

SANRAL



**BUILDING SOUTH AFRICA
THROUGH BETTER ROADS**

THE SOUTH AFRICAN NATIONAL ROADS AGENCY SOC LIMITED

SANRAL: NRA 2024/1340

**PANEL OF ENGINEERING CONSULTANS FOR CONVENTIONAL
CATEGORY 2(PERIODIC & SPECIAL MAINTENANCE AND CERTAIN
STRENGTHENING PROJECTS FOR WORKS ACROSS SOUTH AFRICA**

ISSUE DATE:	22 NOVEMBER 2024
BRIEFING SESSION DATE:	2 DECEMBER 2024@14H00
CLOSING DATE:	13 DECEMBER 2024
CLOSING TIME:	12:00 PM

**VOLUME 3
BOOK 2 & 3 OF 3**

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PART C1: AGREEMENTS & CONTRACT DATA

**SOUTH AFRICAN NATIONAL ROADS AGENCY SOC LTD
CONTRACT SANRAL: NRA: 2024/1340**

**PANEL OF ENGINEERING CONSULTANS FOR CONVENTIONAL CATEGORY 2(PERIODIC & SPECIAL
MAINTENANCE AND CERTAIN STRENGTHENING PROJECTS FOR WORKS ACROSS SOUTH
AFRICA**

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C1.1 FORMS OF OFFER AND ACCEPTANCE**C1.1.1 FORM OF OFFER (Incorporating SBD7)**

The South African National Roads Agency SOC Limited
PO Box 415
PRETORIA
0001

Dear Sir,

CONTRACT SANRAL NRA: NRA 2024/1340

PANEL OF ENGINEERING CONSULTANS FOR CONVENTIONAL CATEGORY 2(PERIODIC & SPECIAL MAINTENANCE AND CERTAIN STRENGTHENING PROJECTS FOR WORKS ACROSS SOUTH AFRICA

I/we, by signing this part of the forms of offer and acceptance, confirm that I/we practise the principles of corporate governance that abhors corruption and fraud and that we have examined the documents listed in the tender data and addenda thereto as listed in the returnable schedules and am/are duly authorised to represent and commit the tenderer to the contractual obligations contained therein.

I/we further confirm that by submitting this offer the tenderer accepts the conditions of tender and offers to perform all of the obligations and liabilities of the service provider under the contract including compliance with all its terms and conditions according to their true intent and meaning for an amount to be determined in accordance with the conditions of tender and the conditions of contract identified in the contract data.

A. PRICE(PERCENTAGE) OFFERED

Tenders must price in accordance with the table below.

Table: 1 Price offer

PROJECT WORKS CONTRACT VALUE INCL. VAT	FEE % of Works Contract Value including VAT
Project below R100 000 000.00	%
Project between R100 000 000.00-R200 000 000.00	%
Project between R200 000 000.00 –R350 000 000.00	%
Project below R350 000 000.00 – R500 000 000.00	%
Project Above R500 000 000.00	%

B. PREFERENCE CLAIMED

I/we claim the following B-BBEE contributor status level as per Returnable Schedule Form A12: Tenderer's B-BBEE Verification Certificate subject to Tender Data C3.11 In the event of any difference between the above stated status level and the Verification Certificate attached to Form A12, the Verification Certificate shall apply.

You may accept this offer by signing and returning to the tenderer one copy of the acceptance part of the forms of offer and acceptance before the end of the period of validity stated in the tender data, (or at the end of any agreed extension thereof), whereupon the tenderer becomes the party named as the service provider in the conditions of contract identified in the contract data.

Notwithstanding anything contained in a covering letter to this tender, I/we declare this offer is submitted entirely without deviations or qualifications other than those stipulated in Form A10: Schedule of Deviations or Qualifications by the tenderer and that it is made free from any fraud, corruption and misrepresentation.

Yours faithfully

SIGNATURE:

DATE:

NAME (IN CAPITALS):

CAPACITY:

Date and minute reference of Board resolution if different from returnable schedule Form A2.1:

Certificate of Authority for signature.....

NAME AND ADDRESS OF ORGANISATION:

.....

NAME AND SIGNATURE OF WITNESSES:

SIGNATURE:

DATE:

NAME (IN CAPITALS):

SIGNATURE: DATE:

NAME (IN CAPITALS):

C1.1.3 APPENDIX TO FORM OF ACCEPTANCE

Schedule of deviations

Notes:

- 1) The extent of deviations from the tender documents issued by the Employer before the tender closing date is limited to those permitted in terms of the conditions of tender.
- 2) A tenderer's covering letter shall not be included in the final contract document. Should any such letter, which constitutes a deviation as aforesaid, become the subject of agreements reached during the process of offer and acceptance, the outcome of such agreement shall be recorded here.
- 3) Any other matter arising from the process of offer and acceptance either as a confirmation, clarification or change to the tender documents and which it is agreed by the parties becomes an obligation of the contract shall also be recorded here.
- 4) Any change or addition to the tender documents arising from the above agreements and recorded here, shall also be incorporate into the final draft of the Contract.

The deviations listed below constitute agreed variations/amendments to the tender document negotiated between the tenderer and the employer based on information provided in Form A10: Schedule of Variations or deviations by tenderer or imposed conditions of award. Addenda issued during the tender period are deemed not to be variations to the tender.

1. Subject:
Details:
2. Subject:
Details:
3. Subject:
Details:
4. Subject:
Details:

By the duly authorised representatives signing this agreement, the Employer and the tenderer agree to and accept the foregoing schedule of deviations as the only deviations from and amendments to the documents listed in the tender data and addenda thereto as listed in the returnable schedules, as well as any confirmation, clarification or changes to the terms of the offer agreed by the tenderer and the Employer during this process of offer and acceptance.

It is expressly agreed that no other matter whether in writing, oral communication or implied during the period between the issue of the tender documents and the receipt by the tenderer of a completed signed copy of this agreement shall have any meaning or effect in the contract between the parties arising from this agreement.

C1.1.5 TAX COMPLIANCE PERMISSION DECLARATION**Note to Tenderer:**

In terms of National Treasury Instruction, No 3 of 2017/2018 with reference to the Public Finance Management Act, 1999 (Act No 1 of 1999) and Regulations, the Service Provider and sub-contractors are required to provide the employer with written confirmation to access the SARS Electronic Tax Compliance Status (TCS) system to verify and continuously track the tax compliance status of all persons conducting business with the State.

The Service Provider shall complete the declaration below.

I, (name) the undersigned in my capacity as
 (position) on behalf of
 (name of company) herewith grant consent
 that SARS may disclose to the South African National Roads Agency SOC Limited (SANRAL) our tax
 compliance status on an ongoing basis for the contract term.

For this purpose our unique security personal identification number (PIN) is

In addition, the Service Provider shall obtain written consent from each of its sub-contractors, undisclosed principals and partners involved in this contract confirming that SARS may, on an ongoing basis during the contract term disclose the sub-contractors' tax compliance status to the Employer. For this purpose the Service Provider shall provide the Employer with the unique security personal identification number (PIN) for each of its sub-contractors, undisclosed principals and partners involved in this contract.

In the event of a Joint Venture (JV) or a Targeted Enterprise each member shall comply with the above requirement.

.....
SIGNATURE

.....
DATE

C1.2 CONTRACT DATA

C1.2.1 CONDITIONS OF CONTRACT

Note to tenderer:

1. The legislated Standard Conditions of Contract for Professional Services (as published and amended from time to time by the Construction Industry Development Board) are included together with SANRAL's special conditions of contract where the former is shown in standard format and SANRAL's amendments (i.e. special conditions) shown in *italics*. SANRAL's special conditions of contract are shown in *italics* as amending clauses of the Standard Conditions.

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CONDITIONS OF CONTRACT

1. DEFINITIONS

In the Contract, the following words and expressions shall have the meanings indicated, except where the context otherwise requires. Defined terms and words are signified in the text of the Contract by the use of capital initial letters.

Agent

The Service Provider appointed in terms of the Occupational Health and Safety Act No. 85 of 1993, including the relevant Regulations.

Black People

Black people has the meaning assigned to it in Section 1 of the Broad-Based Black Economic Empowerment Act, 2003 (Act No 53 of 2003).

Construction monitoring/ supervision

The process of managing and co-ordinating the Works Contract and over-seeing and/or inspecting the Works in accordance with the Employer's requirements.

Consulting Engineering Firm

A natural person or legal entity which provides independent technology-based intellectual services in the built, human and natural environment to clients for a fee, and does not engage in or is not a subsidiary or holding company that engages in manufacturing or construction and is not in substance owned by the State or a similar public body or is not in substance the design department of a development, manufacturing or construction enterprise.

Contract

The Contract signed by the Parties and of which these General Conditions of Contract form part.

Contract Data

Specific data, which together with these General Conditions of Contract, collectively describe the risks, liabilities and obligations of the contracting Parties and the procedures for the administration of the contract.

Contractor

The contracting party named as contractor in the letter of tender of the Works Contract accepted by the Employer.

Contract Price

The price to be paid for the performance of the Services in accordance with the Pricing Data.

Day

A calendar day.

Defect

A part of the Services, as performed, which does not comply with the requirements of the Contract.

Deliverable

Any measurable, tangible, verifiable outcome, result or item that must be produced or completed.

EME

EME is an Exempted Micro Enterprise in terms of a code of good practice on black economic empowerment issued in terms of Section 9(1) of the Broad-Based Black Empowerment Act, 2003 (Act No 53 of 2003).

Employer

The contracting party named in the Contract who employs the Service Provider.

Engineer

The natural or juristic person, partnership, Incorporated Company, Propriety Limited Company or Close Corporation appointed in writing by the Employer for the construction monitoring and management of the engineering Works undertaken by the Contractor.

Force Majeure

“For the purpose of this Contract the expression ‘Force Majeure’ shall mean an event or circumstance described in clause 8.3.1.

Key Persons

Persons who are named as such in the Contract Data who will be engaged in the performance of the Services.

Others

Persons or organizations who are not the Employer, the Service Provider or any employee, Sub-contractor, or supplier of the Service Provider.

Parties

The Employer and the Service Provider.

People with Disabilities

People with Disabilities has the meaning assigned to it in Section 1 of the Employment Equity Act, 1998 (Act No 55 of 1998).

Period of Performance

The period within which the Services are to be performed and completed.

Personnel

Persons hired by the Service Provider as employees and assigned to the performance of the Services or any part thereof.

Personnel Schedule

A schedule naming all personnel and key persons.

Pricing Data

Data that establishes the criteria and assumptions that were taken into account when developing the Contract Price and the record of the components that make up of the Contract Price.

Project

The project named in the Contract Data for which the Services are to be provided.

QSE

QSE is a Qualifying Small Business Enterprise in terms of a code of good practice on black economic empowerment issued in terms of Section 9(1) of the Broad-Based Black Economic Empowerment Act, 2003 (Act No 53 of 2003).

Scope of Work

The document which defines the Employer’s objectives and requirements and specifies the Services which must, or may, be provided under the Contract.

Service Provider

The contracting party named in the Contract Data who is employed by the Employer to perform the Services described in the Contract, and legal successors to the Service Provider and legally permitted assignees.

Services

The work to be performed by the Service Provider pursuant to the Contract as described in the Scope of Work.

Sub-contractor

A person or body corporate who enters into a sub-contract with the Service Provider to perform part of the Services.

Targeted Enterprise

A Consulting Engineering Firm who is an EME (BEP) or QSE (BEP)*, contracted by the Service Provider to perform a tendered percentage of work stated in the Contract Data under his guidance and which complies with the following:*

- a) is at least 51% owned by black people; and*
- b) has a B-BBEE status* of "level one or level two contributor"; and*
- c) does not share equity holding with the Service Provider; and*
- d) is registered in terms of the Company's Act, 2008 (Act No. 71 of 2008) or Close Corporation Act, 1984 (Act No. 69 of 1984); and*
- e) is registered on the National Treasury's Central Supplier Database (CSD).*

** NOTE: All references to EME, QSE, B-BBEE status are in terms of the amended Construction Sector Codes published in Notice 931 of 2017 in Government Gazette No 41287 on 1 December 2017.*

Technical Proposal

The Key Persons proposed by the Service Provider to undertake the respective functions/duties as defined under the Contract.

Works or Works Contract

That project or part of a project that the employer wishes to have delivered and for which the service provider has been appointed for the performance of the services specified in this contract.

Youth

For purposes of this contract, Youth means persons between the ages of 16 and 35.

2. INTERPRETATION

- 2.1 Unless inconsistent with the context, an expression which denotes:
 - a) any gender includes the other genders;
 - b) a natural person includes a juristic person and vice versa;
 - c) the singular includes the plural and vice versa.
- 2.2 *The documents forming the Contract are to be taken as mutually explanatory of one another. For the purposes of interpretation, the priority of documents shall be in accordance with the following sequence:*
 - a) the Form of Acceptance*
 - b) the Form of Offer*
 - c) the Contract Data*
 - d) the General Conditions of Contract*
 - e) the Scope of Work*
 - f) the Pricing Schedule and any other documents forming part of the Contract.*
- 2.3 If there is any conflict between the provisions of these General Conditions of Contract and the Contract Data, the provisions of the Contract Data shall prevail.
- 2.4 The clause headings shall not limit, alter or affect the meaning of the Contract.

3. GENERAL**3.1 Governing laws**

"Law" means all national (or other spheres of Government) legislation, statutes, ordinances and other laws including the South African Common Law, and regulations and by-laws of any legally constituted public authority.

3.2 Change in legislation

If after the commencement of the Contract, the cost or duration of the Services is altered as a result of changes in, or additions to, any statute, regulation or bye-law, or the requirements of any authority having jurisdiction over any matter in respect of the Project, then the Contract Price and time for completion shall be adjusted in order to reflect the impact of those changes, provided that, within 14 days of first having become aware of the change, the Service Provider furnished the Employer with detailed justification for the adjustment to the Contract Price.

3.3 Language

3.3.1 *The language of the Contract and of all communications between the Parties shall be English.*

3.3.2 *All reports, recommendations and reports prepared by the Service Provider under the Contract shall be in English.*

3.4 Notices

3.4.1 *Any notice, request, consent, or other communication made between the Parties pursuant to the Contract shall be in writing and shall be deemed to have been made when delivered in person to an authorized representative of the Party to whom the communication is addressed, or when delivered to such Party at the address stated in the Contract Data, or one week after having been sent by registered post.*

3.4.2 *If the sender requires evidence of receipt, he shall state such requirement in his communication and, wherever there is deadline for the receipt of the communication, he may demand evidence of receipt of his communication. In any event, the sender shall take all the necessary measures to ensure receipt of communications.*

3.4.3 *A Party may change its address for receipt of communications by giving the other Party 30 days advance notice of such change.*

3.5 Location

The Services shall be performed at such locations as are specified in the Contract Data, and where the location of a particular task is not so specified, at such locations as the Employer may approve.

3.6 Publicity and publication

Unless otherwise agreed, the Service Provider shall not release public or media statements or publish material related to the Services or Project within two (2) years of completion of the Services without the written approval of the Employer, which approval shall not be unreasonably withheld.

3.7 Confidentiality

Both Parties shall keep all commercially sensitive information obtained by them in the context of the Contract confidential and shall not divulge it without the written approval of the other Party except to the extent strictly necessary to carry out obligations under this Contract or to comply with applicable laws.

3.8 Variations

3.8.1 *The Employer may, without changing the objectives or fundamental scope of the Contract, order variations to the Services or may request the Service Provider to submit proposals, including the time and cost implications, for variations to the Services. No variation shall have any force or effect unless reduced to writing and signed by both Parties.*

3.8.2 *The reasonable cost of preparation and submission of such proposals and the incorporation into the Contract of any variations to the Services ordered by the Employer, including any change in the Contract Price, shall be agreed in writing between the Service Provider and the Employer, prior to the change being implemented.*

3.8.3 *Where a variation is necessitated by default or breach of Contract by the Service Provider, any additional cost attributable to such variation shall be borne by the Service Provider.*

3.9 Sole agreement

The Contract constitutes the sole agreement between the Parties for the performance of the Services and no representation not contained therein shall be of any force or effect. No amendments will be of any force or effect unless reduced to writing and signed by both Parties.

3.10 Indemnification

The Service Provider shall, at his own expense, indemnify, protect and defend the Employer, its agents and employees, from and against all actions, claims, losses and damage arising from any wilful or negligent act or omission by the Service Provider or his sub-contractors in the performance of the Services, including any violation of legal provisions, or rights of others, in respect of patents, trademarks and other forms of intellectual property such as copyrights.

