exterior of the vehicle, and thus, reduce the electrical load on the HVAC system due to losses.
    - The insulation shall provide a quiet and private environment for patient consultation.
ix. Floor:
    - Entrance step shall be covered with a non-slip, wear-resistant material.
    - Shall be covered with a polyurethane, non-slip rubber floor covering in grey (RAL 7025).
    - Shall extend 100mm up the sides of the walls and fixed cabinetry to create a complete seal, and to enable easy cleaning and improve infection control.

x. Walls:
    - Walls shall be constructed of sturdy materials capable of supporting the integrated cabinetry and all-mounted equipment.
    - Alternatively, a suitable means of attaching the cabinetry to the chassis will be provided in cases where required.

xi. Ceiling:
    - A PVC foam board or equivalent ceiling material must be installed.

5.2.4 Integrated Cabinetry & Storage.

i. To maximise the available interior space, integrated storage shall be incorporated and designed to accommodate all items designated in Annexures A - E as requiring storage.

ii. Additionally, provisions shall be made for the storage of:
    - Medicines (various).
    - Personal protective equipment (PPE).
        - Disposable examination gloves (multiple sizes).
        - Surgical masks.
        - N95/FFP2/FFP3 respirators.
        - Disposable gowns.
        - Isolation gowns.
        - Protective coveralls.
        - Face shields.
        - Safety goggles.
        - Disposable aprons.
        - Hair covers.
        - Shoe covers.
        - Sleeve protectors.
        - Hand hygiene products where appropriate.
    - Operational consumables.
        - Gloves, masks, swabs.
        - Lancets, test strips.

- Sharps containers.
- Clinical waste bags.
- General waste bags.

iii. Overhead storage shall be favoured to maximise the available interior floor space.
iv. Cabinets shall be lockable.
v. Cabinets and drawers shall incorporate positive locking mechanisms to prevent accidental opening during transit.

5.2.5 HVAC System.

i. A roof-mounted HVAC system shall be installed onto the vehicle and ducted to cool the clinical area.
ii. The system shall be independently controlled.
iii. The HVAC system shall provide both heating and cooling.
iv. The system shall be appropriately sized to achieve:
    - 18 – 24 degrees of interior cooling at 40 degrees external ambient temperature.
    - 18 – 24 degrees of interior heating at -5 degrees external ambient temperature.
    - Heating/Cooling COP ≥ 3.
v. The system shall remain operable while the vehicle's engine is switched off, powered by the vehicle's auxiliary electrical system or while connected to shore supply power.
vi. The system should be reliable, minimise internal noise, avoid the transmission of vibrations to the vehicle interior, be energy efficient, and withstand the operating conditions defined in Section 4.
vii. The noise level performance shall not exceed 40 DB in a normal operating conditions. Suppliers shall submit OEM test certificates as validation.
viii. The purpose is to maintain staff and patient comfort throughout the seasons of the year, and minimise the presence of airborne contaminants through adequate ventilation and air filtration.
ix. The bidder shall state the designed outdoor-air flow rate in litres per second and air changes per hour. Before manufacture, the successful bidder shall submit calculations and equipment data. During factory acceptance testing, airflow shall be measured at each supply and extract point using a calibrated instrument. The measured result must equal or exceed the approved design value.

x. The system shall be required to introduce fresh air into and remove stale air from the clinical area, prevent excessive heat build-up, minimise odours, and support infection control through appropriate air filtering.
xi. Airflow shall be vented for uniform distribution to avoid hot and cold spots, and avoid direct flow onto the examination bed and nurse's worktable.
xii. Air filters shall be easy to access for general maintenance purposes and replaceable without specialised tools.
xiii. The condensate discharge should be directed to the exterior of the vehicle, and not the greywater tank.
xiv. The system should have user-friendly controls allowing for the following minimum functions: Temperature, fan speed and ventilation.
xv. The HVAC controls shall be a fixed panel located adjacent to the side access sliding door.
xvi. The HVAC system shall have an energy efficiency ratio (EER) of not less than 3.2 W/W at rated operating conditions. Documentary proof of compliance from the manufacture shall be submitted.

