



**SAFE ROADS TO PROSPERITY**

**ROADS AUTHORITY**

**ELIGIBILITY CRITERIA FOR THE SETTING UP OF THE ROADS AUTHORITY PRE-APPROVED SPECIALIST CONSULTANCY SERVICES SUPPLIER ELIGIBILITY LISTS**

**List(s) Validity Period: 36 Months**

**March 2020**

**ISSUED BY:**

The Chief Executive Officer  
Roads Authority Head Office  
c/o Mandume Ndemufao Avenue & David Hosea Merero, Windhoek  
Windhoek, NAMIBIA

## PROCUREMENT MANAGEMENT UNIT

### Request for Company Profiles: Specialized Consultancy Services

The Roads Authority hereby invites competent and registered Namibian companies to submit their Company Profiles for the purpose of Drawing up of the Roads Authority pre-approved (pre-qualified) Specialist Consultancy Services supplier eligibility lists for the purpose of Restricted Bidding, in accordance to Section 31(1)(c) of the Public Procurement Act:

<b>Enquiries/Clarifications</b>	Julia Shipanga Email: shipangaj@ra.org.na Tel: +264 61 284 7112 Roads Authority Head Office, Corner of Mandume Ndemufayo Avenue and David Meroro Road, Windhoek
<b>Validity Period for Pre-Eligibility Lists</b>	36 Months 01 April 2020– 31 March 2023 - <i>Be informed that entry onto the pre-approved supplier eligibility lists is open to any interested bidder throughout the above mentioned period, provided such a bidder meets the eligibility criteria to be entered thereto.</i>
<b>Delivery Address of Company Profiles</b>	Roads Authority Head Office, Corner of Mandume Ndemufayo Avenue & David Meroro Road, Southern Industrial Area, Windhoek, 4 <sup>th</sup> Floor Manager: Procurement and Tender Compliance

## **SPECIALIZED CONSULTANCY SERVICES**

### **Subject: Provision of Specialist Consultancy Service Providers for the Roads Authority**

1. The purpose of this assignment is to set up pre-approved bidder eligibility lists for the specialized services listed below in accordance to Section 31(1)(c) of the Public Procurement Act, 2015 (Act No. 15 of 2015) read together with regulation 14 of the Public Procurement Regulations, 2017:
  - a) Road Management System (RMS) Specialist Technical Advisor
  - b) Road Infrastructure Planning and Design Specialist
  - c) Information Technology System Integration Specialist
  - d) HDM-4 Specialist
  - e) Legal Advisor (Transport Legislation)
  - f) Road Construction Materials Specialist
  - g) Engineering Structural Design Specialist
  - h) Environmental Specialist
  - i) Road Referencing Specialist
  - j) GIS Specialist
  - k) Contract Management Specialist
  - l) Hydrology Specialist (Drainage)
  - m) Transportation Economics Advisor
  - n) Asset Management Specialist
  - o) Traffic Management and Overload Control Advisor
  - p) Senior Adjudicator / Advisor
  - q) Senior Engineering Advisor
  - r) Traffic and Transport Engineering Specialist
  - s) Surveying Specialist
  - t) Road Management System (RMS) Visual Assessment Specialist
  - u) Traffic Surveillance Systems Specialist
  - v) Road management system (RMS) Road profiler specialist
  - w) Bridge Management System
  - x) Geology Expert (Engineering / Rock and Soil formations)
  - y) Road Maintenance Specialist
  
2. The following information is enclosed herein to enable you to submit your company profile:
  - (a) the Terms of Reference (TOR)
  - (b) supplementary information for consultants, including a suggested format of curriculum vitae [Annexure 2]; and

3. Any request for clarification should be forwarded in writing to the Public Entity:

Ms. Julia Shipanga

Procurement Officer

Contact No: +264 61 284 7112

Email: [shipangaj@ra.org.na](mailto:shipangaj@ra.org.na)

Roads Authority, c/o. Mandume Ndemufayo Avenue & David Hosea Merero Road, Southern Industrial Area, 4<sup>th</sup> Floor

4. The Government of the Republic of Namibia requires that bidders/suppliers/contractors participating in any procurement in Namibia to observe the highest standard of ethics during the procurement process and execution of contracts.

You are advised to consult the website of the Procurement Policy Office: [www.mof.gov.na/procurement-policy-unit](http://www.mof.gov.na/procurement-policy-unit) to acquaint themselves with the legislations related to public procurement in the Republic of Namibia.

## 5. Eligibility

- (a) A service provider that is under a declaration of ineligibility by the Government of Namibia in accordance with applicable laws at the date of the deadline for bid submission and thereafter shall be disqualified.
- (b) Company profiles from service providers appearing on the ineligibility lists of African Development Bank, Asian Development Bank, European Bank for Reconstruction and Development, Inter-American Development Bank Group and World Bank Group shall be rejected.

## 6. Submission of Company Profiles

The company profile from interested service providers shall be submitted, in a sealed envelope clearly named **Provision of Specialized Consultancy Services**, to the address provided. Submissions may be done at any time during the validity period of these lists.

## 7. Rights of the Public Entity

Please note that the **Roads Authority** is not bound to shortlist any of the consultants submitting their company profiles.

Please note that being shortlisted does not guarantee that a contract will be awarded to you when bidding processes are carried out for the various specialized services.

Please note that the cost of preparing your company profile, including visits to Namibia, if any, is not reimbursable by the Roads Authority.

## **8. Duration of Pre-Approved Shortlisting**

The maximum duration of the pre-approved shortlisting shall be for a period of **3 years**, starting on 01 April 2020 and ending 31 March 2023.

You shall be notified in writing of your entry or removal from the Pre-Approved eligibility supplier list(s).

**Yours faithfully,**

*Ms. Julia Itana*

*Manager: Procurement and Tender Compliance*

*Contact No: (061) 284 7183*

*Email: itanaj@ra.org.na*

*Roads Authority, Corner Mandume Ndemufayo Avenue & David Hosea Meroro Road, Southern Industrial Area*

## TERMS OF REFERENCE

### Part 1. Background

The Roads Authority (RA) was established under the Roads Authority Act, Act No17 of 1999. The Act came into operation on 25 October 1999 by the promulgation of Government Notice No 235 of 25 October 1999. The objective of the Roads Authority is to manage the national road network of Namibia with a view to achieving a safe and efficient road sector.