3.11 Penalty

- 3.11.1 *In the event that due to his negligence, or for reasons within his control, the Service Provider does not perform the Services within the Period of Performance, the Employer shall without prejudice to his other remedies under the Contract, be entitled to levy a penalty for every day or part thereof, which shall elapse between the end of the period specified for performance, or an extended Period of Performance, and the actual date of completion, at the rate and up to the maximum amount stated in the Contract Data.*
- 3.11.2 *If the Employer has become entitled to the maximum penalty amount referred to in 3.11.1, he may after giving notice to the Service Provider:*
- a) *terminate the Contract*
 - b) *complete the Services at the Service Provider's cost.*
- 3.11.3 *In the event that due to his negligence or for reasons within his control, the Service Provider does not disclose sub-contracting arrangements, the Employer may be entitled to levy a penalty as stated in the Contract Data.*
- 3.11.4 *In the event that due to his negligence or for reasons within his control, the Service Provider does not perform the service of capturing structures inventory updates, the Employer shall be entitled to levy a penalty as stated in the Contract Data.*
- 3.11.5 *In the event that due to his negligence or for reasons within his control, the Service Provider does not perform the service of capturing structures inventory and condition updates within the specified period of time, the Employer shall be entitled to levy a penalty as stated in the Contract Data.*

3.12 Equipment and materials furnished by the Employer

- 3.12.1 *Equipment and materials made available to the Service Provider by the Employer, or purchased by the Service Provider with funds provided by the Employer for the performance of the Services shall be the property of the Employer and shall be marked accordingly. Upon termination or expiration of the Contract, the Service Provider shall make available to the Employer an inventory of such equipment and materials and shall dispose of them in accordance with the Employer's instructions.*
- 3.12.2 *Unless otherwise stated in the Contract Data, the Service Provider shall, at his own expense, insure the equipment and materials referred to in 3.12.1 for their full replacement value.*

3.13 Illegal and impossible requirements

The Service Provider shall notify the Employer immediately, should he become aware that the Contract requires him to undertake anything which is illegal or impossible.

3.14 Programme

- 3.14.1 *The Service Provider shall, within the time period set out in the Contract Data, submit to the Employer a programme for the performance of the Services which shall, *inter alia*, include:*

- a) the order and timing of operations by the Service Provider and any actions required of the Employer and Others;
- b) the dates by which the Service Provider plans to complete work needed to allow the Employer and Others to undertake work required of them; and
- c) other information as required in terms of the Scope of Work or Contract Data.

3.14.2 The Employer may, during the course of the Contract, request the Service Provider to amend the programme. Where this is not practicable, the Service Provider shall advise the Employer accordingly and advise him of alternative measures, if any, which might be taken.

3.14.3 The Service Provider shall regularly update the programme to reflect actual progress to date and expected future progress.

3.15 Severability

If a court of competent jurisdiction holds that any provision of this Contract is severable by reason of it being invalid, illegal, unlawful or unenforceable and as a consequence of which prevents the accomplishment of the purpose of this Contract, the Employer and the Service Provider shall meet and review the matter to adopt means to fulfil the purpose of the Contract.

3.16 Waiver

No defence of a waiver of any of the provisions of this contract shall be effective unless it is expressly stated in writing, by the Party against whom such defence is raised, to be a waiver of such provisions and is communicated to the other Party in writing in accordance with the provisions of Clause 3.4.

4. EMPLOYER'S OBLIGATIONS

4.1 Information

- 4.1.1 The Employer shall timeously provide to the Service Provider, free of cost, all available information and data in the Employer's possession which may be required for the performance of the Services.
- 4.1.2 The Employer shall provide the Service Provider with any assistance required in obtaining other relevant information that the latter may require in order to perform the Services.
- 4.1.3 The Service Provider shall be entitled to rely on the accuracy and completeness of all information furnished by or on behalf of the Employer.

4.2 Decisions

The Employer shall, within a reasonable time, give his decision on any matter properly referred to him in writing by the Service Provider so as not to delay the performance of Services.

4.3 Assistance

The Employer shall co-operate with the Service Provider and shall not interfere with or obstruct the proper performance of the Services. The Employer shall as soon as practicable:

- 4.3.1 authorise the Service Provider to act as his agent insofar as may be necessary for the performance of the Services;
- 4.3.2 provide all relevant data, information, reports, correspondence and the like, which become available;
- 4.3.3 procure the Service Provider's ready access to premises, or sites, necessary for the performance of the Services;
- 4.3.4 assist in the seeking of all approvals, licenses and permits from state, regional and municipal authorities having jurisdiction over the Project, unless otherwise stated in the Contract Data;

- 4.3.5 designate in writing a person to act with his complete authority in giving instructions and receiving communications on his behalf and interpreting and defining his policies and requirements in regard to the Services.

4.4 Services of Others

- 4.4.1 The Employer shall, at his own cost, engage such Others as may be necessary for the execution of work necessary for the completion of the Project, but not included in the Services.
- 4.4.2 The Employer shall not enter into an agreement or contract with Others which describes any of the duties and responsibilities of the Service Provider in terms of the Contract or which imposes obligations on him, without first obtaining the Service Provider's written agreement thereto.

4.5 Notice of change by Employer

On becoming aware of any matter which will materially change, or has changed, the scope, cost or timing of the Services, or on becoming aware of any defect or deficiency in the Services, the Employer shall immediately advise the Service Provider thereof.

4.6 Issue of instructions

Where the Service Provider is required to administer the work or services of Others, or any contract or agreement, on behalf of the Employer, then the Employer shall issue instructions related to such work, services, contract or agreement only through the Service Provider.

4.7 Payment of Service Provider

The Employer shall pay the Service Provider the Contract Price in accordance with the provisions of the Contract.

5. SERVICE PROVIDER'S OBLIGATIONS

5.1 General

- 5.1.1 The Service Provider shall perform the Services in accordance with the Scope of Work with all reasonable care, diligence and skill in accordance with generally accepted professional techniques and standards *and shall be responsible for breach of professional duty by reason of any error, omission or neglect in connection with delivering the services*
- 5.1.2 Where the Services include the exercise of powers to certify, decide or otherwise exercise discretion in regard to a contract or agreement between the Employer and Others, then the Service Provider shall act in respect of that contract or agreement as an independent professional
- 5.1.3 If the Service Provider is a joint venture or consortium of two or more persons, the Service Provider shall designate one person to act as leader with authority to bind the joint venture or consortium. Neither the composition nor the constitution of the joint venture or consortium shall be altered without the prior consent in writing of the Employer, which shall not be unreasonably withheld.
- 5.1.4 *Unless specifically instructed differently, the Service Provider is delegated as the Employer's "Mandatar" in terms of the Occupational Health and Safety Act (Act no. 85 of 1993), and as the Employer's Agent as defined in Construction Regulations 4(2), (5) and (6) of the said Act.*
- 5.1.5 *The Service Provider, if requested by the Employer, shall provide any plans and calculations for checking by Others.*
- 5.1.6 *All design calculations shall be kept and safeguarded for the duration of the insurance(s) required in terms of clause 5.4.1.*

5.1.7 *The Service Provider shall enter into a contract over the full contract duration (either through partnership, joint venture or sub-contracting) with a Targeted Enterprise(s) to perform a percentage of work as stated in the Contract Data.*

5.1.8 *The Service Provider undertakes to pay the Targeted Enterprise(s) the full value due in each interim fee claim. The Service Provider further undertakes to make payment within 30 (thirty) days of presentation by the Service Provider of the interim fee claim to the Employer for payment, or by the 30th of the month following that in which the Targeted Enterprise(s) completed the work, whichever date is earlier.*

5.2 Exercise of authority

5.2.1 The Service Provider shall have no authority to relieve Others appointed by the Employer to undertake work on the Project of any of their duties, obligations, or responsibilities under their respective agreements or contracts, unless expressly authorised by the Employer in response to an application by the Service Provider in writing to do so.

5.2.2 *Whenever necessary to enter upon land for the performance of the Contract the service Provider shall do so in accordance with the provisions of the SANRAL Act, (Act 7 of 1998) and shall indemnify the Employer from all costs arising from any transgression committed by the Service Provider.*

5.3 Designated representative

The Service Provider shall designate in writing a person to act as his representative and such person shall have complete authority to receive instructions from and give information to the Employer on behalf of the Service Provider.

5.4 Insurances to be taken out by the Service Provider

5.4.1 The Service Provider shall, at his own cost, unless otherwise agreed, take out and maintain in force such insurance policies in respect of their own risks in performing the Services as are stipulated in the Contract Data, subject to the approval of the Employer, which approved shall not be unreasonably withheld.

5.4.2 The Service Provider shall, at the Employer's request, provide evidence to the Employer showing that the insurance required in terms of Clause 5.4.1 has been taken out *with an insurance company registered in the Republic of South Africa, or as otherwise approved by the Employer* and maintained in force.

5.5 Service Provider's actions requiring Employer's prior approval

The Service Provider shall obtain the Employer's prior approval in writing before taking, inter alia, any of the following actions:

- a) appointing Sub-contractors for the performance of any part of the Services,
- b) appointing Key Persons not listed by name in the Contract Data.
- c) any other action that may be specified in the Contract Data.

5.6 Co-operation with Others

If the Service Provider is required to perform the Services in co-operation with Others he may make recommendations to the Employer in respect of the appointment of such Others. The Service Provider shall, however, only be responsible for his own performance and the performance of sub-contractors unless otherwise provided for.

5.7 Notice of change by Service Provider

On becoming aware of any matter which will materially change or has changed the scope, cost or timing of the Services, the Service Provider shall give notice thereof to the Employer, save that the Service Provider is empowered to make minor changes or variations within the overall programme or budget and within such parameters as are defined by the Employer, provided that such changes are reported timeously to the Employer.

5.8 Safeguarding the Employer's data

- 5.8.1 *The Parties shall take reasonable precautions (each having regard to the nature of the other's respective obligations under the Contract) to preserve the integrity of the Employer's data including appropriate back-up procedures.*
- 5.8.2 *In the event that the Employer's data is corrupted or lost as a result of any default by the Service Provider, the Employer shall at the Service Provider's expense, have the option to:*
- *require the Service Provider to restore or procure the restoration of such data; or;*
 - *itself restore or procure restoration of such data.*

5.9 Performance Security

Where required, the Service Provider shall obtain (at his cost) a Performance Security for proper performance in the amount and currencies stated in the Contract Data. If an amount is not stated in the Contract Data, this sub-clause shall not apply.

The Service Provider shall deliver the Performance Security to the Employer within 14 days of the date of issue of the Letter of Acceptance. The Performance Security shall be issued by an insurance company or bank registered or licensed as an insurance company or bank to do business in the Republic of South Africa and approved by the Employer and having an office or banking facility in the Republic of South Africa. The Performance Security shall be subject to approval by the Employer and shall be in the form prescribed in the tender documents.

6. CONFLICTS OF INTEREST, CORRUPTION AND FRAUD

6.1 Service Provider not to benefit from commissions, discounts, etc.

The remuneration of the Service Provider under the Contract shall constitute the Service Provider's sole remuneration in connection with the Contract, or the Services, and the Service Provider shall not accept for his own benefit any trade commission, discount, or similar payment in connection with activities pursuant to the Contract, or in the discharge of his obligations under the Contract, and shall use his best efforts to ensure that the Personnel, any Sub-contractors, and agents of either of them shall, similarly, not receive any additional remuneration.

6.2 Royalties and the like

The Service Provider shall not have the benefit, whether directly or indirectly, of any royalty or of any gratuity or commission in respect of any patented or protected article or process used in or for the purposes of the Contract, or Project, unless so agreed by the Employer in writing.

6.3 Independence

The Service Provider shall refrain from entering into any relationship which could be perceived as compromising his independence of judgment, or that of Subcontractors or Personnel.

6.4 Corruption and Fraud

- 6.4.1 *The Service Provider shall neither:*
- (a) *Offer or give or agree to give any person of the Employer any gift or consideration of any kind as an inducement or reward for doing or forbearing to do or for having done or forebore to do any act in relation to the obtaining or performance of this contract or any other contract with the Employer or for showing or forbearing to show favour or disfavour to any person in relation to this contract; nor*
 - (b) *Enter into this contract if in connection with it commission or a reward of any type has been paid, offered or agreed to be paid to any person of the Employer by the Service Provider or on his behalf or knowledge.*
- 6.4.2 *In the event that the Employer, in good faith and on reasonable grounds, comes to the opinion, that a breach of any of the provisions of Clause 6.4.1 has been perpetrated by the Service Provider or*

anyone employed by him or acting on his behalf in relation to this contract or any other agreement with the Employer, the Employer may:

- i. summarily suspend the operation of this Contract by notice in writing to the Service Provider, informing him of the Employer's opinion and the grounds and reasons upon which it is based, and calling upon the Service Provider to show cause, in writing, within fourteen (14) days of receipt of the written notice why the Employer should not terminate this Contract on the grounds of the alleged breach(es) of Clause 6.4.1 of this Contract;*
- ii. withhold all payments due;*
- iii. terminate this Contract by notice in writing to the Service Provider, if the Service Provider fails to respond to the Employer's written response, to satisfy the Employer that his opinion is unfounded. Provided always that such termination shall not prejudice or affect any right of action or remedy, which shall have accrued or shall accrue thereafter to the Employer and provided also that the Employer may recover from the Service Provider such sum as the Employer deems equivalent to the amount or value of any such gift, consideration or commission.*

6.4.3 *In the event that the Employer, in good faith and on reasonable grounds, comes to the opinion that any contract with a Government or public sector body has been or was obtained by the Service Provider through actions that mutatis mutandis are similar in nature to those barred in terms of Clause 6.4.2 by the Service Provider or by anyone employed by the Service Provider or acting on the Service Provider's behalf in relation to such Contract, the Employer may:*

- (a) summarily suspend the operation of this Contract by notice in writing to the Service Provider, informing him of the Employer's opinion and the grounds and reasons upon which it is based, and calling upon the Service Provider to show cause, in writing within fourteen (14) days of receipt of the written notice why the Employer should not terminate this Contract on the grounds of the alleged breach(es) of Clause 6.4.1 of this contract;*
- (b) withholds all payments due*
- (c) terminate this Contract by notice in writing to the Service Provider, if the Service Provider fails to respond to the Employer's written notice within the prescribed time, or fails, in his written response, to satisfy the Employer that this opinion is unfounded. Provided always that such termination shall not prejudice or affect any right of action or remedy, which shall have accrued or shall accrue thereafter to the Employer.*

7. SERVICE PROVIDER'S PERSONNEL

7.1 Provision of Personnel

- 7.1.1** The Service Provider shall provide appropriate Personnel for such time periods as required in terms of the Contract and shall enter all data pertaining to Personnel including titles, job descriptions, qualifications and estimated periods of engagement on the performance of the Services in the Personnel Schedule.
- 7.1.2** The Services shall be performed by the Personnel listed in the Personnel Schedule for the periods of time indicated therein. The Service Provider may, subject to the approval of the Employer, make such adjustments to the data provided in terms of Clause 7.1.1 above as may be appropriate to ensure the efficient performance of the Services, provided that the adjustments will not cause payments to exceed any limit placed on the Contract Price.
- 7.1.3** The Service Provider shall:
 - a) forward to the Employer for approval, within 15 days of the award of the Contract, the Personnel Schedule and a timetable for the placement of Personnel.
 - b) inform the Employer of the date of commencement and departure of each member of Personnel during the course of the Project.
 - c) submit to the Employer for his approval a timely request for any proposed change to Personnel, or timetables.

7.2 Staff and equipment

- 7.2.1** The Service Provider shall employ and provide all qualified and experienced Personnel required to perform the Services.
- 7.2.2** Where required in terms of the Contract, the Service Provider shall provide Key Persons as listed in the Contract Data to perform specific duties. If at any time, a particular Key Person cannot be made

available, the Service Provider may engage a replacement who is equally or better qualified to perform the stated duty, subject to the Employer's approval, which approval shall not be unreasonably withheld.

- 7.2.3 Where the Service Provider proposes to utilise a person not named in the Personnel Schedule, he shall submit the name, relevant qualifications and experience of the proposed replacement person to the Employer for approval.
- 7.2.4 Where the fees for the Services are time-based, the fee payable for a person provided as a replacement shall not exceed that which would have been payable to the person replaced.
- 7.2.5 Except in the case of replacement resulting from death or where the Employer requests a replacement not provided for by the Contract, the Service Provider shall bear all additional costs arising out of or incidental to such replacement.
- 7.2.6 The Service Provider shall take all measures necessary and shall provide all materials and equipment necessary to enable Personnel to perform their duties in an efficient manner.

7.3 Working hours, overtime and leave

Where the fee for the Services are time-based, working hours, leave entitlement and holidays for Personnel provided in terms of Clause 7 are to be as stated in the Contract Data, or, if not stated, to be determined by the Service Provider. The Employer will not be responsible for overtime payments to Personnel *unless so specifically provided for in the Pricing Schedule*.

8. COMMENCEMENT, COMPLETION, MODIFICATION SUSPENSION AND TERMINATION OF THE CONTRACT

8.1 Commencement

The effective date of the contract shall be the date of the Form of Acceptance.

The Contract shall come into effect on the date that it is signed by both Parties or such later date as may be stated in the Contract Data. The Service Provider shall commence the performance of the Services within thirty (30) days after the date that the Contract becomes effective, or such date as may be specified in the Contract Data.