5.2.6 Water Supply, Drainage and Greywater System.

i. The system shall be self-contained and provide a reliable and hygienic supply of water to support hand hygiene and basic cleaning activities while ensuring compliance with infection prevention and control principles applicable to a mobile healthcare environment.
ii. The system shall be designed to minimise maintenance, allow easy inspections and conserve water.
iii. The system shall remain functional while the vehicle is switched off.
iv. The water supply, drainage and grey water system shall be incorporated into the handwash station described in Section 5.2.2.
v. The complete system shall comprise, but not be limited to:
    - Potable water storage that is food-grade and has a minimum capacity of 60 litres.
    - Greywater storage that is vented and has a minimum capacity of 70 litres.
    - Electrical water pump system that is automatic pressure sensing, quiet, has dry-run protection, and is low maintenance.
    - Water filtration system capable of removing particles and odours.

- Water supply and drainage plumbing that is suitable for potable water, thus resistant to corrosion. A multilayer composite pipe and fitting system will be preferred. Additionally, the reticulation will be designed to minimise the number of bends as far as possible.
- Water level monitoring (both fresh water and greywater) that is in clear view or easy to access.
- External water filling and drainage points (both with lockable dust cover and clearly marked). A flexible discharge hose with compatible fittings shall be supplied to aid drainage.
- Overflow protection that prevents water use when the greywater tank is full (connected to the electrical water pump).

vi. The system shall be fully enclosed within the vehicle body to protect from external damage and vandalism.

5.2.7 Auxiliary Power System, Lighting and Electrical Power Sockets.

i. All electrical systems vehicle cabling must be compliant to ISO 19642.
ii. Shall provide power to all on-board electrical equipment defined in the specification.
iii. Shall operate on 220-volt power.
iv. Shall comprise:
    - Inverter.
    - Mobile generator capable of powering all on-board electrical equipment.
    - 95 Ah deep cycle battery.
    - External shore supply plug (caravan-type, IP66-rated) and supplied cable wound onto a reel (20m long).
v. The necessary provisions shall be made to protect from electrical spikes from the generator, but particularly, shore supply.
vi. Lighting.
    - Vehicle interior lighting shall comprise four (4) 12V LED lights, operated by a single switch fitted against the bulkhead at the sliding door entrance.
    - The vehicle exterior shall be fitted with an LED light strip to provide illumination to the exterior outreach area during low-light conditions.
vii. Electrical Power Socket Outlets.

- Four (4) double electrical power socket outlets (SANS 164-1 Type M) shall be fitted in the clinical consultation room.
- Four (4) USB-A fast charging outlets shall be fitted in the clinical consultation room.

5.2.8 Awning.

i. A roll-up, manually deployable awning shall be fitted to the vehicle exterior on the non-driving side, and shall serve as the patient registration and screening area.
ii. Shall be easy to stow and deploy, and suitable for the operating environment described in Section 4.
iii. The awning shall project 4m, with a width from the rear of the cab door to the end of the vehicle.
iv. The awning will be permanently fixed on the non-driving side of the vehicle, positioned above the sliding door.
v. It will retract into a rugged aluminium housing that must be lockable and tamperproof when in the retracted position.
vi. When extended, the awning shall have struts that support it on the ground.
vii. The awning fabric shall be minimum 650gsm PVC coated canvas.
viii. The awning fabric shall be UV stabilized for minimum 5 years outdoor exposure.
ix. The awning fabric shall be capable of withstanding windspeeds of 50 km/h when deployed.
x. The awning fabric shall have a waterproof rating of ≥ 3000mm hydrostatic head.
xi. The awning shall be water resistant and be watertight where it attaches to the vehicle.
xii. The awning vinyl colour shall be Graphite Grey (RAL 7024).