The Roads Authority (RA) is the custodian of the Namibian road network. In executing its functions of planning, construction, maintenance and management, knowledge from various disciplines within engineering and economics is required. Where the Roads Authority does not have the necessary capacity or is legally bound to hire external services, it may outsource certain functions in the form of advisory/consulting agreements.

### Part 2. The Services

In this context, the RA wishes to compile and approve a list of available professional experts in various fields to advise and assist the authority. The criteria for each of these experts are specified in this document. The specialized services may be procured by different divisions of the RA. The resulting list will be used to populate various approved “**List(s)** of Specialized Service Providers for a period of 36 months.

Identified areas of specialization that the RA intends to place on the “List” are:

1. Road Management System (RMS) Specialist Technical Advisor
2. Road Infrastructure Planning and Design Specialist
3. Information Technology System Integration Specialist
4. HDM-4 Specialist
5. Legal Advisor (Transport Legislation)
6. Road Construction Materials Specialist
7. Engineering Structural Design Specialist
8. Environmental Specialist
9. Road Referencing Specialist
10. GIS Specialist
11. Contract Management Specialist
12. Hydrology Specialist (Drainage)
13. Transportation Economics Advisor
14. Asset Management Specialist
15. Traffic Management and Overload Control Advisor
16. Senior Adjudicator / Advisor
17. Senior Engineering Advisor (x2)
18. Traffic and Transport Engineering Specialist
19. Surveying Specialist
20. Road Management Systems (RMS) Visual Assessment Specialist
21. Traffic Surveillance Systems Specialist
22. Road management system (RMS) Road profiler specialist

23. Bridge Management System
24. Geology expert (Engineering / soils and rock formation)
25. Road Maintenance Specialist

## **PART 3. TERMS OF REFERENCE DETAILS**

### **3.1.ROAD MANAGEMENT SYSTEM (RMS) SPECIALIST TECHNICAL ADVISOR**

#### **3.1.1. Background**

The Roads Authority operates a Road Management System as required in the Roads Authority Act, Act 17 of 1999. This is to support its function of managing the national road network effectively and efficiently. The Roads Authority requires Specialist Advisor services in regard of policy advice and quality control pertaining to its Road Management System to ensure it being an effective tool in the strategic and tactical management of the national road network.

#### **3.1.2. Expected Qualities and Attributes**

The RMS Specialist Technical Advisor should have at least a 4-year B.Sc. or B.Eng. degree, Master's degree in Civil Engineering, and be registered, or eligible to be registered, with the Engineering Council of Namibia; The Specialist Advisor must have a minimum of 20 years' experience in the development, maintenance and management of road networks in southern Africa, of which at least 10 years were served in a senior position responsible for road network management or the development of RMS systems of a roads authority or has worked as an advisor to various institutions with successful RMSs.

#### **Other attributes of importance are:**

- A strong background in road design, construction and maintenance, road network management and project management.
- The RMS specialist should have gained his/her experience through the development, implementation and operation of at least two different Road Management Systems for National or Provincial Rural Road Authorities over 10 years, which includes sealed and unsealed roads.
- Specific experience regarding the following aspects must be proven
  - Implementation, operation of HDM4 as well as interpretation and analysis of results
  - Design, construction and performance measurement of maintenance and improvement measures on both sealed and unsealed roads.
  - Courses and papers presented on topics related to road management systems, design, pavement performance and maintenance.
- Knowledge of information technology systems, general accounting, project management and human resource management is a strongly recommended
- Knowledgeable on and experienced with the visual assessment methodology of the RA.
- Experienced in training, calibration, quality control of visual assessors and presenting courses on the visual assessment of roads as well as on other pavement related aspects.
- Evaluated and Certified visual assessors with minimum 5 years' experience with the visual assessment methodology of the RA.
- Experience with or in-depth knowledge of the Namibia Road Asset Management System would be beneficial



## **3.2.ROAD INFRASTRUCTURE PLANNING AND DESIGN SPECIALIST**

### **3.2.1. Background**

The objectives of appointing a Road Infrastructure Planning and Design Specialist are to:

- (a) Strengthen the institutional capabilities of the Roads Authority to plan and manage work programs and assist with budget compilation
- (b) Advice on appropriate minimum standards, development strategies and measures to improve general road safety on the network
- (c) Add capacity to review Master Plans as well as feasibility studies, safety audits and project design reports

### **3.2.2. Expected Qualities and Attributes:**

Have at least a 4-year B.Sc. or B.Eng. degree in Civil Engineering, and registered or eligible to be registered, with the Engineering Council of Namibia.

The expert must be a professional engineer with a minimum of 20 years' experience in the development, maintenance, policy formulation and funding of highways in Southern Africa, of which at least 10 years were served in a senior road network management position.

#### **Other attributes of importance are:**

- The road infrastructure planning and design specialist should have extensive experience in road sector planning, safety and environmental audits, geometric design and project management.
- He/she must prove:
  - Successful completion of at least one similar project in terms of scope and complexity in the past
  - Capability of coordinating and leading diverse and multi-disciplinary study teams
  - Knowledge of safety audit planning and implementation
  - Recent projects related to development of Master Plans, environmental studies and safety audits
- Knowledge of the Namibian road sector reform will be an added advantage.

## **3.3.INFORMATION TECHNOLOGY (IT) SYSTEM INTEGRATION SPECIALIST**

### **3.3.1. Background**

Several Information Technology systems have been developed and implemented within the RA during the past ten years. The Road Management System as example consists of numerous integrated sub-systems. The vast amounts of data collected periodically from the road network need to be stored in secure databases and analyzed with complex software which is specifically developed for the purpose. As one of his/her tasks, this specialist would assist and advice the RA in setting up guiding principles and business rules to effectively manage all data.

In achieving its objectives, the RA may therefore, require the services of an IT integration specialist in the context of the development, implementation and management of Road Management Systems.