8.2 Completion

- 8.2.1 Unless terminated in terms of the Contract, or otherwise specified in the Contract Data, the Contract shall be concluded when the Service Provider has completed all Deliverables in accordance with the Scope of Work.
- 8.2.2 The Service Provider, may request an extension to the Period of Performance if he is or will be delayed in completing the Contract by any of the following causes:
 - a) *variations to Services ordered by the Employer.*
 - b) *failure of the Employer to fulfil his obligations under the Contract.*
 - c) *any delay in the performance of the Services which is not due to the Service Provider's default.*
 - d) *Force Majeure*
- 8.2.3 The Service Provider shall within 14 days of becoming aware that a delay may occur, notify the Employer of his intention to make a request for the extension of the Period of Performance to which he considers himself entitled and shall within 30 days thereafter deliver to the Employer full and detailed particulars of the request, in order that it may be investigated at the time.
- 8.2.4 The Employer shall, within 30 days of receipt of a detailed request, grant such extension to the Period of Performance as may be justified, either prospectively or retrospectively, or inform the Service Provider that he is not entitled to an extension. Should the Service Provider find the decision of the Employer to be unacceptable he shall, nevertheless, abide by such decision in the performance of the services and the matter shall be dealt with as a dispute in terms of Clause 12.

8.3 Force Majeure

8.3.1 *In this clause "Force Majeure" means an exceptional event or circumstance:*

- (a) which is beyond party's control,*
- (b) which such a party could not reasonably have provided against before entering into the Contract,*
- (c) which, having arisen, such Party could not reasonably have avoided or overcome, and*
- (d) which is not substantially attributable to the other Party*

Force Majeure may include, but is not limited to, exceptional events or circumstances of the kind listed below;

- (i) natural catastrophes such as earthquake, hurricane, typhoon or volcanic activity*
- (ii) war, hostilities (whether war to be declared or not), invasion, act of foreign enemies,*
- (iii) rebellion, terrorism, revolution, insurrection, military or usurped power, or civil war,*
- (iv) riot, commotion, disorder, strike or lockout by persons other than the Service Provider's Personnel or other employees of the Service Provider and Sub-contractors,*

An event or circumstance which is attributable to a wilful act, neglect or failure to take reasonable precautions by the affected party, his employees agents, sub-contractors or others shall, under no circumstances, be considered Force Majeure.

8.3.2 The failure of a Party to fulfil any of its obligations under the Contract shall not be considered to be a breach of, or default under, this Contract insofar as such inability arises from an event of *Force Majeure*, provided that the Party affected by such an event has taken all reasonable precautions, due care and reasonable alternative measures in order to meet the terms and conditions of this Contract, and has *notified* the other Party within 10 days of its occurrence and within a reasonable time of *its estimated duration and consequences. Failure to so notify shall terminate that Party's right to release from his obligations.*

8.3.3 In the event that the performance of the Services has to be suspended on the grounds of *Force Majeure*, the time for completion shall be extended by the extent of the delay plus a reasonable period for the resumption of work or, if the speed of performing certain Services has to be reduced, the time for their completion shall be extended as may be necessary in the circumstances.

8.3.4 During the period of his inability to perform the Services as a result of an event of *Force Majeure*, the Service Provider shall be entitled to continue to be paid under the terms of the Contract and shall be reimbursed for additional costs reasonably and necessarily incurred by him in suspending, delaying and re-activating the performance of the Services.

8.3.5 *If the Force Majeure event continues for more than 90 (ninety) days, either Party shall have the right to terminate this Contract with immediate effect.*

8.4 Termination

8.4.1 The Employer may in addition to his rights under sub-clauses 6.4.2, 6.4.3 and 10.5 terminate the Contract by giving not less than thirty (30) days written notice thereof to the Service Provider after the occurrence of any of the following events:

- (a) if the Service Provider does not remedy a failure in the performance of his obligations under the Contract within thirty (30) days after having been notified thereof, or within any further period as the Employer may have subsequently approved in writing;*
- (b) if the Service Provider becomes insolvent or bankrupt; or*
- (c) if, as the result of Force Majeure, the Service Provider is unable to perform a material portion of the Services for a period of not less than sixty (60) days;*
- (d) commission of an offence in terms of clauses 6.1 and 6.4;*
- (e) if the Service Provider acts in such a way, on this contract or any other contract with the Employer, that a statute relating to the combating of fraud, corruption, uncompetitive practice and the like can be invoked.*
- (f) In the event that its director/s of the Service Provider are found guilty by a Court of Law on the counts of fraud charges against them, the Employer reserves the right to terminate the contract and to assert all legal recourse available to it.*

Upon delivery of such notice by the Service Provider he shall immediately vacate the site and deliver to the Employer all drawings, documents and papers relating to the Services and shall within

fourteen (14) days after the date of termination submit an account for the Services satisfactorily performed prior to the date of notice. The Employer shall not be liable to the Service Provider for any loss of profit or damages suffered as a result of cancellation of the contract as contemplated in this clause.

- 8.4.2 The Service Provider may terminate the Contract, by giving not less than thirty (30) days written notice to the Employer after the occurrence of any of the following events:
- (a) if the Employer fails to pay any monies due to the Service Provider in terms of the Contract and not subject to dispute pursuant to Clause 12 within forty-five (45) days after receiving written notice from the Service Provider that such payment is overdue; or
 - (b) if, as the result of *Force Majeure*, the Service Provider is unable to perform a material portion of the Services for a period of not less than sixty (60) days; or
 - (c) when the Services have been suspended under Clause 8.5 and the period of suspension exceeds 6 months, or it is clear to the Service Provider that it will be impossible or impractical to resume the suspended Services before the period of suspension has exceeded 6 months; or
 - (d) if the Employer is in material breach of a term of the Contract and fails to rectify such breach within 30 days of the receipt of written notice requiring him to do so.
- 8.4.3 Upon termination of this Contract pursuant to Clauses 8.4.1 or 8.4.2, the Employer shall make the following payments to the Service Provider:
- (a) remuneration in terms of the Contract for Services satisfactorily performed prior to the effective date of termination *less any costs arising from termination*.
 - (b) except in the case of termination pursuant to events (a) and (b) of Clause 8.4.1, reimbursement of any reasonable cost incident to the prompt and orderly termination of the Contract.
- 8.4.4 Should the Service Provider, being an individual or the last surviving principal of a partnership or body corporate, die or be prevented by illness or any other circumstances beyond his control from performing the obligations implied by the Contract, the Contract shall be terminated without prejudice to the accrued rights or either Party against the other.
- 8.4.5 *Where required in terms of the contract data the surety delivered by the Service Provider in terms of this Contract shall remain in force until the completion of the project.*

8.5 Suspension

- 8.5.1 The Employer may temporarily suspend all or part of the Services by notice to the Service Provider who shall immediately make arrangements to stop the performance of the Services and minimise further expenditure.
- 8.5.2 When Services are suspended, the Service Provider shall be entitled to pro-rata payment for the Services carried out and reimbursement of all reasonable cost incident to the prompt and orderly suspension of the Contract.

8.6 Rights and liabilities of the Parties

Completion, suspension or termination of the Contract shall not prejudice or affect the accrued rights or liabilities of the Parties.

9. OWNERSHIP OF DOCUMENTS AND COPYRIGHT

- 9.1 Copyright of all documents prepared by the Service Provider in accordance with the relevant provisions of the copyright Act (Act 98 of 1978) relating to Project shall be vested in the party named in the Contract Data. Where copyright is vested in the Service Provider, the Employer shall be entitled to use the documents or copy them only for the purposes for which they are intended in regard to the Project and need not obtain the Service Provider's permission to copy for such use. Where copyright is vested in the Employer, the Service Provider shall not be liable in any way for the use of any of the information other than as originally intended for the Project and the Employer hereby indemnifies the Service Provider against any claim which may be made against him by any party arising from the use of such documentation for other purposes.

- 9.2 The ownership of data and factual information collected by the Service Provider and paid for by the Employer shall, after payment by the Employer, lie with the Employer. This shall include any research work, papers and presentations done using the Employer's resources and information.
- 9.3 The Employer shall have no right to use any documents prepared by the Service Provider whilst the payment of any fees and expenses due to the Service Provider in terms of the Contract is overdue.

10. SUCCESSION AND ASSIGNMENT

- 10.1 Except as defined in Clause 8.4.4 above, each Party binds itself and its partners, successors, executors, administrators, assigns and legal representatives to the other Party and to the other partners, successors, executors, administrators, assigns and legal representatives of the other Party in respect of all obligations and liabilities of the Contract.
- 10.2 An assignment including that of sub-contractor shall be valid only if it is a written agreement, by which the *Parties* transfer *their rights* and obligations under the Contract, or part thereof, to others.
- 10.3 The Service Provider shall not, without the prior written consent of the Employer, assign the Contract or any part thereof, or any benefit or interest there under, except in the following cases:
- (a) by a charge in favour of the Service Provider's bankers of any monies due or to become due under the Contract; or
 - (b) by assignment to the Service Provider's insurers of the Service Provider's right to obtain relief against any other person liable in cases where the insurers have discharged the Service Provider's loss or liability.
- 10.4 The approval of an assignment by the Employer shall not relieve the Service Provider of his obligations for the part of the Contract already performed or the part not assigned.
- 10.5 If the Service Provider has assigned his Contract or part thereof without authorization, the Employer may forthwith terminate the Contract.

11. SUB-CONTRACTING

- 11.1 A sub-contract shall be valid only if it is a written agreement by which the Service Provider entrusts performance of a part of the Services to others.
- 11.2 The Service Provider shall not sub-contract to nor engage a Sub-contractor to perform any part of the Services without the prior written authorization of the Employer. The services to be sub-contracted and the identity of the Sub-contractor shall be notified to the Employer. The Employer shall, within 14 days of receipt of the notification and a full motivation why such services are to be sub-contracted, notify the Service Provider of his decision, stating reasons, should he withhold such authorization, failing which the Sub-contractor shall be deemed to be approved by the Employer. If the Service Provider enters into a sub-contract with a Sub-contractor without prior approval, the Employer may forthwith terminate the Contract.
- 11.3 The Employer shall have no contractual relationships with Sub-contractors. However, if a Sub-contractor is found by the Employer to be incompetent, the Employer may request the Service Provider either to provide a Sub-contractor with qualifications and experience acceptable to the Employer as a replacement, or to resume the performance of the relevant part of the Services himself.
- 11.4 The Service Provider shall advise the Employer without delay of the variation or termination of any sub-contract for performance of all or part of the Services.
- 11.5 The Service Provider shall be responsible for the acts, defaults and negligence of Sub-contractors and their agents or employees in the performance of the Services, as if they were the acts, defaults or negligence of the Service Provider, his agents or employees. Approval by the Employer of the sub-contracting of any part of the Contract or of the engagement by the Service Provider of Sub-contractors to perform any part of the Services shall not relieve the Service Provider of any of his obligations under the Contract.
- 11.6 The Service Provider undertakes to pay the sub-contractor the full value as certified as being due in each interim monthly account. The Service Provider further undertakes to make payment within 7

(seven) days after payment by the Employer or by the 25th of the month following that in which the sub-contractor invoiced for the work, whichever date is earlier.

- 11.7.1 It is a condition of this contract that the Service Provider sub-contracts a minimum of 30% to Targeted Enterprise/s, however if the final contract value is less than R6 million inc VAT then the following will apply:

- i. *No sub-contracting requirements for EME.*
- ii. *Minimum sub-contract requirement for QSE and Generic Entities is 30%.*

Furthermore, if the contract value is more than R6 million inc VAT and up to R25 million inc VAT then the following will apply:

- i. *No sub-contracting requirements for EME and QSE.*
- ii. *Minimum sub-contract requirement for Generic Entities is 30%.*

And finally, if the contract value is more than R25 million inc VAT then the minimum sub-contract requirement for all entities is 30%.

12. RESOLUTION OF DISPUTES

12.1 Settlement

- 12.1.1 Any dispute between the Parties shall arise by either party presenting to the other in writing the nature of the dispute and the facts to be dealt with. The Parties shall negotiate in good faith with a view to settling any dispute or claim arising out of or relating to the Contract and may not initiate any further proceedings until either Party has, by written notice to the other, declared that such negotiations have failed.

- 12.1.2 Any dispute or claim arising out of or relating to the Contract which cannot be settled between the Parties shall in the first instance be referred by the Parties to either mediation or adjudication as provided for in the Contract Data.

12.2 Mediation

- 12.2.1 If the Contract Data does not provide for dispute resolution by adjudication, not earlier than ten working days after having advised the other Party, in terms of Clause 12.1, that negotiations in regard to a dispute have failed, an aggrieved Party may require that the dispute be referred, without legal representation, to mediation by a single mediator. The mediator shall be selected by agreement between the Parties, or, failing such agreement, by the person named for this purpose in the Contract Data. The costs of the mediation shall be borne equally by the Parties.

- 12.2.2 The mediator shall convene a hearing of the Parties and may hold separate discussions with any Party and shall assist the Parties in reaching a mutually acceptable settlement of their differences through means of reconciliation, interpretation, clarification, suggestion and advice. The Parties shall record such agreement in writing and thereafter they shall be bound by such agreement.

- 12.2.3 The mediator is authorised to end the mediation process whenever in his opinion further efforts at mediation would not contribute to a resolution of the dispute between the Parties and shall do so, if after a period of ninety days from entering into the mediation process, no resolution has been achieved.

- 12.2.4 If either Party is dissatisfied with the opinion expressed by the mediator or should the mediation fail, then such Party may require that the dispute be referred to arbitration or litigation in a competent civil court, as provided for in the Contract Data; *provided that the dissatisfied Party notifies the other in writing within 28 days of mediator's decision being issued or the mediator declaring the mediation to have ended, as provided for in the Contract Data.* Claims not brought within the time periods set out herein will be deemed to be waived.

12.3 Adjudication

- 12.3.1 If the Contract Data does not provide for dispute resolution by mediation, an aggrieved Party may refer the dispute to adjudication. Adjudication shall be in accordance with the latest edition of the separately published CIDB Adjudication Procedures.
- 12.3.2 The adjudicator shall be appointed in terms of the Adjudicator's Agreement bound in the Construction Industry Development Board's Adjudication Procedure.
- 12.3.3 The Adjudicator shall be any person agreed to by the parties or, failing such agreement, shall be nominated by the person named in the Contract Data. The Adjudicator shall be appointed in accordance with the Adjudicator's Agreement contained in the CIDB Adjudication Procedure.
- 12.3.4 If a Party is dissatisfied with the decision of the Adjudicator, the Party may give the other Party *written* notice of dissatisfaction within 28 days of the receipt of that decision and refer the dispute to arbitration or litigation in a competent civil court as provided for in the Contract Data. If notice of dissatisfaction is *not* given within the specified time, the decision shall be final and binding on the Parties.

12.4 Arbitration

- 12.4.1 Arbitration, where provided for in the Contract Data, shall be by a single arbitrator in accordance with the provisions of the Arbitration Act of 1965 as amended and shall be conducted in accordance with such procedure as may be agreed between the Parties or, failing such agreement, in accordance with the Rules for the Conduct of Arbitrations, current at the date of the contract, published by the Association or Arbitrators.
- 12.4.2 The arbitrator shall be mutually agreed upon or, failing agreement, to be nominated by the person named in the Contract Data.

13. LIABILITY

13.1 Liability of the Service Provider

- 13.1.1 The Service Provider shall be liable to the Employer arising out of or in connection with the Contract if a breach of Clause 5.1 is established against him.
- 13.1.2 The Service Provider shall correct a Defect on becoming aware of it. If the Service Provider does not correct a Defect within a reasonable time and the Defect arose from a failure of the Service Provider to comply with his obligation to provide the Services, the Service Provider shall pay to the Employer the amount which the latter assesses as being the cost of having such Defect corrected by Others.

13.2 Liability of the Employer

The Employer shall be liable to the Service Provider arising out of or in connection with the Contract if a breach of an obligation of his in terms of the Contract is established. The Service Provider shall have no separate delictual right of action against the Employer.

13.3 Compensation

If it is established that either Party is liable to the other, compensation shall be payable only on the following terms:

- (a) Compensation shall be limited to the amount of reasonably foreseeable loss and damage suffered as a result of the breach.
- (b) The compensation payable by either Party shall be reduced by the arbitrator/mediator/adjudicator to such extent as is deemed just and equitable having regard to the degree in which the other Party or any third party was at fault in relation to the loss or damage. The liability of the Parties is not joint and each Party shall only be liable for that proportion of the compensation which is attributable to his fault.
- (c) In any event, the amount of compensation will be limited to the amount specified in Clause 13.5.

13.4 Duration of Liability

Notwithstanding the terms of the Prescription Act No. 68 of 1969 (as amended) or any other applicable statute of limitation neither the Employer nor the Service Provider shall be held liable for any loss or damage resulting from any occurrence unless a claim is formally made within the period stated in the Contract Data or, where no such period is stated, within a period of three years from the date of termination or completion of the Contract.

13.5 Limit of Compensation

- 13.5.1 The maximum amount of compensation payable by either Party to the other in respect of liability under the Contract is limited to:
- a) the sum insured in terms of 5.4. in respect of insurable event; or
 - b) the sum stated in the Contract Data or, where no such amount is stated, to an amount *equal to twice the Contract Price (inclusive of VAT) payable to the Service Provider under the Contract*.
- 13.5.2 Each Party agrees to waive all claims against the other insofar as the aggregate of compensation which might otherwise be payable exceeds the aforesaid maximum amount payable.
- 13.5.3 If either Party makes a claim for compensation against the other Party and this is not established, the claimant shall reimburse the other for his reasonable costs incurred as a result of the claim or if proceedings are initiated in terms of Clause 12 for such costs as may be awarded.