5.2.9 Safety Equipment.

i. A 2.5kg dry chemical powder fire extinguisher shall be fitted in the mobile clinic, secured in a SABS-compliant quick-release bracket, located adjacent to the mobile clinic entrance.
ii. Grab handles will be fitted at both the side and rear doorways to assist with access and egress.
iii. 1x Fire blanket.

5.2.10 Access, Egress and Emergency Exits.

i. Access and egress into and out of the mobile clinic during regular operations shall be through the side access sliding door.
ii. Emergency egress out of the mobile clinic shall be through the rear access swing doors.
iii. No permanently installed equipment or furnishings shall obstruct these routes.

5.2.11 Equipment Restraint Systems.

i. All equipment not permanently fixed to the vehicle shall be restrained through suitable means.
ii. The equipment shall be restrained against movement during normal vehicle operating conditions, emergency braking and vibrations during transport.
iii. Restraints shall be easy to apply and remove.

5.2.12 Safety Signage.

i. Signage shall be durable, weather-resistant against fading, peeling and excessive shrinkage.
ii. Signs and notices shall include:
    - “Emergency Exit” sign fitted to the rear access sliding doors.
    - A SABS-compliant fire extinguisher identification sign to accompany the fire extinguisher.
    - No Smoking signs.
    - Maximum occupancy notice.
    - Emergency contact information (details to be shared with the successful bidder).
    - “No passengers permitted during transit” notice to be fitted inside the mobile clinic.

5.2.13 Clinical Equipment and Medical Fit-out.

i. Medical equipment shall enable the safe delivery of essential nurse-led primary healthcare services, including patient assessment.
ii. All equipment shall be new and unused, and be manufactured by recognised medical equipment manufacturers, and comply with all SA regulatory requirements including registration with SAHPRA and equipments accompanied by certificates of conformity and calibration traceability to SANAS accredited laboratories.

iii. All equipment supplied shall be suitable for installation within a commercial vehicle, securely mounted where required, and capable of withstanding vibration, temperature fluctuations and routine transportation without degradation of performance.

iv. Battery-operated equipment shall have sufficient operating capacity for a full operational day without recharging.

v. Figure 1 below shows a proposed furnished consultation room (note: representation only).



Figure 1: Proposed Clinical Consultation Area

vi. The clinical consultation area shall be equipped with:

- Clinical assessment equipment (refer to Annexure A).
- Point-of-care diagnostic equipment (refer to Annexure B).
- Minor procedure equipment (refer to Annexure C).
- Basic emergency stabilisation equipment (refer to Annexure D).
- Infection prevention and control equipment (refer to Annexure E).
- 1x Adjustable LED examination light (suited for single-handed adjustment).
- 1x Triple glove dispenser.
- 2x IV fitted to the ceiling above the examination bed.

5.3. Patient Registration, Flow and Screening Equipment.

i. The following items shall be supplied to facilitate patient registration and flow outside of the mobile clinic:

- Folding Registration table.
- Queue barriers.
- Portable handwash station.

- Hand sanitiser dispenser.

ii. The following items shall be supplied to facilitate patient screening outside of the mobile clinic:

- Digital BP monitors x 2.
- Pulse oximeters x 2.
- Digital thermometers x 2.
- Weighing scale.
- Glucometers x 2.
- Urine dipstick kits x 2.
- Measuring tapes (MUAC).

5.4. Outreach and Health Promotion Equipment.

i. The following items shall be supplied to facilitate outreach and health promotion efforts outside of the mobile clinic:

- Folding tables x 2.
- Folding chairs x 2.
- Health education display boards.
- Flip chart and stand.
- Health promotion material.

6. WARRANTY.

6.1. Base Vehicle.

i. The warranty on the base vehicle must be as per OEM warranty duration.
ii. Documentation for this must be submitted to TE during the handover of the vehicle.