### **3.3.2. Expected Qualities and Attributes**

This is a bachelor's degree holder (Information Technology) from a recognized institution. This expert should have in depth knowledge of system Life Cycle design processes and methodologies as well as ISO 9000 system certification requirements. At least 20 years' experience in road management system and software development and implementation, both on National and Municipal levels, of which 5 should be in a senior management position. This individual is typically a person with schooling on ICT with a recognized ICT degree from a good university.

The area of specialization would be databases with a focus on data normalization techniques, optimized integration at lowest database level and performance enhancement. Would also be beneficial if the individual is exposed to front-end designs, standardization and application consistency models. Within a project team the System Integration Specialist would normally also act as the system architect where he or she would be expected to compile an Architectural System Design (ASD) for the envisioned solution. This ASD is considered the blue-print for the development and maintenance of the system.

#### **The following specific attributes are required:**

- He/she must prove:
  - Extensive experience with the successful integration of road management systems, sub-systems and modules
  - Knowledge of current best practices and new developments in the industry with regard to information technology and architectural system designs
- Compilation of Architectural System Design
- Maintain holistic systems integrity by defining requirements architecture.
- Prepare integration guidelines
- Conduct quality control on database designs
- Support project system development lifecycle from commencement to completion.
- Coordinate with client and team members and resolve issues, reduce risk and enhance user satisfaction.
- Recommendation on test and evaluation strategies for major systems installations.
- Coordinate and resolve issues impacting system operation.
- Troubleshoot system operating deficiencies and assess corrective alternatives.

The Systems Integration Specialist is fully responsible for participating in requirements analysis, design, development, integration and testing of the application and final integrations. Primary responsibilities will also include troubleshooting existing integrations and providing technical support to the application development team.

### **3.4.HDM4 MODELLING SPECIALIST**

#### **3.4.1. Background**

The Highway Design and Management software (HDM4) is used to do Life Cycle analyses of road networks to determine the most economical multi-year strategies for effective road investments and management. The RA utilizes HDM4 as a strategic planning tool as part of the Road Management

System. A decision has been made to utilize HDM4 at the programme level to motivate Namibian project proposals to international donors. This was initiated with the assistance of KfW in 2003.

### **3.4.2. Expected Qualities and Attributes**

Have at least a 4-year B.Sc. or B.Eng. degree in Civil Engineering, and be registered or eligible to be registered with the Engineering Council of Namibia. The Specialist Advisor must have a minimum of 20 years' experience in the operation and implementation of HDM or comparable analysis models, of which at least 10 years were served in a senior position.

**The following specific attributes are required:**

- HDM4 expert should have extensive experience in HDM4 calibration, strategic and tactical road network modelling, as well as programme analysis using HDM4.
- The HDM specialist should have gained his/her experience through the development, implementation and operation of HDM Strategies for at least two different National or Provincial Rural Road Authorities over 10 years, which includes sealed and unsealed roads.
- Understanding of appropriate maintenance, measures on sealed and unsealed roads
- Five (10) years extensive experience with the implementation and calibration of HDM4 as well as road network modelling and program analysis
- Recent modelling using HDM4 on low-volume road networks

### **3.4.3. HDM Expert Assistant**

#### **3.4.3.1 Background**

The Highway Design and Management software (HDM4) is used to do Life Cycle analyses of road networks to determine the most economical multi-year strategies for effective road investments and management. The RA utilizes HDM4 as a strategic planning tool as part of the Road Management System. HDM4 is utilized at the programme level to motivate Namibian project proposals to international donors.

#### **3.4.3.2. Expected Qualities and Attributes**

Have at least a 4-year B.Sc. or B.Eng. degree in Civil Engineering, and be registered or eligible to be registered with the Engineering Council of Namibia. The Specialist Advisor must have a minimum of 10 years' experience in the operation and implementation of HDM or comparable analysis models, of which at least 3 years were served in a senior position.

**The following specific attributes are required:**

- HDM4 assistant should have experience in HDM4 calibration, strategic and tactical road network modelling, as well as program analysis using HDM4.
- Understanding of appropriate maintenance, measures on sealed and unsealed roads
- Five (5) years' experience with the setup and identification of planned test section for HDM level two-(2) road deterioration model calibration

- Five (5) years' experience with the development of accident cost estimates for road infrastructure investment analysis.
- Experience of gathering data and information on vehicle operation cost, works costs, vehicle fleet etc.
- Experience in the model for a minimum of five years with proven records

### **3.5. LEGAL EXPERT (Transport Legislation and Drafting )**

#### **3.5.1. Background**

The RA, from time to time, requires the assistance of legal experts to draft and interpreting existing legislation or formulating specifications and strategies in line with road legislation. This Expert should specialize in the development of policy and legislation in the roads transportation and construction fields. Experience in working with the enabling legislation of Namibia's and it's immediately neighboring countries. In addition a thorough understanding of government policy and legal processes, including basic business processes supporting legislation, through to the promulgation of legislation and the conclusion and implementation of agreements between countries is required.

#### **3.5.2. Expected Qualities and Attributes**

Holder of an LLB, preferably an LLM, degree with expertise of drafting of legislation and admission as Legal Practitioner. Right of audience as Advocate or Legal Practitioner in the High Court and in a Supreme Court of Namibia. Minimum of 10 years' experience in drafting of legislation and litigation.

#### **The following specific attributes are required:**

- This individual should have extensive experience in the drafting and interpretation of road sector related legislation and extensive knowledge of the current road ordinances and acts.
- Drafting legislative proposal reports for Roads Authority to be submitted to line Ministry for consideration
- Drafting of legislative cabinet memorandum on proposed legislation;
- Drafting of legislation (Bills, Acts) in consultation with Roads Authority and line Ministry
- Legal Aspects of Overload Control, Road Safety, etc
- Drafting Regulations for effective implementation of transport and other legislation
- Presentation and workshopping of draft legislation to relevant stakeholders.
- The legal expert must prove legal involvement in
  - Road Traffic and Transportation Projects
  - Built Environment Projects
  - FIDIC, JEC and NEC contracts
  - Specific cases of involvement and responsibility in road related arbitration/ court cases
  - Knowledge of other international legislation will be advantageous

### **3.6.ROAD CONSTRUCTION MATERIALS SPECIALIST**

#### **3.6.1. Background**

The performance of a road pavement is highly influenced by the choice of road construction materials. Due to the diverse, complex and variable materials and their sources, problems are often encountered, leading to premature failure of roads in Namibia.