13.6 Indemnity by the Employer

The Employer shall indemnify the Service Provider against all claims by third parties which arise out of or in connection with the performance of the Services save to the extent that such claims do not in the aggregate exceed the limit of compensation in Clause 13.5 or are covered by the insurances arranged under the terms of Clause 5.4.

13.7 Exceptions

- 13.7.1 Clauses 13.5 and 13.6 shall not apply to claims arising from deliberate misconduct.
- 13.7.2 The Service Provider shall have no liability whatsoever for actions, claims, losses or damages occasioned by:
- a) the Employer omitting to act on any recommendation, or overriding any act, decision or recommendation, of the Service Provider, or requiring the Service Provider to implement a decision or recommendation with which the Service Provider disagrees or on which he expresses a serious reservation; or
 - b) the improper execution of the Service Provider's instructions by agents, employees or independent contractors of the Employer.

14. REMUNERATION AND REIMBURSEMENT OF SERVICE PROVIDER

The Employer shall remunerate and reimburse the Service Provider for the performance of the Services as set out in the Pricing Data *and Scope of Works*. If not otherwise stated in the Pricing Data, the following shall apply:

- 14.1 The Service Provider shall be entitled to render interim monthly accounts for fees and reimbursements throughout the duration of the Contract. Interim amounts of lump sum fees due *(or any specified fixed-progressed payments due that have been delayed by the acts of the Employer)* shall be based on progress.
- 14.2 Amounts due to the Service Provider shall be paid by the Employer within thirty (30) days of receipt by him of the relevant invoices. If the Service Provider does not receive payment by the due date, he shall be entitled to charge interest on the unpaid amount, which is payable by the Employer, at the overdraft rate charged him by his bank plus 2% per annum, compounded monthly and calculated from the due date of payment.
- 14.3 If any item or part of an item in an invoice submitted by the Service Provider is disputed by the Employer, the latter shall, before the due date of payment, give notice thereof with reasons to the Service Provider, but shall not delay payment of the balance of the invoice. Clause 14.2 shall apply to disputed amounts which are finally determined to be payable to the Service Provider.

- 14.4 In respect of Services charged for on a time basis and all other reimbursable expenses the Service Provider shall maintain records in support of such charges and expenses for a period of six months after the completion or termination of the Contract. Within this period the Employer may, on not less than 14 days notice, require that a reputable and independent firm of accountants, nominated by him at his expense, audit any claims made by the Service Provider for time charges and expenses by attending during normal working hours at the office where the records are maintained.
- 14.5 *All accounts presented for payment shall be according to the Employers prescribed format with proof of ITIS data capture and shall be submitted to the Employer electronically and when required, delivered in hard copy to the Employer's relevant regional office.*
- 14.6 *Payments due shall be subject to the deduction of retention monies as stated in the Contract Data. The retention monies so deducted shall be released in accordance with the phases and conditions stated in the Contract Data.*
- 14.7 *If applicable, Contract Price Adjustment will be paid according to the method stated in the Contract Data.*
- 14.8 *The basis for determining remuneration shall be based on the following methods which are not necessarily mutually exclusive, namely:*
- i. Fee based on the cost of works.*
- A final contract price shall be negotiated when the specific scope of works is identified for implementation by the Employer and shall consist of the following:*
- i. Separate payment for services that are additional to those provided for in the normal fee-based calculation;*
 - ii. Time based fees; and*
 - iii. Reimbursable expenses.*

C1.2.2 CONTRACT DATA - INFORMATION PROVIDED BY THE EMPLOYER**Clause No Contract Data**

The Employer is the South African National Roads Agency SOC Limited (SANRAL).

The Employer's domicilium citandi et executandi (permanent physical business address) is:

48 Tamboe Avenue
VAL DE GRACE, 0184

3.5 **THE PROJECT IS PANEL OF ENGINEERING CONSULTANS FOR CONVENTIONAL CATEGORY 2(PERIODIC & SPECIAL MAINTENANCE AND CERTAIN STRENGTHENING PROJECTS FOR WORKS ACROSS SOUTH AFRICA.** The location for the performance of the Projects are in various regions

3.6 The Service Provider may only release public or media statements or publish material related to the Services or Project subject to the approval of the Employer.

3.11.1 The penalty payable for poor performance will be applied over the full-time duration of the Contract. Penalty charges shall be as follows:

- a) Failure to meet milestone dates in the Project programme = R2 000.00/day (excl. VAT) subject to a maximum of 10% of the Contract Value.
- b) Failure to capture structures inventory and condition updates onto ITIS before issue of Taking-Over-Certificate (TOC) = R5000.00/structure (bridges and major culverts) per week or part thereof subject to a maximum of R50 000.00 (excl. VAT) per structure.
- c) Failure to disclose Sub Consultants = up to 10% of the Contract value.
- d) Late capture of monthly ITIS PIM date = R2,000.00/day (excl. VAT) applicable from the first day of the new month following the previous month end, subject to a maximum of 10% of the Contract Value.
- e) Failure to meet the tendered target of work for Targeted Enterprises = 100% of the value by which the cumulative value of payments to the Targeted Enterprises fails to meet the tendered percentage.
- f) Unresolved errors in monthly ITIS PIM data captured without evidence of logging issues = R2,000.00/day (excl. VAT) applicable from the first day of the new month following the previous month end, subject to a maximum of 10% of the Contract Value.
- g) Late processing and submission of Contractor's Payment Certificate = R2,000.00/day (excl. VAT) applicable from the first day of the new month following the previous month end, subject to a maximum of 10% of the Contract Value.
- h) Any audit finding raised against a contract by Internal Audit, AGSA, DOL/DFE related to duties of the Service Provider = R20,000.00/finding (excl. VAT), subject to a maximum of 10% of the Contract Value
- i) Late submission of draft as-built records = R2,000.00/day (excl. VAT) for every calendar day later than 3 (three) months after issuing the Taking-Over-Certificate, subject to a maximum of 10% of the Contract Value.

3.14 The programme shall be submitted within 14 days of the award of the Contract.

5.4 The Service Provider is required to provide the Service with all reasonable care, diligence and skill in accordance with generally accepted professional techniques and standards.

The Service Provider is required to provide the following insurances:

1. Insurance against Professional Indemnity

The Service Provider will be required to provide a Professional Indemnity of minimum

R15 million to be considered for the panel, however the cover will be assessed during project allocation relevant to the percentage of the Works.

Period of cover: Structures – 25 years all other instances – 10 years

2. Insurance against General Public Liability

Cover is minimum: R10 million without a limit on the number of claims. The limit of liability is only provided to cover the Employer's damages and does not allow for the Service Provider's cost to defend any claim.

Period of cover: Structures – 25 years all other instances – 10 years

3. Third Party Liability

Cover is: R15 million

Period of cover: Duration of contract only.

5.5 The Service Provider is required to obtain the Employer's prior approval in writing before taking any of the following actions:

1. Appointing Key Persons not listed by name in the Contract Data.
2. Appointing Sub-contractors for the performance of any part of the Service.
3. Expending any Provisional Sum and Prime Cost in the Contract or Works Contract.
4. Authorising any work under a Works Authorisation for the Works Contract.
5. Over-expenditure on the Works Contract.
6. Changing the scope of work for the Works Contract.
7. Acceptance of sub-standard work under the Works Contract.
8. All aspects requiring the Employers approval in terms of SANRAL's Works Manual.
9. Making statements to the media regarding the project.

5.9 The provision of a Performance Guarantee will not be required under this Contract.

7.2 The Key Person required for this project is:

1. X1 Contract Engineer has an active registration as PrEng or PrTech Eng
2. X1 Project Leader has an active registration as PrEng or PrTech Eng
3. X2 Design Specialist-Pavement & Materials has an active registration as PrEng or PrTech Eng
4. X2 Design Specialist-Structures has an active registration as PrEng or PrTech Eng

7.3 The working hours and holiday for site staff are:

- a) Site working hours
- b) Annual leave shall be taken during the recognized construction industry shutdown period.

8.1 The effective date of the contract shall be the date of the Form of Acceptance.

The time to commence the performance of the Services is within 8 (eight) calendar days after the date that the Contract becomes effective.

8.2 The Contract is concluded on the date when the Service Provider has completed all deliverables in accordance with the Scope of Work.

9.1 Copyright of documents prepared for the Project shall be vested with the Employer.

12. Interim settlement of disputes is to be by mediation.

Final settlement is by litigation.

In the event that the parties fail to agree on a mediator, the mediator is to be nominated by the President of the South African Institution of Civil Engineering.

- 13.4 Neither the Employer nor the Service Provider is liable for any loss or damage resulting from any occurrence unless a claim is formally made within 36 months from the date of termination or completion of the Contract.
- 13.5 The maximum amount of compensation payable by either Party to the other in respect of liability under the Contract is limited to R15 million to be considered for the panel, however the cover will be assessed during project allocation relevant to the percentage of the Works.
- 14.6 Retention monies shall be 10% of the value of completed works up to a maximum of R150 000.00 (excluding VAT). Such retention monies shall be released by the Employer on receipt of an approved Contract Report and As-built material records and drawings within 1 (one) month of the issue of the Performance Certificate.
- 14.7 Contract Price Adjustment: refer to pricing instructions in clause C2.1.3 of the pricing schedule.

Base date shall be the date 28 days **prior** to the latest date for submission of tenders.

C1.2.3 CONTRACT DATA – INFORMATION PROVIDED BY THE TENDERER**A: CONTACT DETAIL**

The Service Provider is

Address:

Telephone:

Facsimile:

The authorised and designated representative of the Service Provider is:

Name:

The **postal address** for receipt of communications is:

.....

Telephone:

Facsimile:

Address:.....

E-mail Address:

B: KEY PERSON:

Key Person	Name	Indicate whether permanent or not permanent *
Contract Engineer		
Project Leader		
X2 Design Specialist-Pavement & Materials		
X2 Design Specialist-Structures		

* Attach letter confirming permanent or contract employment./signed letter of consent.

D: INFORMATION REQUIRED FOR THE PUBLICATION OF AWARD AS PER NATIONAL TREASURY INSTRUCTION NOTE

Name of Partners, Members or Directors	Appointment Date	Designation	Professional Registration Number

C1.3 OTHER STANDARD FORMS

C1.3.1 FORM OF GUARANTEE

Note to tenderer:

This pro-forma guarantee is included for information purposes only. Where required in terms of the Contract, a separate form of Guarantee will be issued to the successful tenderer for completion and signature

TO: The South African National Roads Agency SOC Limited
PO Box 415
Pretoria
0001

CONTRACT SANRAL: PANEL OF ENGINEERING CONSULTANTS FOR CONVENTIONAL CATEGORY 2(PERIODIC & SPECIAL MAINTENANCE AND CERTAIN STRENGTHENING PROJECTS FOR WORKS ACROSS SOUTH AFRICA

1. I/We, the undersigned,

.....and.....

in our capacity as

.....and

and as such duly authorised to represent:.....

.....

(hereinafter referred to as "the Guarantor") (In the case of a company a Resolution to be attached) do hereby hold at your disposal the amount of

.....(R.....) (the "guaranteed amount") for the due fulfilment by (insert the name of Service Provider) (hereinafter referred to as "the Service Provider") of its obligations to The South African National Roads Agency SOC Limited (hereinafter referred to as "SANRAL") in terms of the above stated contract between the Service Provider and SANRAL.

2. We hereby renounce the benefits of the exceptions *non numeratae pecuniae, non causa debiti, excussionis* and *divisionis*, the meanings and effect whereof we declare ourselves to be fully conversant.
3. We undertake and agree to pay to SANRAL the said guaranteed amount or such portion as may be demanded on receipt of a written demand from SANRAL, which demand may be made by SANRAL, if in your opinion and at your sole discretion, the said Service Provider fails and/or neglects to commence the work as prescribed in the contract or if he fails and/or neglects to proceed therewith or if, for any reason, he fails and/or neglects to complete the services in accordance with the condition of contract, or if he fails or neglects to refund to SANRAL any amount found to be due and payable to SANRAL, or if his estate is sequestrated or if he surrenders his estate in terms of the Insolvency Law in force within the Republic of South Africa.
4. Subject to the above and without in anyway detracting from your rights to adopt any of the procedures set out in the contract, the said demand can be made by you at any stage.
5. The said guaranteed amount or such portion as may be demanded may be retained by SANRAL on condition that after completion of the service as stipulated in the contract, SANRAL shall account to the Guarantor showing how this amount has been utilised and refund to the Guarantor any balance due.
6. This guarantee is neither negotiable nor transferable and
 - (a) must be surrendered to us at the time when SANRAL accounts to the Guarantor in terms of clause 5 above, or

- (b) shall lapse upon the issue of the Taking-Over Certificate for the construction Works of the project, and
- (c) shall not be interpreted as extending the Guarantor's liability to anything more than payment of the amount guaranteed.

7. This guarantee shall be governed by South African Law and subject to the jurisdiction of South African Courts.

THUS DONE AND SIGNED AT ON THIS DAY
OF 20

GUARANTOR
NAME (IN CAPITALS)

AS WITNESSES: 1 2
NAMES (IN CAPITALS) 1 2
ADDRESSES: 1 2

C1.3.2 AGREEMENT IN TERMS OF THE OCCUPATIONAL HEALTH AND SAFETY ACT 1993 (ACT NO 85 OF 1993) AND CONSTRUCTION REGULATIONS 2014

This AGREEMENT made at
 on this the day of in the year
 between THE SOUTH AFRICAN NATIONAL ROADS AGENCY SOC LIMITED (hereinafter called "the Employer") on the one part, herein represented byTBA
 in his capacity as TBA
 and delegate of the Employer in terms of the Employer's standard powers of delegation pursuant to the provisions of Act No. 7 of 1998, and
 (hereinafter called "the Mandatary") on the other part, herein represented by

 in his capacity as

WHEREAS the Employer is desirous that certain works be designed, viz

CONTRACT SANRAL: NRA 2024/1340 PANEL OF ENGINEERING CONSULTANS FOR CONVENTIONAL CATEGORY 2(PERIODIC & SPECIAL MAINTENANCE AND CERTAIN STRENGTHENING PROJECTS FOR WORKS ACROSS SOUTH AFRICA

and has accepted a tender by the Mandatary for the design and construction supervision of such works and has appointed the Mandatary in terms of Regulation 5(5) of the Construction Regulations 2014, and whereas the Employer and the Mandatary have agreed to certain arrangements and procedures to be followed in order to ensure compliance by the Mandatary with the provisions of the Occupational Health and Safety Act 1993 (Act 85 of 1993);

NOW THEREFORE THIS AGREEMENT WITNESSETH AS FOLLOWS:

1. The Mandatary shall execute the work in accordance with the contract documents pertaining to this contract.
2. This Agreement shall hold good from its commencement date, to either :
 - a) the date of the construction contract Performance Certificate issued in terms of sub-clause 11.9 of the Conditions of Contract for Construction for Building and Engineering Works designed by the Employer (1999) published by Federation Internationale des Ingenieurs-Conseils (FIDIC), as contained in Volume 1 of the contract documents pertaining to this contract, or
 - b) the date of termination of this contract in terms of Clause 8 of the CIDB's Standard Conditions of Contract for Professional Services.
3. The Mandatary declares himself to be conversant with the following:-

- a) All the requirements, regulations and standards of the Occupational Health and Safety Act (Act 85 of 1993), hereinafter referred to as "The Act", together with its amendments and with special reference to the following Sections of The Act.
 - i) Section 8: General duties of employers to their employees.
 - ii) Section 9: General duties of employers and self-employed persons to persons other than employees.
 - iii) Section 37: Acts or omissions by employees or mandataries and
 - iv) Sub-section 37(2) relating to the purpose and meaning of this Agreement.
 - b) The procedures and safety rules of the Employer as pertaining to the Mandatary and to all his sub-service providers.
4. In addition to the requirements of the agreed contract, the Mandatary further agrees to strictly adhere to his duties and responsibilities as set out in Regulation 6 of the Construction Regulations 2014.
 5. The Mandatary is responsible for the compliance with the Act by all his sub-service providers, whether or not nominated and/or approved by the Employer.
 6. The Mandatary warrants that all his and his sub-service provider's' employees are covered in terms of the Compensation for Occupational Injuries and Diseases Act 1993, which cover shall remain in force whilst any such employees are present on site. A letter of good standing from the Compensation Commissioner to this effect must be produced to the Employer upon signature of the agreement.
 7. The Mandatary undertakes to ensure that he and/or his sub-service providers and/or their respective employees will at all times comply with the following conditions:
 - a) The Mandatary shall assume the responsibility in terms of Section 16.1 of The Act. The Mandatary shall not delegate any duty in terms of Section 16.2 of The Act without the prior written approval of the Employer. If the Mandatary obtains such approval and delegates any duty in terms of section 16.2 a copy of such written delegation shall immediately be forwarded to the Employer.
 - b) All incidents referred to in Section 24 of The Act shall be reported by the Mandatary to the Department of Labour as well as to the Employer. The Employer will further be provided with copies of all written documentation relating to any incident.
 - c) The Employer hereby obtains an interest in the issue of any formal enquiry conducted in terms of section 32 of The Act into any incident involving the Mandatary and/or his employees and/or its sub-service providers.