6.2. Medical Equipment

i. All medical equipment shall come with a minimum 12-month warranty.

6.3. Vehicle Conversion - Mobile Clinic.

i. The standard factory warranty shall apply.
ii. The supplier shall provide a minimum 24-month warranty on the complete vehicle conversion, workmanship and all installed equipment. Any defects arising during the warranty period shall be repaired or replaced at no cost to the client.

iii. Table 2 below summarises the systems to be covered under the minimum 24-month warranty. It must be noted that the list is not limited and therefore any system installed but not listed will form part of the warranty.

Table 2: Systems to be covered under the required warranty period.

Clinic Body and Converted Vehicle Structure	Workmanship	Electrical Systems	HVAC
Interior Body Structural Modification.	Manufacturing Defects.	Inverter.	Compressors.
All interior fitments (storage cabinets, bed, chairs, basins).	Installation Defects.	Shore supply.	Fans.
Upholstery	Assembly defects.	Wiring.	Controls.
All interior walls and roof		Mobile Generator	Condensers.
Flooring		Power Outlets.	Evaporators.
Water systems (pumps, tanks, taps, basins, etc.).		Batteries.	
Plumbing.		Lighting.	
All Awnings components.			

7. MAINTENANCE CONTRACT.

7.1. Base Vehicle.

i. The vehicle will be maintained as per OEM requirements as stipulated in the vehicle's maintenance manual.
ii. All repairs and breakages covered under warranty to be dealt with inside the warranty.
iii. All other repairs/breakages not covered under warranty to be dealt with outside the existing contract.

7.2. Mobile Clinic Area.

i. The maintenance plan in Table 3 outlines the key preventive maintenance requirements for the mobile clinic systems.
ii. It covers all the medical equipment, utility systems, safety features, and compliance requirements to ensure reliable operation.

Table 3:Systems to be covered under the Maintenance Contract.

Maintenance System	Frequency
HVAC System	As per OEM instruction
All Medical Equipment	As per OEM instruction
Auxiliary system	As per OEM instruction
Water System	As per OEM instruction

iii. In addition to the maintenance activities specified in Table 3, the tenderer is also required to provide a comprehensive list of all other preventative, routine, statutory, and corrective maintenance tasks that must be conducted.

iv. The tenderer shall clearly indicate the recommended maintenance frequency (i.e. daily, weekly, monthly, quarterly, bi-annually, annually, or according to operating hours/manufacturer requirements) and provide a brief description of the maintenance activity per system.

8. COMPLIANCE.

i. The tenderer must indicate, clause-by-clause, that either his tender complies in every respect with this specification or, if not, precisely how it differs from the specification.

ii. Alternative quotations may be submitted but all deviations from this specification must be clearly stated.

iii. A broad statement that the equipment is in accordance with the specification is not acceptable. Failure to comply with these requirements may preclude a tender from consideration.

iv. Deviations from any clause in this specification must be communicated to TE for review. This must be submitted as a separate document.

v. The supply of all mandatory submissions defined in Clause 10.

vi. The complete electrical installation shall comply with ISO 19642 and be supplied with a Certificate of Compliance.

vii. Transnet Engineering's quality requirements as per PD_SES_NAT_QASPEC_0023/001 quality assurance specification must always be adhered to.

viii. Except where otherwise provided for in this specification, all equipment offered shall comply with the requirements of the relevant standard specification of the South African National Standards if published, and in force at the time of tendering.

ix. Where equipment offered complies with the recognised standard of the country of manufacture and not specifically with standards required by this specification, such equipment will be considered at the discretion of Transnet Engineering. In this case tenderers shall state fully all respects in which the equipment offered departs from the standard laid down in this specification.

x. If necessary, a compulsory site briefing will be held and initiated by the procurement officer facilitating the tender.