Special case studies may be initiated by the Authority to address specific areas of concern in any area of the country and a qualified professional appointed to assist the RA in a suitable course of action.

#### **3.6.2. Expected Qualities and Attributes**

- Have at least a 4-year B.Sc., B.Eng. or B.Tech. degree in Civil Engineering, and be registered or eligible to be registered with the Engineering Council of Namibia. The Specialist Advisor must have a minimum of 10 years' experience in construction contracts, materials testing, prospecting and road building, of which at least 5 years were served in a senior position as a Project Engineer, Resident Engineer or in a material's laboratory.

#### **The following specific attributes are required:**

- The materials expert is expected to have extensive experience in the field of road building and maintenance as well as with sampling and materials testing. This individual should be conversant in issues of variability in natural road building material and how to practically account for it in design (i.e. frequency of testing and acceptability protocols).
- He/She must prove
  - Extensive experience with different types of road building material in Namibia (especially problem soils and gravels)
  - Involvement and responsibility in investigations related to premature failures due to problem materials
  - Knowledge of the Namibia geology especially soils and gravel formations (behavior and characteristics).

### **3.7. ENGINEERING STRUCTURAL DESIGN SPECIALIST/BRIDGE MANAGEMENT SYSTEM (BMS) SPECIALIST**

#### **3.7.1. Background**

Due to a shortage of staff, the RA is seeking the assistance of individuals to review the appropriateness and accuracy of structural designs (Structures would range from concrete to steel structures including bridges and other road structures).

The RA's Bridge Management System requires regular inspections on all bridges and major culverts to identify maintenance and rehabilitation needs. Assistance is required to train local engineers for this purpose and to ensure that the BMS is continuously updated to provide the most appropriate solutions. The RA's BMS also needs to be maintained appropriately with all the updates and changes to suite changing environment.

### **3.7.2. Expected Qualities and Attributes**

This Expert is expected to have at least a 4-year B.Sc. or B.Eng. degree in Civil Engineering, Master's degree in Structural Engineering and be registered or eligible to be registered with the Engineering Council of Namibia, experienced in the design, maintenance and rehabilitation of steel and concrete structures.

#### **The following specific attributes are required:**

- The Specialist Advisor must have a minimum of 20 years' experience in bridge, drainage structures design, construction and rehabilitation, of which at least 10 years were served in a senior position.
- In addition should be a registered bridge assessor or extensive experience in bridge assessment using the CSIR DER method, and upgraded method of THM documents
- She/he must prove
  - Responsibility for design, rehabilitation and maintenance of specific structures
  - Involvement with and responsibility for Bridge Management Systems or prioritization of remedial measures of the RMS of Namibia
  - Specific Experience and knowledge in the CSIR Bridge Management System Management, Coding and Calibration
  - Project management skills and experience,
  - Current knowledge of practices and new development in the industry

### **3.8. ENVIRONMENTAL ADVISOR (EIA EXPERT)**

#### **3.8.1. Background**

Environmental Impact Assessment (EIA) is one of the standard procedures applied by the RA to ensure that appropriate environmental measures and implications are assessed and taken into consideration before decisions are made. The process involves an analysis of the likely effects on the environment, undertaking public consultation exercise, taking into account the comments and the report when making the final decision and informing the public about that decision thereafter.

Due to staff shortages and the specialized nature of the work, the RA requires the assistance of individuals review reports and to advice on appropriate strategies.

#### **3.8.2. Expected Qualities and Attributes**

The Environmental Impact Assessment specialist should be able to demonstrate a conceptual understanding of sustainable development and the environment. He or she should also be able to identify and apply environmental assessment procedures and methods as well as review and monitor these procedures. This expert is expected to be a professionally registered Civil Engineer / Technologist or a professionally registered Environmental Practitioner.

The following specific attributes are required:

- A bachelor's degree from a recognized institution,
- 15 years minimum relevant experience in the field

- She/he must prove
  - A thorough knowledge of all applicable legislation,
  - Excellent project management ability
  - An in-depth understanding of EIA processes and administrative requirements

### **3.9.ROAD REFERENCING SPECIALIST**

#### **3.9.1. Background**

The RA Road Management System requires continuous update of its road asset registry, incorporating location referencing and inventory of all road assets.

Due to staff shortages the RA requires assistance of individuals with specialized knowledge in this field to formulate and implement appropriate rule sets and to execute control with the update of the registry.

#### **3.9.2. Expected Qualities and Attributes**

This Expert is expected to have at least a 4-year B.Sc. or B.Eng. degree in Civil Engineering, and be registered or eligible to be registered with the Engineering Council of Namibia. A minimum of 10 years relevant experience is required, with at least 10 years in the development of asset registries.

#### **The following specific attributes are required:**

- Relevant experience related to road referencing and asset inventory
- Involvement with and responsibility for managing the collection of data for this purpose
- Project management skills and experience,
- Current knowledge of practices and new development in the industry
- Knowledge of the Namibia Road Management System and road network will be an added advantage

### **3.10. GEOGRAPHICAL INFORMATION SYSTEM SPECIALIST**

#### **3.10.1. Background**

The RA Road Management System requires continuous update of the Road Referencing System (RRS) using Geographic Information System (GIS), and Global Positioning System (GPS) technologies in order to be able to manage, maintain and accurately display all road infrastructure assets. Due to staff shortages the RA requires assistance of individuals with specialized knowledge in this field to manage the updates to the RMS.

#### **3.10.2. Expected Qualities and Attributes**

A relevant 4 year degree in Information Technology, Geography or related field. At least 20 years' experience with the implementation and operation of GIS and specifically working knowledge and experience in ArcGIS desktop (Arc Info, Arc Editor, ArcView version 10) and mobile GIS (Arc Pad version 10, ArcGIS Mobile 10).