In witness thereof the parties hereto have set their signatures hereon in the presence of the subscribing witnesses:

SIGNED FOR AND ON BEHALF OF EMPLOYER:

WITNESS 1:

NAME (IN CAPITALS)

WITNESS 2:

NAME (IN CAPITALS)

SIGNED FOR AND ON BEHALF OF THE MANDATARY

WITNESS 1:

NAME (IN CAPITALS):

WITNESS 2:

NAME (IN CAPITALS)

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PART C2: PRICING DATA

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C2.1 PRICING INSTRUCTIONS

C2.1.1 The Employer reserves the right to reduce or increase the scope of works according to the budget, or to terminate this contract, without payment of any penalty in this regard. The tenderer shall however be entitled to pro-rata payment for all services carried out in terms of any adjustment to the Scope of Work or, in the case of termination, remuneration and/or reimbursement as described in Clause 8.4 of the Standard Professional Services contract.

C2.1.2 The short descriptions of the payment items in the Pricing Schedule are only given to identify the items and to provide specific details. Reference shall, inter alia, be made to the Contract Data, General Conditions of Contract and Particular/Special Conditions of Contract and Scope of Works for more detailed information regarding the extent of work entailed under each item.

C2.1.3 Where so indicated under measurement and payment, prices or rates will be subject to adjustment for escalation as provided for below:

- The prices or rates shall be fixed for the first 12-month period determined from the tender base date and no change during this period will be allowed for escalation.
- On the 12-month anniversary date of the Contract base date the rates or sums shall be adjusted by the 12-month year on year CPI index (as published in the monthly bulletin PO141 of Statistics South Africa under table B) and fixed at this value for the following 12-month period. Subsequent 12-month periods shall be dealt with on the same basis.
- Adjustment of lump sum prices for escalation shall only be applicable to that portion of the relevant Service which is incomplete at the end of the 12-month anniversary date and shall not be applicable to any progress payments already claimed.

Adjustment for escalation shall only be applicable for services, or portions thereof, that are still within the prescribed programme and any approved extensions of time.

C2.1.4 Interim payments for lump sum payment items may be permitted. Such interim payments shall however be limited to proven progress achieved for that particular service deliverable. The sum of any progress payments made under a particular lump sum payment item shall be deducted prior to calculating any adjustments for escalation as described in clause C2.1.3 above.

C2.1.5 Provisional and Prime Cost Sums: Each Sum shall only be used, in whole or in part, in accordance with the Employer's instructions and the Contract Price shall be adjusted accordingly. The total sum paid to the Service Provider shall include only such amounts, for the work, supplies or services to which the Sum relates, as the Employer shall have instructed.

The Service Provider shall produce all quotations, invoices, vouchers and accounts or receipts in substantiation of any claim under a Sum.

Any percentage adjustment or lump sum mark-up against the Sum for handling fee, profits, etc. shall not be negative.

C2.1.6. Subject to the conditions stated in Clause C2.1.10 below, the rates and lump sums filled in by the tenderer in the pricing schedule shall be final and binding with regard to submitting the tender, and may not be adjusted should there be any mistakes in the extensions thereof and in the total sums appearing in the tender. Should there be any discrepancies between the tender sum and the correctly extended and totalled pricing schedule, the rates and the lump sums will be regarded as being correct, and the Employer shall have the right to make adjustments to the tender sum to reconcile the tender sum with the total of the pricing schedule. In such an event the tenderer will be consulted but, failing agreement between the parties, the decision of the Employer shall be final and binding. Adjustment of the tender sum will take place prior to the signing of the contract. In their own interest tenderers must make doubly sure of the correctness of their tendered rates and lump sums, the extensions and the tender sum.

C2.1.7 A tender may be deemed non-responsive if percentage or some of the items in the Pricing Schedule are, in the opinion of the Employer, unreasonable or out of proportion, and if the tenderer fails, within a period of seven (7) days of having been notified in writing by the Employer to adjust the unit rates or lump sums for such items, to make such adjustments.

C2.1.8 All rates and sums of money quoted in the Pricing Schedule shall be in South African Rand and whole cents

C2.1.9 The item numbers appearing in the Pricing Schedule refer to the corresponding item numbers in the Scope of Work.

C2.1.10 A final contract price shall only be negotiated when the specific Scope of Works is identified for implementation by the Employer.

C2.2 PRICING SUMMARY

Tenderers are required to complete the pricing summary in accordance with the below pricing table.

[illegible]

DETAILED DESIGN					
STAGE 4: TENDER DOCUMENTATION	%	%	%	%	%
STAGE 5: CLARIFICATION MEETING, TENDER PERIOD & TENDER EVALUATION	%	%	%	%	%
STAGE 6 : ADMINISTRATION & MONITORING OF THE WORKS CONTRACT	%	%	%	%	%
STAGE 7: CLOSE OUT	%	%	%	%	%
TOTAL PERCENTAGE	%	%	%	%	%

PART C3: SCOPE OF WORK

PART C3: SCOPE OF WORK

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C3 SCOPE OF WORKS

C3.1 GENERAL REQUIREMENTS

C3.1.1 Scope

This section covers matters that relate to the Contract as a whole. Definitions, phrases or wording that would otherwise require repetition in other sections of this document are also covered in this section. Matters covered by the General and/or Particular Conditions of Contract are not repeated in this section, except to provide more detailed information.

C3.1.2 Location of the project

The proposed projects are located across SANRAL Network nationwide.

C3.1.3 DESCRIPTION OF THE PROJECT:

Category Two (2) projects are defined as follows:

Works Category - Works categories are loosely organised by the effect that the roadworks has on performance as well as the time in the pavement's life cycle that the roadworks is applied. Roadworks Category is as follows:

Maintenance (M): Maintenance of the existing pavement involves performing roadworks required to arrest the deterioration of roads, and to lower road user costs by providing a smooth-running surface and keeping the road open on a continuous basis.

The following two works classes exist under MAINTENANCE (OPEX):

Periodic Maintenance (MP): This comprises works that are scheduled to be undertaken at intervals of several years.

Special Maintenance (MS): This comprises works whose frequencies cannot be estimated with certainty in advance and is normally emergency driven.

Within each class, roadworks is considered in types. This considers road works in terms of their impact (or effects) on the road infrastructure. Under each works type, there are several works activities or operations considered in terms of the pavement type to which they can be applied, and the technique used.

Periodic Maintenance (MP): In contrast to routine maintenance treatments, periodic maintenance treatments are ideally applied on pavements prior to their manifestation of distresses. These treatments are intended to prolong the life of a pavement by restoring (or maintaining) desirable properties while such measures are still cost-effective. Periodic maintenance can delay future deterioration, or correct existing distresses, therefore they can be classified in preventive or corrective (reduce deterioration progress, or correct existing deterioration producing a step in the distress curve). Periodic maintenance works are divided into the following works types:

Preventive treatments (MPP): This is the addition of a thin film of surfacing to improve surface integrity and waterproofing without increasing the strength of the pavement. Preventive maintenance treatments are most effective when they are applied to a surface that is intact (i.e., free from significant cracking or disintegration). Preventive maintenance treatments often do not contain any aggregate or will contain an aggregate with a maximum size of 6,7 mm. Preventive treatments are not an effective means of addressing structural deterioration such as rutting and crocodile cracking

Resurfacing (MPR): This is the addition of a thin surfacing to improve surface integrity and waterproofing, or to improve skid resistance, without increasing the strength of the pavement significantly. They are sometimes referred to as "functional overlays," as they are intended to restore or enhance the ability of the

roadway to serve its purpose (function), but do not increase the load-carrying capabilities of the structure.

- Special Maintenance (MS): As with routine maintenance, special maintenance could be classified as "reactive" roadworks due to unplanned circumstances. These circumstances could be the result of natural phenomena such as flash floods, or damage caused due to accidents. Special maintenance are divided into the following works types:
- Non-Pavement (MSN): This comprises works undertaken to clear a road that has been cut or blocked. Included under here are traffic accident removal, clearing debris, and repairing washout/subsidence.
- Pavement (MSP): This normally involves the repair of selected pavement areas that fail due to latent defects, thus enabling the rest of the pavement to achieve its anticipated design performance or life.
- Bridge (MSB): This normally involves the repair of selected bridge elements that fail mostly due to latent defects, thus enabling the rest of the bridge to achieve its anticipated design performance or life.

Typical operational roadwork treatments used on the national road network are summarised according to the previously discussed hierarchy. Some treatments undoubtedly belong in more than one roadwork class or type. The presentation of the different treatments for each roadwork type is not meant to be exhaustive: it is well beyond the scope of this document to consider individually all of the different materials or application techniques that are used. However, the listing and brief description of these procedures should serve as a guide to what is implied with specific treatments.

Periodic Maintenance (MP)

Preventative (MPP)

Rejuvenator (MPPS8): Spray applications of low viscosity bitumens without any aggregate that is applied at a rate of 0.3 to 0.9 l/m² to existing bituminous surfacing and results in the softening of aged, hardened and brittle binders. This treatment may seal small surface cracks and voids preventing water and air from infiltrating the pavement.

Diluted Emulsion (MPPS9): Light application (0.45 to 0.70 l/m²) of a slow-setting emulsion, diluted with water or other bitumen applied at a lower rate to the existing bituminous surfacing. This treatment may seal small surface cracks and voids preventing water and air from infiltrating the pavement as well as slowing down ravelling (aggregate loss) of the surface.

Joints and Cracks Seal (MPPCJ) Rigid (Concrete) Pavements only This refers to the application of silicon sealant to seal the longitudinal and/or transverse joints of concrete pavements to minimise water and uncompressible material infiltration within the joints. The minimisation of the water quantity inside and under the pavement structure reduces, the softening potential of the subgrade, pumping of the subbase material. Reduction of the build-up of uncompressible material within the joints reduces potential for spalling

Dust Palliative (MPPUD) The application of dust palliatives to gravel roads.

Resurfacing (MPR)

Sand Seal (MPRS0) Sprayed application of emulsified bitumen followed immediately by a single layer of clean sand or crusher dust with coarse grading (2 to 5mm) and low dust content (<0.075mm). The sand should be screened to eliminate pebbles larger than 7mm. This treatment could seal small cracks, stop ravelling, prevent infiltration of water and air and improve skid resistance but will not correct severe deficiencies such as potholes and severe cracking

Single Seal (MPRS1):	Sprayed application of emulsified bitumen followed immediately by a single layer of clean aggregate of approximately uniform size. This treatment could seal cracks, stop ravelling, prevent infiltration of water and air and improve skid resistance but will not correct severe deficiencies such as potholes and severe crocodile cracking.
Double Seal (MPRS2):	Sprayed application of emulsified bitumen, followed by a layer of aggregate, another application of bitumen, and a second layer of smaller aggregate. This treatment could seal cracks, stop ravelling, prevent infiltration of water and air and improve skid resistance but will not correct severe deficiencies such as potholes and severe crocodile cracking.
Split Seal (MPRS3)	Sprayed application of emulsified bitumen, followed by a layer of aggregate (usually 20mm), another application of smaller aggregate (usually 7mm) on top of the first layer, a second layer of bitumen and another layer of small aggregate (usually 7mm). This treatment will seal cracks, stop ravelling, prevent infiltration of water and air and improve skid resistance but will not correct severe deficiencies such as potholes and severe crocodile cracking
Cape Seal (MPRS4):	Sprayed application of emulsified bitumen followed immediately by a single layer of aggregate followed by the application of one or more layers of slurry. This treatment will seal cracks, stop ravelling, prevent infiltration of water and air and improve skid resistance but will not correct severe deficiencies such as potholes and severe crocodile cracking.
Slurry Seal – Fine (MPRS5):	Mixture of well-graded, fine aggregate (2 to 4,5 mm max size), mineral filler (usually Portland cement 5or hydrated lime), emulsified bitumen, and water. This treatment will seal cracks, stop ravelling, prevent infiltration of water and air and improve skid resistance but will not correct severe deficiencies such as potholes and severe crocodile cracking.
Slurry Seal – Medium (MPRS6):	Mixture of well-graded, fine aggregate (3 to 6,7 mm max size), mineral filler (usually portland cement or hydrated lime), emulsified bitumen, and water. This treatment will seal cracks, stop ravelling, prevent infiltration of water and air and improve skid resistance but will not correct severe deficiencies such as potholes and severe crocodile cracking.
Slurry Seal – Coarse (MPRS7):	Mixture of well-graded, fine aggregate (3 to 9,5 mm max size), mineral filler (usually portland cement or hydrated lime), emulsified bitumen, and water. This treatment will seal cracks, stop ravelling, prevent infiltration of water and air and improve skid resistance but will not correct severe deficiencies such as potholes and severe crocodile cracking.
Functional Asphalt Overlay (MPRAC, MPRAS, etc):	A mixture of aggregates, bituminous binder and mineral filler in predetermined accurately controlled proportions manufactured under hot or cold conditions depending on the type of binder used. Functional asphalt overlays are normally placed 25 to 50 mm thick on top of an existing surface road using a paver. In addition to the sealing of cracks, a functional asphalt overlay could improve the functional properties of the road surface such as texture, surface friction and roughness. The “A” indicates that it is an asphalt overlay, the “C”, “S”, etc indicates the mix type of the overlay. Mill & Replace (MPRMC, MPRMS, etc): Removal by milling of part or all of one or more bound layers and their replacement with new asphalt layers. The “M” indicates that the existing asphalt layer or part thereof was removed by milling, and replace with new asphalt layer, the “C”, “S”, etc indicates the mix type of the new asphalt layer.
Hydro Cutting (MPRHC)	Removal of excess bitumen by a process of high-pressure hydro cutting. This process restores the macro texture of the road surface.

Retexturing (MPRCR) Rigid (Concrete) Pavements Only Retexturing consists of cutting grooves into the surface of a concrete road to improve surface drainage and reduce the aquaplaning potential. Aquaplaning occurs when the pavement in combination with the tyre tread is not able to provide the necessary drainage of bulk water required at a certain speed, resulting in the driver having no control over the vehicle, and reduced surface friction. The grooves can be cut at different spacing, depths, widths and angles. The aim of the grooves is to improve the internal superficial water drainage between the tyres of a vehicle and the road surface, thus reducing the aquaplaning potential

Diamond Grinding (MPRCD) Rigid (Concrete) Pavements Only It is used to restore and improve ride quality of the pavement, providing a more uniform surface. This is carried out through the removal of faultings, curlings and deformations of the slabs. Also, it is used to correct an improper transverse slope and an excessive polishing of the surface.

Gravel Resurfacing (MPRUR) Gravel Roads only The restoration of the surface of a gravel road by importing new material, blading and compacting of a gravel road.

Special Maintenance (MS)

Non-Pavement (MSN)

Emergency Repairs (MSNER) The restoration of part of the road prism or road reserve that were damaged due to flooding, slides, sinkholes, earthquakes or other damage that needs repair urgently to restore the road functionality.

Geotechnical works (MSNGT) Drilling, rock anchors, soil nails and installation of inclinometers.

Reinstatement of Slope Stability (MSNRS) Reinstatement of the stability of slopes in the road reserve.

Restoration of Erosion/Subsidence (MSNRE) Restoration of damage due to erosion or subsidence of the road prism.

Pavement (MSP): The removal of part of the pavement structural layers and their replacement with new structural layers for selected pavement areas. This is then followed by the application of a new resurfacing over the whole pavement area.
Replace layers of selected areas and overlay (MSPGA or MSPGS) The removal of part of the pavement structural layers and their replacement with one or more structural granular layers for selected pavement areas. This is then followed by the application of a new asphalt overlay (MSPGA) or the application of a new single or multiple layers of chip seal (MSPGS) over the whole pavement area.

Load Transfer Restoration (MSPCL) Rigid (Concrete) Pavements Only This technique is used to increase the efficiency in load transfer with jointed concrete pavements, through the placement of load transfer dowel bars in transverse joints. This restoration increases the load transfer in the transverse joint.

Partial Depth Repair (MSPCP) Rigid (Concrete) Pavements Only Used to repair the superficial deterioration that affects not more than a third of the slab thickness. Usually, it is employed to repair transverse joints in jointed concrete pavements; however, it can be used in any part of a slab with surface distresses.

Full Depth Repair (MSPCF) Rigid (Concrete) Pavements Only Generally, it is used to repair cracks and joints deterioration in concrete pavements and consists in the full depth removal and replacement of at least a portion of the existing slab. The deterioration of joints includes breaks and spalling of the slab edges, either transversely or longitudinally.

Slab Replacement (MSPCS) Rigid (Concrete) Pavements Only This refers to the replacement of a complete existing slab, when the slab had already lost its capacity of operating, (for example, when the slab is severely cracked). It is assumed that subbase and

subgrade are still in a condition to sustain traffic loading. It is normally only applied to jointed concrete pavements.

Shoulder Replacement (MSPSP) Rigid (Concrete) Pavements Only This refers to the placement of tied concrete shoulders next to an existing concrete pavement. It produces an effect similar to the restoration of load transfer, in the sense that it reduces critical stresses in the slab edge and reduces corner deflections. It is accomplished in pavements JPCP, JRCP and CRCP at the beginning of the pavement life, therefore it corresponds to a preventive activity.