9. FACTORY ACCEPTANCE TESTING.

9.1. Inspection and Validation.

i. Review documents defined in Clause 10.3.

ii. Mechanical and electrical design validation shall verify compliance with clause 5.2.1 to 5.2.12.

iii. Clinical fit-out, patient registration and screening, and outreach equipment inspection and validation with reference to clause 5.2.13 and Annexure A to E.

iv. Patient registration and screening equipment shall be verified against clause 5.3 and outreach equipment against clause 5.4.

9.2. Testing.

i. Complete electrical certificate of compliance (COC) must be issued before any testing can be undertaken by TE.

ii. Mechanical and electrical functionality testing with reference to the systems and requirements defined in Clause 5.2.

iii. Trial trip.

10. MANDATORY SUBMISSION DOCUMENTATION.

10.1. Upon Tender Submission.

i. Valid accreditation certificate/s from a recognised South African Automobile Vehicles manufacturing organisation.

ii. Concept proposal comprising:

- Vehicle make and model.
- Standard vehicle specifications, which include:
    - Original and final GVM (in tonnes).
    - Overall vehicle length, width and height (in mm).
    - Cargo compartment length, width and height (in mm).
    - Wheelbase (in mm).
    - Engine specifications, including power and torque figures (kW and Nm, respectively), and emissions standard.
    - Rear- or all-wheel drive.
    - Suspension types, front and rear.
    - Wheel and tyre combination.
    - Turning circle, kerb-to-kerb (in mm).
    - Fuel tank capacity (in litres).
    - List of cabin equipment.
    - Vehicle safety features (e.g., ABS, TCS, etc.).
    - Euro NCAP safety rating.
    - Manufacturer warranty terms..
- Mobile clinic general layout and elevations depicting all items' specifications in Section 5.2, showing the overall dimensions of all items that occupy this space.

iii. Note: Failure to submit any of the above documents shall be viewed as unresponsive and shall be treated as technically non-compliant.

10.2. After Tender Award (no later than 4 weeks.)

i. Final mobile clinic design, i.e., engineering drawings, including:
    - Interior construction:
        - Flooring, walls and ceiling materials and construction.
        - Reinforcement design approved by a suitable engineer.
        - Interior furnishings and cabinetry construction, and fixture methods.
        - Handwash station.
    - HVAC system:
        - Intended airflow scheme (i.e., conditioned- and fresh air inlet louvre placement, and exhaust louvre placement).
        - Heating and cooling capacity calculations.
        - Fresh air calculations.

- Noise Level teste certificate.

- Water supply, drainage and greywater system:
  - Piping system offered.
  - Fresh water tank capacity, material type and location.
  - Greywater tank capacity, material and location.
  - Inspection and maintenance access.
- Electrical design:
  - Power budget.
  - Auxiliary power system design.
  - Electrical schematics, including distribution board, lights, electrical power socket outlets and their and locations.
- Lighting:
  - Luminaire luminous flux (in lumens) and locations, interior and exterior.
  - Lux test results compliant with SABS 10114-1 or similar (interior only).
- Medical equipment:
  - Make and model of all items.
  - Specifications of all items.

ii. Structural calculations where applicable.
iii. Material specifications.
iv. Final vehicle GVM (i.e., after conversion).
v. Centre of gravity of the Vehicle.
vi. Weight distribution and axle load calculations.
vii. Warranty documentation.
viii. Awning specifications.

10.3. On Project Completion (handover).

10.3.1 Base Vehicle.

i. Vehicle certificate of registration, containing:
   - Registering authority.
   - Vehicle registration number.
   - Vehicle identification number (VIN).
   - Engine number.
   - Vehicle make.