**The following specific attributes are required:**

- This expert is expected to be a to be a GIS specialist, experienced in the development, management and maintenance of utility, and transportation networks, larger spatial data repositories with special focus on managing national asset registries.
- She/he must prove
  - At least 10 years extensive exposure to components of road management systems
  - Current knowledge of practices and new development in the industry
- Knowledge of the Namibia road network will be an added advantage
- This expert must have an ESRI Authorization to train ESRI developed courses and should be able to customize training courses with regard to the management of the National Road Network.
- Knowledge on Namibian RMS is an added advantage especially with the proclamations and Road Referencing Systems

### **3.11. CONTRACT MANAGEMENT SPECIALIST**

#### **3.11.1. Background**

Disputes often arise on road construction contracts as a result of poor contract documentation requiring specialist advice from experienced contract engineers with additional arbitration qualifications to assist the RA.

#### **3.11.2. Expected Qualities and Attributes**

This Expert is expected to have at least a 4-year B.Sc. or B.Eng. degree in Civil Engineering, and registered or eligible to be registered, with the Engineering Council of Namibia, the Contracts Expert should be an experienced Professional Civil Engineer.

The Specialist Advisor must have a minimum of 20 years' experience in contract administration for construction and/or routine and periodic road maintenance, of which at least 10 years were served in a senior position.

**The following specific attributes are required:**

- Compilation of tender and contract documentation (FIDIC, JEC and NEC contracts)
- Contract supervision
- Involvement and responsibility in arbitration cases
- Compilation of contract documentation for Routine maintenance Activities
- “Shadow Business Plan” Compilation for Routine and Periodic Maintenance
- Cost Estimation for tender evaluations

### **3.12. HYDROLOGY SPECIALIST**

#### **3.12.1. Background**

Namibia is as much influenced by global warming and the effects of floods would have desired impact on the economy of the country. The Roads Authority would need to be prepared for such events, hence



the need of such a specialist to advise on the technical requirements for emergency response, advice on return period specifications and the latest drainage structural design technology.

### **3.12.2. Expected Qualities and Attributes**

This Expert is expected to have at least a 4-year degree in Hydrology or Geohydrology, with a minimum of 20 years' experience in the design of road drainage structures including sizing of drainage structures, protection against scour, drainage of road surfaces, economic evaluations and the calculation of risk, of which at least 10 years were served in a senior position.

The following specific attributes are required:

- Strategic advice in the field of Hydrology/Hydraulics
- Drainage design and rehabilitation (Bridges & Culverts)
- Advice on strategies to repair road networks after heavy rains/floods
- Update of the Roads Authority Drainage Manual for various drainage scenario's
- Training support to implement Drainage Manual

### **3.13. TRANSPORTATION ECONOMICS ADVISOR**

#### **3.13.1. Background**

The motives for the full cost recovery approach in Namibia include that it is deemed possible to mobilize investment financing directly from the road users and that this way of financing is believed to be the most effective one in order to actually implement economically justified projects.

It will be necessary for the RA to develop - transparent - long term plans and to maintain an active dialogue with the road user community; there will also be a need for the RA to actively plan for road projects which are not economically justified, but seen as important to improve accessibility in outlying areas of the country, with a view to being able to mobilize (partial) financing from either the Ministry of Finance or donors for their implementation;

To carry out its planning obligations, the RA will have to prepare long term (say 15 year) plans, medium term (5-year) plans and annual plans. In these plans, one would furthermore expect all actions with the purpose to preserve the road network to rank the highest, Provide the required input into NDPs must be based on the RA's plans (in particular the long term master plans).

#### **3.13.2. Expected Qualities and Attributes**

Have at least a 4-year degree in Economics (Transport), with a minimum of 20 years' experience in the roads sector on road financing and management studies, economic feasibility studies, road user charging studies and road master plans, of which at least 10 years were served in a senior position.

**The following specific attributes are required:**

- Transport policy reviews
- Road Funding Modelling using HDM-4
- Economic motivation of funding (Network & Project) to politicians, donors and private sector

- Specialist evaluation of the MTLTMPS (Medium to Long Term Master Plans)
- Experience in the Road User Charging system and other funding models
- Experience in applying the principles of economic analysis to solve policy, planning, regulatory, procurement and institutional problems.
- road sector reform involving self-financing, outsourcing of operations and delegation of planning and contract administration to roads authorities;
- high level policy advice

### **3.14. ASSET MANAGEMENT SPECIALIST**

#### **3.14.1. Background**

“Asset management which employs predictive modelling, risk management and optimized renewal decision making techniques to establish asset lifecycle options and related long-term cash-flow predictions”.

#### **3.14.2. Expected Qualities and Attributes**

The Asset Management Advisor should have at least a 4-year B.Sc. or B.Eng. degree in Civil Engineering, and registered or eligible to be registered, with the Engineering Council of Namibia OR a 4 year degree in Transport Economics. The Specialist Advisor must have a minimum of 20 years’ experience and specialist knowledge in asset management, change management and outsourcing.

#### **The following specific attributes are required:**

- Specialist training in Asset Management principles from a recognized institution should be proven.
- General experience in asset management principles and asset management systems
- Understanding of the IAM (PAS55/ISO 55000) assessment principles
- Developing Gap analysis (PAS55/ ISO 55000), Asset Improvement Plans
- Experience in applying the principles of economic analysis to solve policy, planning, regulatory, procurement and institutional problems.
- High level policy advice

### **3.15. TRAFFIC MANAGEMENT & OVERLOAD CONTROL ADVISOR**

#### **3.15.1. Background**

The Roads Authority Act, Act No 17 of 2001 stipulates in Section 16 (e) that the Roads Authority should implement mechanisms and systems to prevent excessive damage by road users and other parties. The roads Authority have over the years constructed various weighbridges. In addition an overload control strategy was implemented and reviewed in 2009.

#### **3.15.2. Expected Qualities and Attributes**

This Expert is expected to have at least a 4-year B.Sc. or B.Eng. degree in Civil Engineering, and registered or eligible to be registered, with the Engineering Council of Namibia.

The Specialist Advisor must have a minimum of 20 years' experience in Transportation Engineering (axle load control, weighbridge operations, overload strategies, which at least 10 years were served in a senior position.

**The following specific attributes are required:**

- Axle load impact on road pavements with the economic impact analysis
- Overload control strategies and weighbridge operations
- the implementation of the SADC Protocol on Transport, Communication and Meteorology which requires coordinated overload control strategies to be implemented by the member states;
- new technology, such as weigh-in-motion (WIM) devices which could be Integrated with the current static weighbridges; and
- Experience in mechanism to decriminalize overload offences.