Restore longitudinal drains in selected areas (MSPLD) Rigid (Concrete) Pavements Only Placement of longitudinal drains in the pavement contributes to water evacuation infiltrated in pavement structure. Due to the fact that most of the surface distresses can be attributed to the water presence, its removal reduces the opportunities of distress appearance, thus increasing a pavements life; therefore, corresponds to a preventive operation.

Bridge (MSB)

Bridge Sealing and Waterproofing (MSBBP) Sealing and waterproofing of the surface of bridge components.

Bridge Joint (MSBBJ) Bridge joint maintenance and replacement.

Handrails and Balustrades (MSBBH) Repair, replacement and/or maintenance of bridge handrails and balustrades.

Spalling Repair (MSBBS) Repair of spalling on the bridge deck or bridge members.

Foundation Repairs (MSBBF) Reinstatement and/or repairs to bridge foundations.

Super and Sub-structure Repair (MSBBR) Repairs and maintenance to the super and sub-structure of bridges.

The above will be confirmed on project allocation to the Service Provider.

The Service Provider shall be required to provide services relating to the letting, management and supervision of the Periodic and Special Maintenance and certain strengthening projects on the SANRAL Network

The construction monitoring service shall be for the duration of the Works contract.

The Services required of the Service Provider are divided into the following distinct phases

Stage 1: Project Assessment

Stage 2: Investigations For Designs Development

Stage 3 A: Design Development Preliminary Design

Stage 3 B: Design Development detailed Design

Stage 4: Tender Documentation

Stage 5: Clarification Meeting, Tender Period & Tender Evaluation

Stage 6 : Administration & Monitoring Of The Works Contract

Stage 7: Close Out

C3.1.4 Determination of Remuneration

The basis for determining remuneration shall be based on the following methods; necessarily mutually exclusive, namely:

•Fee based on the cost of works.

A final contract price shall be negotiated when the specific scope of works is identified for implementation by the Employer and shall consist of the following:

- Separate payment for services that are additional to those provided for in the normal fee-based calculation;*
- Time based fees; and*
- Reimbursable expenses.*

Remuneration payable:

The remuneration payable shall be based on the tables below.

Table C3.1.4(a): Remuneration payable

Section	Stage	
		Remuneration payable
C3.2	Project Assessment	Percentage Fee Tendered
C3.3	Investigations for Design Development	Negotiated when contract is concluded
C3.4	Design Development: a. Preliminary Design b. Detailed Design	Percentage Fee Tendered and negotiated when contract is concluded
C3.5	Tender Documentation	Percentage Fee Tendered
C3.6	Clarification Meeting, Tender Period & Tender Evaluation	Percentage Fee Tendered and negotiated when contract is concluded
C3.7	Administration & Monitoring of the Works Contract	Percentage Fee Tendered and negotiated when contract is concluded
C3.8	Additional Duties, Special Services and Specialist Advice	Negotiated when contract is concluded
C3.9	Quality Control: Works Contract	Negotiated when contract is concluded
C3.10	Close Out	Percentage Fee Tendered any reimbursable expenditure

C3.1.5 Standards, Manuals and Guideline Documents

The standards, manuals and guideline documents to be used in the project are as follows (latest revision to be used as applicable):

- TMH 3: Specifications for the Provision of Traffic and Weigh-in-Motion Monitoring Service
- TMH 8: Traffic and Axle Load Monitoring Procedures
- TMH 9: (Standard Visual Assessment Manual for Pavements)
- TMH 13: Network Level Pavement Surveillance Measurements
- TMH 14: South African Standard Automatic Traffic Data Collection Formats
- TMH 16: South African Traffic Impact and Site Traffic Assessment Manual
- TMH 17: South African Trip Data Manual
- TMH 19: Manual for the Visual Assessment of Road Structures
- Draft TMH 11: Standard Survey Methods
- TRH 3: Design and Construction of Surfacing Seals
- TRH 4: Structural Design for Flexible Pavements
- TRH 8: Design and Use of Hot Mix Asphalts in Pavements
- Draft TRH 12: (Flexible Pavement Rehabilitation and Design)
- Draft TRH 19 (Standard Nomenclature and Methods for Describing the Condition of Jointed Concrete Pavements)
- TRH 26: South African Road Classification and Access Management Manual
- The Employer's M1 Manual: (Code of Procedure Manual for Geotechnical and Materials Investigation, Design and Documentation)
- SANRAL's Code of Procedure for the Planning and Design of Highway Structures in South Africa
- SANRAL's Geometric Design Manual
- SANRAL's Drainage Manual
- SANRAL's Land Acquisition Guideline Manual for Consulting Engineers
- SANRAL's Statutory Control Guideline Manual
- The Highway Capacity Manual
- SANRAL's Highway Traffic Model (HTM)
- South African Pavement Engineering Manual (SAPEM)
- Highway Development and Management Model (HDM-4)
- South African Roads Design System (SARDS) (when available)
- South African Road Safety Audit Manual (SARSAM)
- The SAICE Code of Practice: The Safety of Persons Working in Small Diameter Shafts or Test Pits for Civil Engineering Purposes
- Current industry best practice
- Conditions of Contract for Construction: FIDIC; 1999
- Draft Standard Specifications for Road and Bridge Works: COTO; October 2020
- The Employer's relevant proforma documentation for services, sub-services, evaluations, etc.
- Guidelines to formalise SANRAL's jurisdiction on National Roads (N14/5/6 revised manual)
- SANRAL's Structures Tracking spreadsheet

C3.1.6 Stakeholder and Community Liaison and Social Facilitation

a) Purpose

To give effect to the need for transparency and inclusion in the process of delivering services, the Service Provider shall liaise with the project Stakeholders and affected Communities for the duration of the contract's life cycle. This shall be achieved through structured engagement with the PLC which was established for this purpose.

b) Existing contracts

The Employer currently has a routine road maintenance (RRM) contract in progress along the route. The Service Provider shall not visit the site for purposes of undertaking any investigation without first informing the Route Manager of the visit and what type of investigation is intended. The RRM contractor needs to be able to plan his accommodation of traffic duties and no inspection or

investigation can take place without acquiring assistance from the RRM for safe conduct through the site or protection when undertaking intrusive or out-of-vehicle surveys. The Service Provider shall timeously liaise with the Employer and his appointed Route Manager in order to program the assistance required. The contact details of the parties involved in the RRM contract will be provided on the specific project the service provider is appointed on.

c) Stakeholders

Any Stakeholder who is affected by the Employer's operations in the locality of the project and/or who has an interest or concern in the project, either as a decision maker, participant or affected party and may include, amongst others, the following entities:

- (i) Provincial departments;
- (ii) Municipal departments;
- (iii) Traditional authorities;
- (iv) Community interest groups;
- (v) Organised youth representation;
- (vi) Organised women representation
- (vii) Organised disabled people representation;
- (viii) Organised labour representation;
- (ix) Other structured community groups such as religion, education, farming, etc.;
- (x) Transport industry forums;
- (xi) Business sector forums;
- (xii) Road user forums;
- (xiii) Environmental interest groups;
- (xiv) Road safety interest groups; and
- (xv) Any other recognised relevant and representative structure

d) Target Area for the sourcing of labour for Construction Contract

The target area for the sourcing of labour only needs to be defined in consultation with the Project Liaison Committee (PLC) and may typically include:

- (i) One or more Provinces;
- (ii) One or more Metropolitan and District Municipalities;
- (iii) One or more Local Municipalities; or
- (iv) One or more Wards that are wholly located within an area within a predefined radius of the construction activity.
- (v) One or more of the areas listed in the definition of Designated Groups.

e) Designated Group for Sub-contracting to Works Contractor

Unless otherwise stated in the Works Contractor's documents, a minimum of 30% (thirty percent) sub-contracting provision will apply as a contractual obligation and will be restricted to:

- (i) Black designated groups as defined in the Codes of Good Practice issued in terms of Section 9(1) of the Broad-Based Black Economic Empowerment Act, 2003 (Act 53 of 2003);
- (ii) Black people as defined in Section 1 of the Broad-Based Black Economic Empowerment Act, 2003 (Act 53 of 2003);
- (iii) Black people who are women and who are South African citizens;
- (iv) Black people who are youth as defined in Section 1 of the National Youth Development Agency Act, 2008 (Act 54 of 2008);
- (v) Black people who are people with disabilities as defined in Section 1 of the Employment Equity Act, 1998 (Act 55 of 1998)
- (vi) Black people who are military veterans as defined in Section 1 of the Military Veterans Act, 2011 (Act 18 of 2011);
- (vii) Black people who are living in rural or under-developed areas or townships;
- (viii) Small enterprises as defined in Section 1 of the National Small Enterprise Act, 1996 (Act 102 of 1996);
- (ix) Exempted Micro Enterprises (EMEs) as defined in terms of the Code of Good Practice on black economic empowerment issued in terms of Section 9(1) of the Broad-Based Black Economic Empowerment Act, 2003 (Act 53 of 2003), with an annual turnover of R10 million or less (Amended Codes of Good Practice); and

- (x) Qualifying Small Enterprises (QSEs) as defined in terms of the Code of Good Practice on black economic empowerment issued in terms of Section 9(1) of the Broad-Based Black Economic Empowerment Act, 2003 (Act 53 of 2003), with an annual turnover of R10 million and R50 million.

f) Project Liaison Committee (PLC) and Project Management Team (PMT)

A Project Liaison Committee (PLC) has either been established prior to commencement of the contract or shall be established as soon as possible by the Service Provider. The PLC represents the project's Stakeholders. The PLC consist of representatives of project Stakeholders and affected communities from the local municipalities, as well as the Project Management Team (PMT) and their representatives.

The PMT comprises representation from the Employer, the Service Provider and the Contractor (during construction phase). Together with the PLC, the PMT is responsible for successful project Stakeholder and community liaison and successful implementation of the Employer's Contract Participation Goals.

Where a PLC has not been established, the Service Provider, under the guidance of the Employer, shall establish such a committee within the boundaries of the Local and/or District Municipality.

g) Duties of the PLC

The PLC is the official communication channel through which the PMT communicates with project Stakeholders and affected communities on project matters, as well as to communicate the impact that the project has or might have on project Stakeholders and affected communities.

The PLC is also the official communication channel through which project Stakeholders and affected communities communicates with the PMT on the impact that the project has on them, or is anticipated to have on them, or on any other project matters.

The Standard Terms of Reference (TOR) for PLCs requires of the PLC to execute specific duties during each stage of the project, i.e. from project initiation to project completion. Some of these duties overlap project stages and hence, a full description is provided here.

The PLC shall execute the following duties:

Project Initiation and Design Stages:

NOTE: The principles of the TOR shall not be amended, but duties and procedures may be altered to be project specific and to improve the functionality of the PLC.

- (i) Meet as often as required with the Employer and the Service Provider, to discuss and resolve the project's initiation and design stage matters, which are of interest or concern to project Stakeholders and affected communities, the Employer and the Service Provider;
- (ii) Peruse the standard TOR for PLCs and make recommendations on the duties of, and procedures to be followed by, the PLC to fulfil its duties;
NOTE: The principles of the TOR shall not be amended, but duties and procedures may be altered to be project specific and to improve the functionality of the PLC.
- (iii) Act in accordance to the agreed TOR for the PLC;
- (iv) Inform the Employer of any training that members of the PLC require to execute its duties;
- (v) Assist the Employer and Service Provider to source suitable candidates for the position of Project Liaison Officer (PLO);
- (vi) Observe and verify that the procedures applied by the Employer and Engineer to select and employ the PLO were executed in a fair and transparent manner and were within the prescripts of the relevant legislation and regulations;
- (vii) Make recommendations to the Employer and Engineer in identifying the project's Target Area(s), from which Targeted Labour will be employed, for inclusion in the Tender Documents and endorse the identified Target Area(s); and
- (viii) Make recommendations to the Employer and Engineer in identifying the project's Target Groups for inclusion in the Tender Documents and endorse the identified Target Groups.

Project Construction Stage:

Point 3: Community Liaison Officer (CLO) or Project Liaison Officer (PLO) selection to be done under the auspices of the PLC.

- (i) Assist the Employer and the Engineer to source suitable candidates where applicable, for the position of PLO.
- (ii) Observe and verify that the procedures applied by the Employer and Engineer to select and employ the PLO were executed in a fair and transparent manner and were within the prescripts of the relevant legislation and regulations.

Point 4: Definition of a target area (sometimes referred to as a local area or traffic area) to be done under the auspices of the PLC.

- (i) Make recommendations to the Employer and Engineer in identifying the project's Target Area(s), from which Targeted Labour will be employed for inclusion in the tender documents and endorse the identified Target Area(s).
- (ii) Make recommendations to the Employer and Engineer in identifying the project's Target Groups for inclusion in the tender documents and endorse the identified Target Groups.

Point 5: Setup a database of contractors and suppliers (and consultants where relevant) to be done under auspices of the PLC. The final database to be signed off by the PLC.

- (a) Make recommendations to the PMT in establishing the eligibility criteria and tendering processes and procedures to be followed to employ Targeted Labour and sub-contract Targeted Enterprises; endorse the agreed criteria and employment and sub-contracting methodology(ies).

Point 6: Setup of database of local labour for the targeted area to be done under auspices of the PLC. The final list to be signed off by the PLC. An agreed system of labour selection from the database is to be agreed at the PLC.

- (i) Peruse and endorse the Project Database(s) compiled by the PMT from which Targeted Labour will be employed.
- (ii) Verify that the criteria and methodology(ies) applied by the contractor to employ Targeted Labour and sub-contract Targeted Enterprises were executed in a fair and transparent manner, and within the Employer's and Government's Supply Chain Management Policies.

Point 7: Hand-over of signed-off databases for sub-contracting and labour to contractor for open tender process and recruitment respectively done by the PLC.

Point 8: Tender to be conducted by contractor using government principles (e.g. public opening of received bids, announcement of bidders and prices). Tabling of winning bidders in the PLC.

- (i) Receive reports and ensure transparency in the appointment of Targeted Enterprises in local projects of the Employer notwithstanding that the authority to appoint such Targeted Enterprises shall remain with the Employer. (Observer status)

Point 9: Appeals on the tender process to be escalated to the Employer for an independent review.

- (i) Agree with the PMT on a dispute resolution mechanism to resolve any disputes that may arise between the PMT and the PLC, project Stakeholders and/or affected communities.
- (ii) Assist the PMT to liaise with project Stakeholders and the affected communities to resolve any disputes between the Employer, Engineer and/or contractor and project Stakeholders and the affected communities, which occurred due to the project.
- (iii) The Employer's ruling on any dispute regarding the tender process shall be considered to be final.

Point 10: Capability assessments of contractors and suppliers to be done under auspices of PLC prior to tender stage, to identify any deficiencies in skills and experience. For labour, skills assessments are to be done at recruitment stage.

Point 11: Contractor development support and training to be coordinated and conducted, ahead under the auspices of the PLC, prior to project commencement.

- (i) Make recommendations to the PMT on the training needs, eligibility criteria and selection criteria, for the provision of training to Targeted Labour, Targeted Enterprises, project Stakeholders and the affected communities.

- (ii) Observe and verify that training programmes and support programmes, which the contractor committed to, were implemented and executed as intended.

Point 12: Identification of works areas that are deliverable by local service providers, and areas where capabilities are not available locally. All works areas where capabilities are not available locally shall be imported and locals will be given an opportunity to learn.

Point 13: Formal contracting arrangements to be ensured for all projects.

- (i) Verify that the conditions of employment and the conditions of sub-contracting, in the employment of Targeted Labour and sub-contracting of Targeted Enterprises were applied in a fair and transparent manner and according to the Employer's employment and sub-contracting requirements.

Point 14: Communication to be streamlined through the PLC and used to manage expectations of local business and communities.

Additional Duties of the PLC:

- (i) Inform the entities whom they represent of any project matters which the PMT wishes to communicate with project Stakeholders and the affected communities.
- (ii) Inform the entities whom they represent of any project matters that are impacting or may impact, either positively or negatively, on project Stakeholders and the affected communities.
- (iii) Inform the PMT of Stakeholder and/or community requests and/or needs which could possibly be addressed within the project's Scope of Work.
- (iv) Inform the PMT of any road safety concerns within the project's Targeted Area(s) and advise the PMT of possible mitigating measures and/or road safety programs that will be most feasible for acceptance by the affected communities to promote road safety.
- (v) Inform the PMT of any project matters that are impacting, or anticipated to impact, negatively on project Stakeholders and the affected communities.
- (vi) Meet prior to the monthly site meeting, or as may be required, to discuss and resolve project matters, which are of interest or concern to project Stakeholders and the affected communities, the Employer, the Engineer and/or the contractor.
- (vii) Inform the Employer of any training that members of the PLC require to execute its duties.
- (viii) The PLC shall have full powers to decide on any matter which they are empowered to decide on falling within the Project Area and outlined duties.
- (ix) The PLC may assign members to report back to specific sectors and/or constituencies within the PLC.
- (x) The PLC may establish working groups and/or ad-hoc committees to fulfill its work subject to fulfill tasks as per contract. This must be recommended by the PLO and authorized by the Employer.

h) Duties of the PMT

The PMT, which consists of the Employer, Service Provider and the Contractor, or their representatives, is a party to the PLC and hence, is co-responsible for successful project Stakeholder and community liaison. The PMT is also responsible for the successful implementation of the Employer's Targeted Labour and Targeted Enterprise utilisation and development goals.