- Series name.
- Vehicle category.
- Vehicle description.
- Tare mass (in kg).
- Date of liability for first licensing.
- Vehicle status.
- Date of liability for registration.
- Title holder information.
- Owner information.
- Registration date.

ii. Vehicle license, license disc and roadworthy certificate, containing:

- Vehicle registration number.
- License number.
- Vehicle identification number.
- Engine number.
- Vehicle make.
- Series name.
- Vehicle category.
- Vehicle description.
- Tare mass (in kg).
- Gross vehicle mass (in kg).
- National vehicle classification.
- Registering authority.
- Document control number.
- Date of expiry.

iii. Original vehicle owner's manual.

iv. Original vehicle service manual.

v. Main and spare keys.

10.3.2 Vehicle Conversion.

i. OEM body conversion compliance certificate.

ii. Weighbridge certificate.

iii. Individual axle compliance certificate.

iv. Complete electrical certificate of compliance (COC) must be issued before any testing can be undertaken by TE.

10.3.3 Medical Equipment.

i. Manufacturer’s Certificate of Conformity (CoC).
ii. Calibration certificates.
iii. Warranty documentation.
iv. User manual.
v. Maintenance manual.
vi. Spare parts catalogue.

ANNEXURE A: Clinical Assessment Equipment.



Table 4: Clinical Assessment Equipment

Clinical Assessment Equipment		
Equipment Descriptions	Qty	Installation Requirement
Digital blood pressure monitor	1	Storage cabinet
Manual blood pressure monitor (backup)	1	Storage cabinet
Adult, large adult and paediatric blood pressure cuffs	1 set	Storage cabinet
Stethoscope with holder	1	Wall-mounted
Pulse oximeter	1	Storage cabinet
Digital thermometer	1	Storage cabinet
Wall-mounted ENT (otoscope and ophthalmoscope diagnostic set) with charging station	1	Wall-mounted
Pen torch	1	Storage cabinet
Reflex hammer	1	Storage cabinet
Measuring tape	1	Storage cabinet

ANNEXURE B: Point-of-care Diagnostic Equipment



Table 5: Point of Care Diagnostic Equipment

Point-of-care Diagnostics Equipment		
Equipment Descriptions	Qty	Installation Requirement
Glucometer	1	Storage cabinet
Portable haemoglobin analyzer	1	Storage cabinet
Urine dipstick test kit	1	Storage cabinet

ANNEXURE C: Minor Procedure Equipment



Table 6: Minor Procedure Equipment

Minor Procedure Equipment		
Equipment Descriptions	Qty	Installation Requirement
Minor procedure instrument set	1	Storage cabinet
Stainless steel dressing tray	1	Storage cabinet
Stainless steel kidney dishes	2	Storage cabinet
Portable examination instrument tray	1	Storage cabinet