**3.16. SENIOR ADJUDICATOR**

**3.16.1. Background**

The service is oriented towards fulfilment of the FIDIC 1999 Conditions of Contract for Construction regarding dispute adjudication between the parties to an engineering contract.

**3.16.2. Expected Qualities and Attributes**

This Expert is expected to have a 4-year B.Sc. or B.Eng. degree in Civil Engineering, and registered, with the Engineering Council of Namibia. In addition proof of registration as an Accredited Adjudicator. A minimum of 20 years' experience in project management, including at least 10 years' of adjudication experience after registration as an adjudicator.

**The following specific attributes are required:**

- Recognized qualification as an adjudicator
- Attendance of the latest FIDIC Adjudicators course
- Proof of minimum of five construction, consultants, resale arbitrations successfully conducted.

**3.17. SENIOR ENGINEERING ADVISOR (x2)**

**3.17.1. Background**

The Roads Authority wishes to secure the services of two (2) Senior Engineering Advisors to represent its interests, as and when required, with regard to the following types of projects:

1. Project-Specific Contract Management on various Large-Scale Road Construction Contracts in Namibia
2. Road Network Management Functions at the Roads Authority Head Office in Windhoek

The following are the main objectives:

- Ensure that the interests of the Roads Authority are protected, thereby ensuring that the ‘Value-for-Money’ principle is achieved with regard to the following types of projects;
  - Large-Scale Road Construction Contracts
  - Road Network Management Functions
- Ensure the ongoing training and mentorship of Roads Authority personnel.

### **3.17.2. Expected Qualities and Attributes**

This Expert is expected to have a 4-year B.Sc. or B.Eng. degree in Civil Engineering, and registered, with the Engineering Council of Namibia.

With regard to the Project-Specific Contract Management Functions on Large-Scale Road Construction Contracts, the proposed Senior Engineering Advisor must have a minimum of 20 years’ relevant experience in the Management of large-scale Road Construction or Road Rehabilitation Contracts, of which at least 10 years were served in a senior position. With regard to the Road Network Management Functions at the Roads Authority Head Office in Windhoek, the proposed Senior Engineering Advisor must have a minimum of 20 years’ relevant experience in the Management of Road Networks, of which at least 10 years were served in a senior position.

#### **The following specific attributes are required:**

- With regard to the Project-Specific Contract Management Functions:

Experience in the Management of Periodic and / or Routine Road Maintenance Contracts will be regarded as an added advantage. The candidate shall have a strong knowledge of Contract Administration.

- With regard to the Road Network Management Functions:

Experience in any of the following fields will be an added advantage: Contract Management, Road Management Systems (RMS), HDM-4 Specialist, Road Sector Funding, Transportation Legislation, GIS Specialist, Environmental Specialist, Road Referencing Specialist, Asset Management Specialist, Hydrology Specialist, IT Systems Specialist, Road Infrastructure Planning and Design, Road Construction Materials, Structural Design, Pavement Engineering, Transportation Economics and Contract Adjudication.

## **3.18. TRAFFIC AND TRANSPORT ENGINEERING SPECIALIST**

### **3.18.1. Background**

The RA manages the road network of the whole of Namibia including bridges. Some of the trunk and main roads pass through cities, towns and villages thus there is need to get assistance from Specialists in Transport and Traffic Engineering when planning, designing, constructing and maintaining these through roads. Transport and Traffic Engineers deal with primarily within urban context and will be useful to engineers who plan, design and operate urban transportation facilities. A transport engineer is

one who design or improve transportation systems to allow for safe and efficient traffic flow on roadways, airplanes, trains, buses etc. Traffic engineering is a branch of civil engineering that applies engineering techniques to achieve the safe and efficient movement of people and goods on roadways. It focuses mainly on research for safe and efficient traffic flow, such as geometry, sidewalks, crosswalks, cycling infrastructure, traffic signs, road surface markings and traffic lights. Traffic engineering deals with the functional part of transportation system.

### **3.18.2. Expected Qualities and Attributes**

Have at least 4-year B.Sc or B.Eng. degree in Civil Engineering, and registered or eligible to be registered with the Engineering Council of Namibia. The Specialist must be a professional engineer with a minimum of 20 years' experience applying principles and practices to design and construction of roads, freeways, and other means of ground transportation, of which at least 10 years were served in a senior road network management position.

#### **The following specific attributes are required:**

Experienced traffic engineers may take on a project manager role and spend more time in the field or meeting with clients and government officials. These professionals review the work of technicians and less experienced engineers to ensure compliance with the national transport regulations. Additionally, more experienced traffic engineers may analyze the environmental impact of proposed construction and check for specifications for adherence to engineering standards.

## **3.19. SURVEYING SPECIALIST**

### **3.19.1. Background**

RA from time to time requires a service of a surveyor, to do field checks, to confirm aspect of new alignments. The surveyor shall prepare plans of alignment of an existing tracks or proclaimed roads and all intersections, access points, interchanges and cadastral boundaries.

### **3.19.2. Expected Qualities and Attributes**

A Surveyor is expected to hold a Bachelor's degree in Surveying, and at least a 20 years related experience in the engineering environment of which at least 10 years were served in a senior position.

#### **The following specific attributes are required:**

- Should have own tools and equipment
- Should be able to produce road proclamation maps and compensation Maps
- Route determination,
- Current knowledge of practices and new development in the industry
- Should make reference of RA survey Manual of 2014
- Knowledge of the Namibia Road Management System and road network will be an added advantage

## **3.20. ROAD MANAGEMENT SYSTEM (RMS) VISUAL ASSESSMENT SPECIALIST**

### **3.20.1. Background**

The Roads Authority requires Specialist visual assessment the RMS of the RA has been developed to assist the RA with the management of the national road network. The surfaced road condition forms part of the Organization's key performance indicator under avail and preserve national road network.

To meet the functional requirements of the Authority's Road Management System (RMS), it is necessary to feed the system with data on the physical condition of surfaced roads comprising the road network managed by the Organization. To properly relate the physical condition data to the road network model in the RMS, it is also necessary to maintain an up-to-date inventory of the surfaced road network together with road referencing data.