In terms of implementing the Employer's Targeted Labour and Targeted Enterprise utilisation and development goals, the PMT shall, where required, execute the following duties:

- (i) Make recommendations to the Contractor in the identification and structuring of the work packages to be sub-contracted (if any) to Targeted Enterprises and agree to the scope and extent of the work packages;
- (ii) Verify that the Project Database(s) compiled by the PMT from which Targeted Enterprises will be sub-contracted, has been updated prior to the letting of every new set of sub-contracts;
- (iii) Approve all Databases, tender procedures, tender documents, tender submission requirements and adjudication processes for the sub-contracting of Targeted Enterprises;
- (iv) Review all tender adjudication reports and monitor that the criteria and procedures applied by the Contractor to sub-contract Targeted Enterprises are executed in a fair and transparent manner and are within the Employer's and Government's Supply Chain Management Policies;

- (v) Approve sub-contract agreements and ensure that the conditions of sub-contracting with Targeted Enterprises are fair and transparent and within the prescripts of the contract requirements;
- (vi) Monitor the management of Targeted Enterprise sub-contracts and ensure that conditions such as the application of penalties, the termination of contracts, etc. are applied in a fair and transparent manner and within the prescripts of the agreement;
- (vii) Verify that the Project Database(s) compiled by the PMT from which Targeted Labour will be employed is updated prior to every new labour intake;
- (viii) Monitor that the criteria and procedures applied by the Contractor to employ Targeted Labour are executed in a fair and transparent manner and is within the contract requirements;
- (ix) Monitor that the conditions of employment of Targeted Labour are applied in a fair and transparent manner and within the prescripts of the current and relevant Labour Legislation;
- (x) Make recommendations to the for in the identification of the training requirements of Targeted Labour and Targeted Enterprises and approve the proposed training programmes; and
- (xi) Monitor that training programmes and support programmes, which the Contractor committed to, are implemented and executed as intended.

i) Targeted Labour Database

A Project Database of Targeted Labour will be compiled by the PLO, with input from the PLC for the Target Area(s). Once endorsed by the PLC the PLO shall utilise this Database to source Targeted Labour as required by the Contractor.

The Project Database shall be updated as and when required to reflect new employment seekers in the labour market. Only labour recruited from the Project Database will be measured for Contract Participation Performance (CPP).

j) Targeted Enterprises Database

A Project Database of Targeted Enterprises from the Target Area(s) will be developed by the Service Provider during the Design Phase, from the National Treasury Central Supplied Database and from the CIDB contractor database, for each Target Area.

The Service Provider shall also assist Targeted Enterprises from the Target Area with registration on the National Treasury Central Supplier Database.

k) Social Facilitator

The Service Provider shall be required to procure the services of a specialised sub-Service Provider for social facilitation in terms of Clause C3.1.23 of the Scope of the Works. Alternatively, the Service Provider may propose use of in-house social facilitator subject to approval of such proposal by the Employer.

C3.1.7 Permits and authorisations

As approvals are essential prior to the commencement of the Works, the Service Provider shall be responsible to ensure that all submissions to the relevant approving authorities is completed by the milestone date tabled in clause C3.1.8.

C3.1.8 Project Programme

The Service Provider shall programme its duties in such a manner so as to complete the various phases of the total project within the milestone dates specified below

	Project Stage/Phase
A	Submission of Tenders / Proposals
B	Appointment of Service Provider
C	Project Hand-over meeting
D	First Progress meeting
E	Submission of draft Assessment Report

F	Submission of draft Preliminary Design Report
G	Submission of draft Detailed Design Report
H	Submission of Road Safety Audit Reports
I	Submission of Draft Tender Documents for the Works and final Detailed Design Reports
J	Tender Advertisement
K	Submission of Final Tender Documents for the Works
L	Clarification Meeting
M	Tender Closure
N	Submission of Tender Evaluation Report
O	Works Contract Handover
P	Submission of draft Contract Report & as-built data
Q	Submission of final Contract Reports and as-built data

The Service Provider shall submit a programme indicating these milestones, and any other milestone specific to the Project appointment to the Employer within 14 days of the date of the letter of acceptance of tender.

C3.1.9 Penalties and delays

Penalties shall be applied for poor performance as specified in the Contract Data. The quantum of the penalty shall be as listed in the Contract Data. Draft reports and documents shall be submitted to the Employer at least seven working days prior to any meetings scheduled for the discussion and finalisation thereof. The Service Provider shall thus take this period into account in compiling their programme.

Any delays to the above programme that are attributable to the Employer, or to other approved mitigating circumstances, will not be subject to penalties. In the event of such instances arising, any extensions of time granted shall be limited to the equivalent number of calendar days attributable to each instance.

C3.1.10 Personnel Requirements

a. Key Persons

The Service Provider's key persons become a contractual commitment upon award. However, the Employer recognises that key persons may for some or other reason not be available for the full duration of the project and any changes to those listed are, to all intents and purposes, a change or variation to the contract. Any proposed change should be handled formally by way of written request and approval but does not require a Works Authorisation to be submitted.

Replacement personnel shall be of same or better competence and experience as those initially accepted. Re-evaluation by the Employer of any replacement key persons shall be paid for by the Service Provider as specified in Section 3.8 unless the circumstances dictating the change are completely outside of the Service Provider's control.

The key persons required for this project are listed in Form C1.2.2 Contract Data: Information provided by the Employer. The tenderer must list proposed candidates for the prescribed positions in the core team in Form C1.2.3 Contract Data: Information provided by the Tenderer.

b. Additional required resources (Design Specialists)

The provision of additional required resources (Design Specialists) other than Key Persons, becomes a condition of award. The successful tenderer must provide proposed candidates complying with the minimum requirements for the prescribed positions as a condition of award.

c. Assistants to Key Persons and Additional Required Resources

Provision has been made in the Pricing Schedule for assistants to all the Key Persons and additional required resources (Design Specialists) other than Key Persons to participate or to gain experience in the positions proposed.

d. Minimum requirements

The minimum qualifications and requirements for the service and sub-Service Provider's personnel shall be as indicated in the table below.

Minimum Requirements

Position	Minimum Qualification/Registration	Minimum Relevant experience (years) ³	Other Requirements
Project Leader (PL)	Pr Eng or Pr Tech Eng ¹	N/A	
Assistant Project Leader (APL)	Pr Eng or Pr Tech Eng ¹	Less than 10	
Design Specialist (Key persons)	Pr Eng or Pr Tech Eng ¹	N/A	
Design Specialist (Other than key persons) (DS)	Pr Eng or Pr Tech Eng ¹	10	
Assistance Design Specialist (ADS)	Pr Eng or Pr Tech Eng ¹	< 10	
Surveyor	Registered Professional Surveyors, Technologist Surveyors, Technician Surveyors	5	Member of SAGC ⁶
Engineering Geologist	Pr Sci.Nat ⁴	5	SAIEG
Environmental Practitioner ²	Refer to sub-service procurement document		
OHS Specialist	Design Phase: SACPCMP ⁵ registration as a Professional Construction HSE Agent (CHSA) Construction Phase: SACPCMP ⁶ registration as a Professional Construction HSE Agent or Manager (CHSM)	As required by SACPCMP ⁶	
Road Safety Audit Team Leader	Pr Eng or Pr Tech Eng ¹	10	Road safety course (5 CPD) Minimum 2 (two) audits within 3 (three) years
Contract Engineer (CE)	Pr Eng or Pr Tech Eng ¹	N/A	
Assistant Contract Engineer (ACE)	Pr Eng or Pr Tech Eng ¹	Less than 10	
Engineer's Representative (RE)	Pr Eng or Pr Tech Eng ¹ Pr Techni Eng ¹ (on certain low risk projects)	5-15	
Assistant RE (ARE)	Candidate Technician ¹ to Pr Tech ¹)	5 depending on project scope	
Senior Materials Technician (SMT)	None specified	20	
	National Diploma in civil	10	

Position	Minimum Qualification/Registration	Minimum Relevant experience (years) ³	Other Requirements
	engineering		
	Pr Techni Eng ¹	5	
Materials Technician (MT)	None specified	10	
	National Diploma in civil engineering	5	
	Pr Techni Eng ¹	2	
Trainee Technician	Candidate Technician	0	

¹ Registered with Engineering Council of South Africa (ECSA) or any other international body recognised by ECSA, i.e. Washington Accord, Dublin Accord and Sydney Accord.

² Registered with Environmental Assessment Practitioners of South Africa.

³ Relevant experience is the actual number of years, measured from the date of acquiring the **base** NQF qualification (either B.Eng / BSc.Eng / B.EngSci or BSc / B.Eng Tech (Hon) PGDip (Engineering) / M.Eng for Pr.Eng or National Higher Diploma / National Diploma Eng / Masters Diploma / BTech / B.Eng Tech / Dip Eng / Adv Dip Eng / Adv Cert (Engineering Practice) plus Adv Dip Eng for Pr.Tech Eng and National Diploma / Dip Eng / Dip Eng Tech / Adv Cert (Engineering Practice) / Higher Certificate (Eng) / Adv Cert (Engineering) / Adv Cert (Engineering Practice) for Pr.Techni Eng), or measured from the date of acquiring the minimum required professional registration worked in the field of the specified position. For the road safety audit team leader, the field shall be road safety design and/or traffic and transportation engineering and/or geometric design.

⁴ Full member of the South African Institute for Engineering Geologist.

⁵ Registered with the South African Council for Natural Scientific Professions (SACNASP).

⁶ South African Council for Project and Construction Management Professions (SACPCMP)

⁷ South African Geomatics Council (SAGC)

d. Personnel Category Definitions

The category of personnel necessary to undertake the work shall be approved by the Employer in accordance with the following definitions:

- i) **Category A** shall mean a top practitioner whose expertise is nationally or internationally recognised and who provides advice at a level of specialisation where such advice is recognised as that of an expert.
- ii) **Category B** shall mean a partner, a sole proprietor, a director, or a member who, jointly or severally with his other partners, co-directors, or co-members, bears the risks of business, takes full responsibility for the liabilities of such practice, performs work of a conceptual nature in engineering design and development, provides strategy guidance in planning and executing a project and/or carries responsibility for quality management pertaining to a project. (e.g. The Engineer for the project)
- iii) **Category C** shall mean all salaried senior professional and technical staff performing work of an engineering nature and who carry the direct technical responsibility for one or more specific activities related to the project. A person referred to in Categories A or B may also fall in this category if such person performs work of an engineering nature at this level. (e.g. the resident engineer for the project)
- iv) **Category D** shall mean all other salaried technical staff performing work of an engineering nature under the direction and control of any person contemplated in categories A, B or C.

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e. Limitations on commitment of Key Person and Other Required Resources (Design Specialists)

Key Persons and additional required resources (Design Specialists) other than Key Persons will be limited to participate in a maximum number of 6 (six) conventional contracts in design phase.

C3.1.11 Meetings and Liaisons

- a) Meetings and liaisons between the Employer and the Service Provider

Meetings between the Employer and the Service Provider are formal occasions. The Employer shall perform the duties of chairperson and the Service Provider the secretarial services. The Service provider shall submit draft minutes to the Employer for review before distribution which shall not be later than 14 (fourteen) calendar days after the meeting. Meetings and liaisons shall be scheduled according to the Service Provider's approved programme to discuss and record the progress of the Services.

Draft copies of all reports, design and tender documents submitted for review shall be discussed at specially convened meetings prior to their finalisation.

Attendance at the meetings and liaisons shall include joint venture members and/or Targeted Enterprise(s) (if any), sub-service providers and the designated key persons. A key person shall not be substituted by another Service Provider employee unless express permission for this has been sought from and approved by the Employer in writing. The Employer shall have the right to delay a meeting because of the non-availability of a key person and any delay costs so incurred shall be for the account of the Service Provider.

i) Project hand-over meeting

The date of the meeting will have been fixed and notice for it and an agenda included with the letter of acceptance of the Service Provider's offer.

The Service Provider shall come to this meeting prepared by his desktop assessment of the project details. The meeting provides a platform for the Service Provider to explain in detail how he intends going about the design development with specific reference to the methods, manuals and systems he will apply. For example, the relevant chapters dealing with pavement composition and behaviour, materials testing, standards, materials utilisation, design, etc. contained in the *South African Pavement Engineering Manual* (SAPEM) and the supporting suite of TMH and TRH publications have particular significance. With the release of SARDS the process to be followed will be dictated by the SARDS software process flow. Similarly, the *Code of Procedure for the Planning and Design of Highway Structures in South Africa* shall form the basis of the Service Provider's intended design development for structures. The Service Provider shall identify those he thinks are relevant and anticipates he will use in developing the project design.

In addition, the Service Provider shall explain and demonstrate his awareness of the encompassing social, natural, economic, safety and statutory environment within which the project is situated and how each impacts on it.

Further, the Service Provider shall demonstrate his understanding of the Topographical survey and Land Acquisition process and the critical aspects that would give rise to material delays in the project proceeding to the Design and Construction Phase.

The Employer has a standing agreement with a Comprehensive Property Management Service Provider and hereinafter referred to as the "PSP" and may elect to have the PSP present at this meeting.

This meeting also provides the opportunity for administration details to be finalised. Included among these, but without providing limits to what may be required shall be:

- Signing and initialling of the contract document;
- Confirmation of prescribed insurance cover, including that of joint venture members (if any);
- Confirmation of vendor registration;
- Delivery of a compact disc (CD) containing all relevant forms and procedures needed for effective project administration.

ii) Progress meetings

The date for the first progress meeting shall be fixed at the hand-over meeting mindful that it cannot take place until the Service Provider has conducted his *in loco* inspection of the project site. The first progress meeting shall not be scheduled longer than six calendar weeks after the hand-over meeting. Proposals for investigation and intrusive testing will be discussed at this first meeting.

The Service Provider's programme, as envisaged at the hand-over meeting shall be fine-tuned and approved at the first progress meeting. The approved programme shall identify the number and frequency of progress

meetings. They may be reduced or increased as necessary to achieve the milestone date of delivery of the approved detailed design.

Topographical surveys and the Land Acquisition process must form an integral part of the Service Provider's programme and must be listed separately in their proposed programme.

In addition, the Service Provider's programme must have careful regard to the need to produce Property Reports at the earliest possible time. This aspect may necessitate the presence of the PSP at this meeting.

The purpose of progress meetings is to discuss the development of the project design and the minutes produced shall form the record of progress against programme. The minutes shall record the discussions held and the decisions made.

Duties of some sub-service providers are not directly related to the development and production of the project design; nevertheless, because of the severe impact their progress can place on the programme, their presence at, and participation in, design progress discussions is not negotiable. They shall attend progress meetings and any delays caused by postponements due to their non-availability shall be to the account of the Service Provider.

b) Other project related meetings

The Service Provider must ensure that proceedings of meetings (whether formal or informal) are formally documented. These meetings may be between the Service Provider, sub-service providers, the PSP and/or other Stakeholders. The Employer may attend these meetings.

i) Project Liaison Committee (PLC) meeting

The PLC will meet on an ad-hoc basis during the Design Stage of the project to discuss and resolve project related issues and matters of interest or concern to the project Stakeholders and communities, the Employer and the Service Provider.

The PLC will meet prior to the monthly site meetings or as may be required from time to time during the Construction Phase to discuss and resolve project related issues and matters of interest or concern to the project Stakeholders and communities, the Employer and the Service Provider.

ii) Works Contract Hand-over meeting

It is required that the Contract Engineer and the Engineer's Representative (Resident Engineer) attend the works contract hand-over meeting.

C3.1.12 Risk Management

The concept of risk shall be discussed at all meetings, starting with the hand-over meeting. The Service Provider shall identify restrictions and limitations on the design development that the various processes may impose, estimate the probability that they will impact on performance, advise what measures are proposed to avoid them and what mitigating measures could be taken to mitigate in the event they do occur. This creates a risk register that must be raised and discussed at each successive progress meeting.

Used properly, the risk register will predict or pre-warn of change; as the probability of an event increases so will the need for a Works Authorisation to approve extensions of time or allocation of more funds become more certain.

A base risk register shall be discussed and recorded at the hand-over meeting. It shall be re-visited at each successive progress meeting to confirm the status of each and record any changes. The opportunity to add more or remove others will also be discussed at the progress meetings.

A fundamental element of risk assessment, but by no means the only one, will be economic affordability meaning that each design strategy must be separately and broadly estimated for comparison against the basis of the Employer's budget for the project. In essence, this analysis relates to testing the economic and technical feasibility of the Employer's envisaged design strategy. Similarly, other identified risks will have a cost element to them and these must also be brought to the Employer's attention for discussion and decision. The Employer may require the Service Provider to make use of its standard risk reporting format.