ANNEXURE D: Basic Emergency Stabilisation Equipment

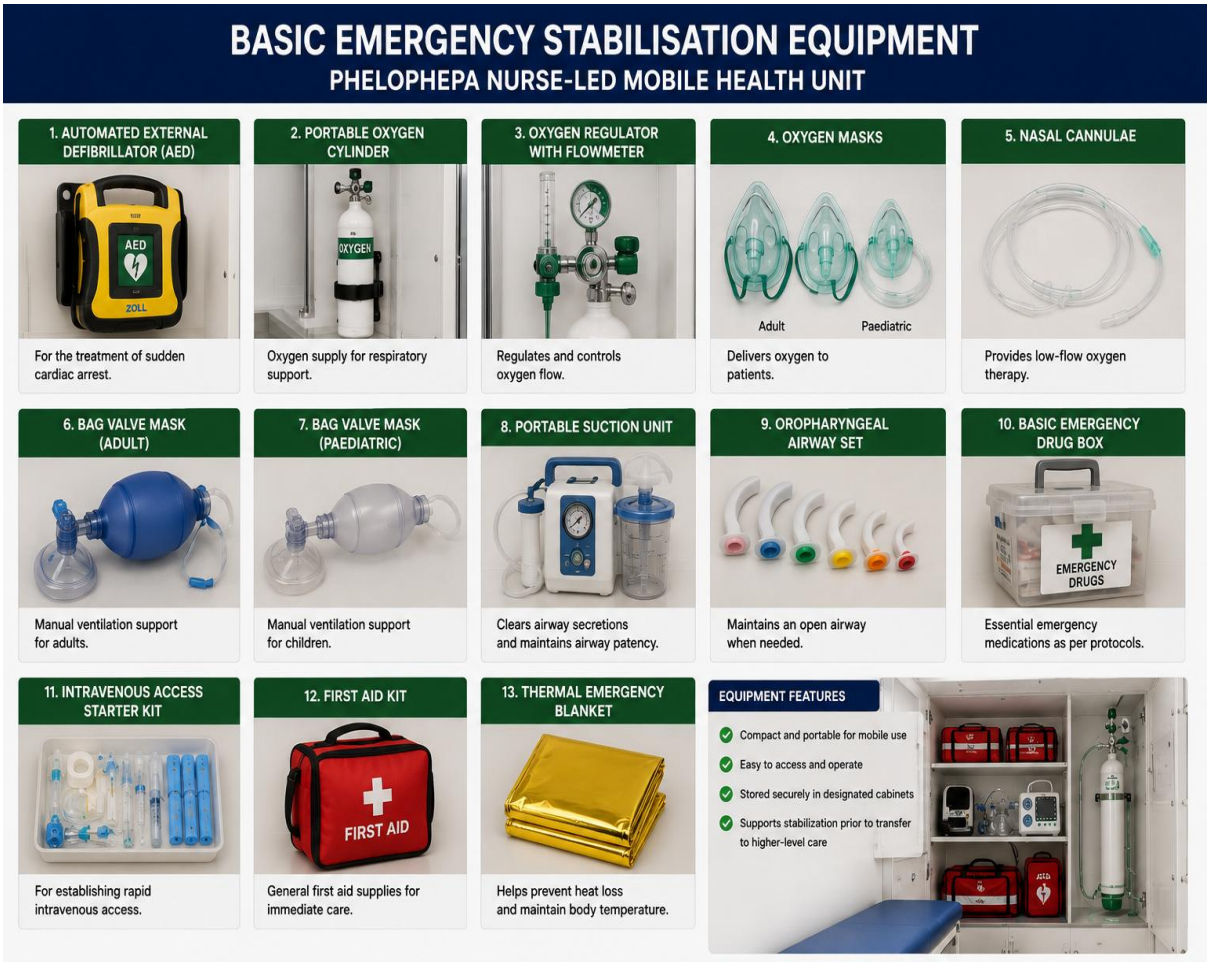

Table 7: Basic Emergency Stabilisation Equipment

Basic Emergency Stabilization Equipment		
Equipment Descriptions	Qty	Installation Requirement
Portable oxygen cylinder (D-size or equivalent) with restraint bracket	1	Floor-mounted
Oxygen regulator with flowmeter	1	Fixed to oxygen cylinder
Adult oxygen masks	2	Storage cabinet
Paediatric oxygen masks	2	Storage cabinet
Adult nasal cannulae	2	Storage cabinet
Bag Valve Mask (Adult)	1	Storage cabinet
Bag Valve Mask (Paediatric)	1	Storage cabinet

Portable manual suction unit with charging bracket	1	Wall-mounted
Oropharyngeal airway set (sizes 0–5)	1 set	Storage cabinet
Basic emergency drug box (as per approved nursing protocols)	1	Storage cabinet
Intravenous access starter kit	1	Storage cabinet
First Aid Kit	1	Storage cabinet
Thermal emergency blankets	2	Storage cabinet

ANNEXURE E: Infection Prevention and Control Equipment



Table 8: Infection Prevention and Control Equipment

Infection Prevention and Control Equipment		
Equipment Descriptions	Qty	Installation Requirement
Lockable PPE storage cupboard	1	Wall-mounted
Spill response kit	1	Storage cabinet