### **3.20.2. Expected Qualities and Attributes Assessor**

The Visual Assessment Assessor Specialist should be certified assessor and have at least 8-years' experience in visual assessment and be certified assessor. The Specialist visual assessors must have a minimum of 15 000 kilometers experience in surfaced and unsurfaced road assessment.

#### **Other attributes of importance are:**

- Knowledgeable on and experienced with the visual assessment methodology of the RA.
- A strong background in road construction and maintenance, road network management and project management.
- Good understanding of the RA's road referencing system.
  - Setting out of GPS positions on the road

### **3.20.3. Expected Qualities and Attributes Project manager**

The Visual Assessment Project Manager Specialist should have at least a 4-year B.Sc. or B.Eng. degree in Civil Engineering, and be registered, or eligible to be registered, with the Engineering Council of Namibia and be certified assessor and have at least 15-years' experience in visual assessment and be able to train assessors. The Specialist project manager must have a minimum of 30 000 kilometers experience in surfaced and unsurfaced road assessment.

#### **Other attributes of importance are:**

- Knowledgeable on and experienced with the visual assessment methodology of the RA.
- A strong background in road construction and maintenance, road network management and project management.
- Good understanding of the RA's road referencing system.

### **3.20.4. Expected Qualities and Attributes Control Assessor**

The Visual Assessment Control Assessor Specialist should be certified assessor and have at least 15-years' experience in visual assessment or any technical person with at least 20 years' experience in road maintenance or road construction and experienced in the assessment of at least 60 000 km of surfaced

and unsurfaced roads or proof of recent (5 years) certification for control visual assessments on surfaced roads by a Roads Authority.

**Other attributes of importance are:**

- Qualified Engineer or Technician
- Knowledgeable on and experienced with the visual assessment methodology of the RA.
- A strong background in road design, construction and maintenance, road network management and project management.
- Good understanding of the RA's road referencing system.

**3.20.5. Expected Qualities and Attributes Training Expert**

The Visual Assessment Training Expert Specialist should be a professional Engineer or professional Technologist registered as a professional, with at least 20 years' experience in the road maintenance, Road Management System development and operation on surfaced and unsurfaced roads. A master's degree in visual assessment of roads.

**Other attributes of importance are:**

- Experience in training and course presentation
- Calibration of assessors
- Quality assurance
- Knowledgeable on and experienced with the visual assessment methodology of the RA.
- A strong background in road design, construction and maintenance, road network management and project management.
- Good understanding of the RA's road referencing system.

**3.21. Traffic Surveillance Systems Specialist**

**3.21.1. Background**

The Roads Authority operates a Road Management System as required in the Roads Authority Act, Act 17 of 1999. The Road Management System, through its Traffic Surveillance System, collects, summarizes and interprets information on traffic using the Namibia's road network. The data are used to assess transportation needs, network performance, activity prioritization and design.

There are currently approximately 150 base- and 200 ad-hoc electronic traffic monitoring stations on selected links of the National road network. In addition to counting and classifying vehicles, the automatic traffic data recorders at the stations also capture the speed, direction and time of travel. These data sets are used for road safety intervention, planning, design and also servers many other stake holders in Namibia and outside the country.

**3.21.2. Expected Qualities and Attributes**

This Expert is expected to have at least a 4-year B.Sc. or B degree; and Master's degree in Traffic Engineering is preferable and registered or eligible to be registered, with the Engineering Council of

Namibia. The Specialist must have a minimum of 15 years' experience in Traffic Engineering (axle load control, weigh-in-motion, stratification strategies, traffic surveillance strategies; equipment installation and training).

**The following specific attributes are required:**

- Axle load impact on road pavements with the economic impact analysis
- Traffic counts methodology
- The implementation of allocation of EAADT
- New technology, such as GPRS, weigh-in-motion (WIM) devices which could be Integrated with the current RMS; and
- Training and installation of traffic counting equipment / WIM on the road network – traffic data analysis expert

Experience with COLTO on traffic engineering – data formats, analysis, checking integrity of TSS data; calibration of traffic counting machines as well as WIMS; expert in traffic data management.

Experts who have contributed to some similar specifications will have added advantage.

### **3.22. ROAD MANAGEMENT SYSTEM (RMS) ROAD PROFILER SPECIALIST**

#### **3.22.1. Background**

The Roads Authority operates a Road Management System as required in the Roads Authority Act, Act 17 of 1999. This is to support its function of managing the national road network effectively and efficiently.

The RMS has been developed to assist the RA with the management of the national road network. The surfaced road condition forms part of the Organization's key performance indicator under avail and preserve national road network.

To meet the functional requirements of the Authority's Road Management System (RMS), it is necessary to feed the system with data on the physical condition of surfaced roads comprising the road network managed by the Organization. To properly relate the physical condition data to the road network model in the RMS, it is also necessary to maintain an up-to-date inventory of the surfaced road network together with road referencing data.

#### **3.22.2. Expected Qualities and Attributes Training Expert**

The Road Profiler Specialist should be a professional Engineer or professional Technologist registered as a professional, with at least 10 years' experience in the road maintenance, operation on surfaced and unsurfaced roads of profiler equipment and software development knowledge.

**Other attributes of importance are:**

- Experience in training
- Vehicle Installation



- Electronics
- Software Installation
- Data Collection Procedures
- The RSP Field Data Collection Process
- Calibration of equipment
- Data Files and Formats
- Maintenance of equipment

### **3.23. BRIDGE MANAGEMENT SYSTEMS (BMS) SPECIALIST**

#### **3.23.1. Background**

Bridge management is a subset of asset management and involves managing bridge structures belonging to a road or rail authority based on the bridge management cycle of inventory, structure assessments (network level assessments), data analysis, prioritization, optimization, budgeting and project scheduling.

#### **3.23.2. Expected Qualities and Attributes**

The Bridge Management Advisor should have at least a 4-year B.Sc. or B.Eng. degree in Civil Engineering and registered, or eligible to be registered, with the Engineering Council of Namibia. The Specialist Advisor must have a minimum of 20 years' experience and specialist knowledge in bridge management systems.

The following specific attributes are required:

- A knowledge of bridge management principles.
- A knowledge of the TMH19 and TMH22 technical recommendations for the visual assessment of structures and asset management.
- A working knowledge of the Road Authority's BMS including bridge inventories, structure types, the DER rating system, bridge inspection procedures, prioritization, optimization and budgeting.
- Sufficient experience in BMS to provide training in bridge management and bridge inspection procedures.
- Experience in developing bridge repair & maintenance strategies based on the results of network level bridge inspections.
- Experience with regards providing high level bridge management policy advice.

### **3.24. GEOLOGY EXPERT (ENGINEERING / ROCK AND SOIL FORMATIONS)**

#### **3.24.1. Background**

Engineering geologists are responsible for identifying the geological factors that could affect construction projects. They analyze ground materials to assess their risk factors and advise on the best procedures for developments and the suitability of construction materials.

### **3.24.2. Expected Qualities and Attributes**

The Expert is expected to have at least a Master's degree in Geology (Engineering Geology will be an added advantage), and registered or eligible to be registered, with the South African Council for Geoscience (CGS) (not yet in Namibia). The Geologist must be an experienced Professional specializing engineering geology (rock and soil formations) and must apply geological principles to construction works to determine where certain kinds of earth materials occur.

The Expert must have a minimum of 10 years' experience as a geologist (engineering and rock / soil formations). Experience in assessing and minimizing the risks of man-made and natural hazards in the environment ensuring that projects keep to budgets and timescales. Managing and liaising with construction engineers, consultants, contractors and geotechnical engineers, managing projects and setting objectives of which at least 5 years were served in a senior position.

#### **The following specific attributes are required:**

Geology is multi-disciplinary. The expert should possess the necessary expertise, analyzing and interpreting data, accessing, using and analyzing site information (such as radar images, aerial photographs, reports and geological maps) prior to site investigations. The expert should possess strategic planning skills, organizing and undertaking field work/site. Preparing reports, providing advice to the Roads Authority and external stakeholder when required.

## **3.28 ROAD MAINTENANCE SPECIALIST**

### **3.28.1 Background**

Maintenance of roads is an activity that needs to be continuous and proactive in theory for both surfaced and non-surfaced roads. This requires a combination of technical and economic foresight to maintain the existing infrastructure with limited financial resources.

### **3.28.2 Expected Qualities and Attributes**

The Specialist should at least have a 4- year B.Sc. or B. Eng. Degree in Civil Engineering and be registered or eligible to be registered with ECN. The Advisor must at least have a minimum of 15 years' experience in the maintenance of surfaced and or non-surfaced roads. Knowledge and experience of Asset Management will be an added advantage.

### **3.28.3 The following specific attributes are required:**

The Specialist should have experience in analysing and designing seals, specifically for reseal operations, and should understand the interaction of various bitumen products. The specialist should also understand the design and material requirements needed for a good, non-surfaced wearing course. The understanding and experience in proactive maintenance of surfaced and non-surfaced roads, with an understanding of plant capabilities is very important. Last but not least, the Specialist should have extensive experience in Asset Management, financial planning and optimising results with minimum resources.

## **SUPPLEMENTARY INFORMATION FOR SERVICE PROVIDERS**

1. The company profile shall include the following information and in sequence:
  - a) Cover page indicating services that the service provider wishes to be short-listed for
  - b) Letter of application stating the area applied for
  - c) Bid submission form on company letter (Form F-1)
  - d) Curriculum Vitae of Service Providers (Form F-2).
  - e) An outline of recent relevant experience on assignments/projects of similar nature executed during the last 10 years by individual specialist for each specialist field applied for (Form F-3).
  - f) Any comments or suggestions of the service provider on the Terms of Reference (TOR).
  - g) Motivation and evidence of expertise in the applied area
2. The company profile shall be submitted as follows: 1 original and 2 copies.

**BID SUBMISSION FORM**

From: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

To: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**List of services you wish to be shortlisted for:** *[insert list of specialized services]*

\*I/We \_\_\_\_\_herewith enclose a Company Profile for entry on the pre-approved supplier eligibility lists(s) for the Roads Authority.

\*I/we undertake that, in being entered on to the pre-approved supplier eligibility list(s) and participating in future bidding processes related hereto, \*I/we will observe the highest level of ethical conduct.

**Yours faithfully**

Signature: \_\_\_\_\_

Full name: \_\_\_\_\_

Address: \_\_\_\_\_

**FORMAT OF CURRICULUM VITAE (CV) FOR SERVICE PROVIDER**

Name of Service Provider: \_\_\_\_\_

Profession: \_\_\_\_\_

Date of Birth: \_\_\_\_\_

Nationality: \_\_\_\_\_

Membership in Professional bodies: \_\_\_\_\_

**Key Qualifications:**

*[Give an outline of experience and training most pertinent to tasks on assignment. Describe degree of responsibility held on relevant previous assignments and give dates and locations. Use about half a page.]*

**Education:**

*[Summarize college/university and other specialized education, giving names of institutions, dates attended, and degrees obtained. Use about one quarter of a page.]*

**Employment Record:**

*[Starting with present position, list in reverse order every employment held. List all positions held since graduation, giving dates, names of employing organizations, titles of positions held, and locations of assignments. For experience in last ten years, also give types of activities performed and employers references, where appropriate. Use about two pages.]*

**Languages:**

*[For each language indicate proficiency: excellent, good, fair, or poor; in speaking, reading, and writing ]*

**Certification:**

I, the undersigned, certify that to the best of my knowledge and belief, these data correctly describe me, my qualifications, and experience.

**Date: Day/Month/Year**

*[Signature]*

**Full name of Service Provider:** \_\_\_\_\_

**SPECIALIZED SERVICES OF SIMILAR NATURE SUCCESSFULLY COMPLETED DURING LAST 10 YEARS**

1. Outline of recent experience on specialized services of similar nature:

No .	Name of assignment	Name of Project	Owner or Sponsoring agency and contact details	Cost of Project	Date of Commencement	Date of Completion	Was assignment satisfactorily completed

Note: Please attach certificates from the employer by way of documentary proof. (Issued by the Officer of rank not below that of Divisional Manager or equivalent.)