C3.1.13 Document Management

Three (3) hard copies (or otherwise agreed with the Employer) of draft reports and/or documents shall be submitted 10 (ten) calendar days prior to the meeting dates for discussion purposes. All changes emanating from these meetings shall be incorporated into a final version. The record of the changes shall be by means of track changes to the draft version and submitted in electronic format.

When a volume consists of more than 1 book, the number of the volume appears on the cover and on the title page, together with the number of the book, e.g. Volume 3: Book 1 of, or Volume 3: Book 2 of

All reports and/or documents shall utilise the Employer's pro-forma formatting without alteration unless specific request for a change has been submitted to and approved by the Employer. Pro-forma report formats are contained in Part C4: Site Information.

The table below lists the requirements of documentation that the Service Providers shall apply, unless otherwise agreed with the Employer.

Table 3.1.12: Documentation Requirements

Document Characteristics	Draft Reports/Documents	Final Reports/Documents	Books of Drawings
Page	A4 80g/m ²	A4 80g/m ²	A2 80g/m ²
Cover page layout	Employer's pro-forma works document cover page with appropriate wording for the specific report/document compiled		
Cover	White 80g/m ²	Reports: Tokai Blue 160g/m ² Documents: Red 160g/m ²	Draft: White 80g/m ² Final: Red 160g/m ²
Printing All left-hand margins to be 2.5cm Printing to be left justified	Back-to-back pages	Reports: back-to-back Contract document: back-to-back except: - New sections - All returnable schedules - Pricing schedule	All on separate pages
Binding Maximum thickness to be 3cm	Plastic ring binders	Reports: plastic ring binders Contract documents: stapled, glued and bound	Draft: Stapled and bound Final: stapled, glued and bound
Number of paper copies	3 (three)	Reports: 1 (one) Tender documents: 1 (one) Tender evaluation: 2 (two) Contract documents: 2 (two) original for signature and 1 (one) copy	Draft: 3 (three) Final: 2 (two) original for signature and 1 (one) copy
Number of electronic copies	1 (one) CD/DVD	1 (one) CD/DVD 1 (one) CD/DVD of signed contract	1 (one) CD/DVD
Electronic format	MS Office 2013 and PDF	MS Office 2013 and PDF	PDF

C3.1.14 Management of Drawings

When the Service Provider produces drawings, he shall, where applicable, use the Employer's typical details and when doing so they shall become integrated into the Service Provider's detail design for which he will assume full professional responsibility.

The requirements shown on the Employer's proforma drawing, available on the Employer's web site, shall be used. Drawings shall incorporate what has been discussed and agreed at the various progress meetings. All drawings issued to the contractor shall be fully signed and any amendments thereof shall also carry full original signatures.

C3.1.15 Safety

This part of the specification has the objective to assist the Service Provider entering into contracts with the Employer that they comply with the Occupational Health and Safety (OH&S) Act, No 85 of 1993, as well as all applicable Regulations. Compliance with this document does not absolve the Service Provider from complying with minimum legal requirements and the Service Provider remains responsible for the health and safety of his employees and those of his Mandataries. The Service Provider shall therefore include this part of the specification to any contract that he may have with sub-service providers and/or suppliers.

This part also covers the development of a health and safety specification that addresses all aspects of occupational health and safety as affected by this contract. It provides the requirements that the Service Provider shall comply with in order to reduce the risks associated with this contract, which may lead to incidents causing injury and/or ill health. In this matter the spirit and intention of Regulation 5(1)(l) of the Construction Regulations, 2014, regarding negotiations between the parties, related to the contents and approval of the Health and Safety Plan, must be complied with.

The Service Provider shall on award or the contract become the Client's Agent in terms of Construction Regulation 5(5); (6) and (7) of the Occupational Health and Safety Act (Act 85 of 1993). The duties and responsibilities as the Client's Agent are as prescribed in Construction Regulation 5(7).

For purposes of clarity typical duties required of the service provider are given below, but they shall not be interpreted as being exhaustive and if any conflict between them and the legislated Construction Regulations occurs the latter shall rule.

a) Project Specific Requirements

The following is a list of Baseline Risk Assessment and project specific health and safety specifications prepared by the Client in terms of Construction Regulation 5(1)(a) and 5(1)(f).

i) Baseline Risk Assessment for Design Phase

- Working in elevated positions (e.g. Bridge Inspections)
- Working over water environments (e.g. Bridge Inspections)
- Excavation – locating existing underground services, digging test pits
- Manual handling – setting up surveying equipment
- Ergonomic risks
- High & Low voltage power lines – overhead & underground
- Work in close proximity to railway lines
- Uneven ground surfaces
- Personal safety & security risks
- Traffic Control (Ensure Correct Signage at Correct Distances)
- Working from ladders
- Exposure to noise
- Working in close proximity to traffic
- Working with hot materials
- Radio Active equipment
- Hazardous Chemical Substances
- Flammable Materials
- Driving to and from site
- Biological risks e.g. bees, snakes, spiders, etc.
- Hazardous Biological Agents
- Environmental risks
 - Bad weather conditions,
 - rain,
 - lightning,
 - wind,
 - poor visibility
 - heat exposure – dehydration
 - cold environment

ii) Baseline Risk Assessment for Supervision Phase

- Clearing and grubbing of the area/site
- Site establishment including:
 - Office(s)
 - Secure/safe storage for materials, plant and equipment
 - Ablutions
 - Sheltered eating area
 - Maintenance workshop
 - Vehicle access to the site
 - Temporary fuel storage, where applicable
 - Laboratory establishment, where applicable (Client responsibility)
- Dealing with existing structures – possibility of asbestos
- Location of existing services, e.g. gas, telecommunications, electrical supply and similar
- Installation and maintenance of temporary construction electrical supply, lighting and equipment
- Adjacent land uses/surrounding property exposures
- Boundary and access control/public liability exposures (NB: The Employer is also responsible for the OH&S of non-employees affected by his/her work activities)
- Health risks arising from neighbouring as well as own activities and from the environment, e.g. threats by dogs, bees, snakes, lightning, etc.
- Exposure to a water environment
- Exposure to noise
- Exposure to vibration
- Protection against dehydration and heat exhaustion
- Protection from wet and cold conditions
- Dealing with HIV/Aids and other diseases such as silicosis or asbestosis, where applicable
- Hazardous Biological Agents that could lead to epidemics and pandemics
- Use of portable electrical equipment including:
 - Angle grinder
 - Electrical drilling machine
 - Circular saw
 - Generator
- Excavations including:
 - Ground/soil conditions
 - Trenching
 - Shoring
 - Drainage of trenches
- Welding including:
 - Arc welding
 - Gas welding
 - Flame cutting
 - Use of LP gas torches and appliances
- Loading and off-loading of trucks
- Aggregate/sand and other materials delivery
- Manual and mechanical handling
- Lifting and lowering operations
- Driving and operation of construction vehicles and mobile plant including:
 - Trenching machine
 - Excavator
 - Sit-on roller
 - Plate compactor
 - Front end loader
 - Mobile cranes and the ancillary lifting tackle
 - Grader
 - Parking of vehicles and mobile plant
 - Towing of vehicles and mobile plant
- Use and storage of flammable liquids and other hazardous substances, e.g. petrol, diesel, cement, asphalt, bituminous materials and similar
- Layering and bedding
- Installation of pipes in trenches
- Pressure testing of pipelines
- Backfilling of trenches

- Protection against flooding
- Gabion work
- Use of explosives
- Protection from overhead power lines (High and low)
- Work adjacent or in proximity of railway lines
- Work adjacent or in proximity of traffic
- Working at heights
- Working in confined spaces – tunnelling
- Formwork and support work (temporary works) including scaffolding
- Demolition work, where applicable
- Bulk mixing plant, where applicable
- Environmental impacts such as pollution of water, air or soil

b) Design Phase

The Service Provider or his registered Professional Construction Health & Safety Agent must identify elements of the design that are inherently dangerous or hazardous to the health and safety of Contractor employees during the construction phase and design in such a manner as to mitigate or eliminate the risk where possible. To this avail the Service Provider (or his Agent as outlined above) must prepare a baseline risk assessment for the intended construction work project, and make the same available to the Employer. This duty of identification continues into the construction phase of the project regardless that the designer may not be monitoring the construction phase. All identified dangers/hazards are to be listed and brought to the attention of potential contractors by means of the baseline risk assessment as outlined above and envisaged in Construction Regulations 5 (1) (a); (b) and (c).

For example, staging for bridge decks or sharing of unstable excavations is the designer's responsibility to identify and notify of the health and safety risk. It is also the designer's responsibility to undertake inspections at critical phases of construction to ensure that the identified risks are continuously and appropriately mitigated.

c) Construction Phase

During the construction phase the supervising Service Provider must ensure that the Employer's duties are continuously fulfilled, meaning that the Service Provider has to include amongst its permanent monitoring staff at least one appropriately trained member. In addition the Service Provider must conduct monthly internal audits to ensure the site personnel are adhering to the statutory requirements. Costs for performing this duty are recoverable via the rate offered for this scheduled item of work. An Occupational Health and Safety Audit Questionnaire is included in Appendix A in Part C4 for this purpose. This audit may be conducted by either the appointed registered Professional Construction Health and Safety Agent (Pr. CHSA) or a registered Construction Health and Safety Manager that is contracting-in or employing a Pr. CHSA or who is contracted-in or employed by a Pr. CHSA..

The Employer may order external audits the costs of which are separately recoverable as a disbursement to the specialist sub-service provider selected to conduct the audits.

Furthermore, the Service Provider must, in compliance with Section 24 of the Occupational Health and Safety Act (Act 85 of 1993) report immediately to the Employer's Health and Safety Specialist and the relevant Project Manager the details of a Section 24 incident, including confirmation that the Contractor has similarly reported the same incident directly to the Department of Labour.

d) Health related Epidemics and Pandemics

The Service Provider shall, as far as reasonably practicable make provision for health-related epidemics and pandemics that is declared by Authorities. The Employer is aware that this provision will not speak to specific cases. Once the nature and scale of the epidemic or pandemic is known, the Service Provider must ensure that the requirements stipulated in the Hazardous Biological Agents (HBA) Regulation are adhered to and in particular the following as described in the mentioned Regulation:

- Information and training of employees
- Duties of person that may be exposed to HBA's
- Risk Assessments by the Employer (Service Provider)
- Monitoring exposure at the workplace

- Medical surveillance of employees
- Keeping of records
- Control of Exposure to HBA's
- Personal Protective Equipment and facilities
- Maintenance of control measures and facilities
- Prohibitions

e) General Occupational Health and Safety Provisions

Site specific health and safety specifications for the intended construction work based on the Baseline Risk Assessment is included in Appendix A in Part C4.

NOTE: The above duties shall not be interpreted as being exhaustive and if any conflict between them and the legislated Construction Regulation arises, the latter shall rule.

C3.1.16 Payment and Monthly Reporting using the Employer's Integrated Transportation Information System

When submitting interim certificates for payment the Service Provider shall use the Employer's standard forms and formats. No payment can be made before the Service Provider is registered as a vendor on the Employer's system.

The Service Provider shall submit payment certificates for all work rendered in the Employer's financial year within that specific year.

The Service Provider shall submit and update on a monthly basis a cash flow forecast for the remuneration of the full service to be rendered.

The Service Provider shall complete monthly reports regarding training, empowerment, capacity building, small contractor development, labour and staff returns and any such aspects on the Employer's Integrated Transportation Information System (ITIS).

The Employer has developed a comprehensive information management tool called ITIS (Integrated Transportation Information System) to address all facets of its strategic and tactical planning, design, construction and maintenance of the entire road network. This provides support for the management tasks of the Employer and to allow the personnel to make technical decisions more quickly and efficiently.

ITIS is an integrated approach to the sharing and inter-relating of technical performance information for the Employer and relies on people following procedures to populate system with data. ITIS currently consist of the following platforms:

- ITIS Web – Web enabled portal providing online access to various functions, workflows and reports.
- ITIS Desktop – Offline data capture tool enabling the capture of information offline, validation and then synchronisation of data with the ITIS database.
- ITIS Mobile – Application (Android 6 or later) that allows the in-field capture of information using a smart phone or tablet (must have camera and GPS), validation and then synchronisation of data with the ITIS database.

The Employer then has several ITIS modules running on any of the above ITIS platforms which affect the Consultant and Contractor, who will need to use these modules to perform certain procedures and to provide required information. The current modules applicable to routine road maintenance and their description are as follows:

- (i) Contract Module – management of contracts;
- (ii) Project Information Module – uploading of employment and training data;
- (iii) Structures Module – uploading of structure's details.

User manuals for the various functions can be downloaded from <https://itis.nra.co.za/Portal/MyAccount/UserManuals> after the successful registration as a public user. The ITIS public user registration procedure is explained in the document as attached in Part C4 : Appendix D

Failure to comply may result in payments being withheld which may require a new invoice to be issued.

C3.1.17 Participation of Targeted Enterprises

The Employer may stipulate the involvement of Targeted Enterprise(s) in the project design and construction as a mechanism to broaden the economic share of the national spend on engineering services and as a means to hasten and improve the transfer of technical skills.

The Service Provider's Targeted Enterprise(s) become a contractual commitment upon award.

- a) The Targeted Enterprise(s) shall be involved throughout the project stages and the percentage tendered in the Contract Data shall be applicable to actual work split (excluding all provisional and prime cost sums but including site staff salaries) amongst the following stages:
 - Project Assessment stage
 - Investigation for Design Development
 - Design Development stage
 - Tender Documentation
 - Clarification Meeting, Tender Period & Tender Evaluation
 - Administration and Monitoring of the Works
 - Additional duties, special services and specialist advice
 - Quality control
 - Close out
- b) The use of Targeted Enterprise personnel as site staff during the administration and monitoring of the Works phase is included as part of the percentage tendered in the Contract Data.

C3.1.18 Training

- a) Service Provider's staff and Targeted Enterprise

The Employer encourages training of candidate engineers or undergraduates requiring experiential training on this project. Training of the Service Provider's own permanent staff, temporary staff or Targeted Enterprise involved in this project becomes a reportable monthly event in terms of time and cost attributable to the Employer's spend from its allocated budget. Separate allowance has been made to train the Service Provider's and Targeted Enterprise's staff as assistants to certain required positions.

- b) Employer's trainees

The Employer may enter into a separate arrangement with the Service Provider for training of its own permanent employees as a secondment for the express purpose of providing its candidate engineers with design and/or site supervision experience. The Employer may also enter into an arrangement with the Service Provider to provide experiential training to students.

The design phase provides the opportunity for students and candidate engineers to receive training. Three distinct categories of training are recognised. The first, and most formal, is the placement of the Employer's candidate engineers with the Service Provider for training distinctly geared to professional registration with the Engineering Council of South Africa (ECSA). The training provided shall be predominantly, but not exclusively, related to this project and may be subject to scrutiny and inspection in loco by the Employer who is responsible for candidates' remunerations. The trainees are expected to work according to the Service Provider's terms and conditions of employment, especially those related to confidentiality. They are to be treated as if they were the Service Provider's own full-time personnel. No allowances shall be made for working overtime.

Less formal will be experiential training the Service Provider is requested to provide to university or university of technology undergraduate students. The training provided must be in accordance with the academic institution requirements.

The Service Provider, apart from providing the technical training, shall also provide trainees with all the tools (including appropriate information technology hardware and software) and space necessary to carry out engineering or survey work as if they were the Service Provider's own permanent staff.

Reporting on training progress of each candidate engineer and student shall be compiled according to the formats and intervals set by ECSA (for engineering students) or SAGC (The South African Geomatics Council).

C3.1.19 Contract(s)/Agreement(s) with Targeted Enterprise(s)

The Service Provider shall enter into a contract/agreement with the Targeted Enterprise(s) to provide them with the opportunity to participate in SANRAL projects under their guidance. Copies of the contract/agreement(s) shall be provided to the Employer.

C3.1.20 Multiple Strategies

Service Provider appointments by the Employer premise the fundamental concept that the Service Provider is capable of providing a design that is not just fit for purpose but also carries the hall mark of value for money. The design strategy on which the Employer has based his budget has been explained in section C3.1.4. It is expected of the Service Provider to interrogate the appropriateness of this design and to offer alternatives to it for consideration by the Employer.

C3.1.21 Service Provider's Estimated Cost of the Works

The Service Provider shall at the completion of each stage or phase where applicable, provide the Employer with an updated realistic estimate of the cost of the works. Despite this requirement, the Service Provider shall, at the end of September of each year, provide the Employer with an updated realistic estimate of the cost of the works as well as the foreseen duration of the works.

C3.1.22 Communication Management

Communication management must be identified early in the life of the project and discussed with the Employer as to who shall be responsible for liaising with which party and to define the limits or authority that either party has to speak for or commit the other.

At the earliest stage of design development, the Service Provider should have already identified the relevant and potential stakeholders in the project and list those that may play a sanctioning role that could accelerate or delay delivery of the project.

C3.1.23 Services

The early identification of services is a critical element in the project. The Service Provider shall identify those that are observable during the project assessment stage and those resulting from further later investigations.

During the design development phase, the Service Provider shall continuously liaise with the identified service owners (who form part of the strategic partners) and with the Employer. A first step is to search for any wayleave or similar authorisation agreement for the service to be placed within, alongside or across the project site. All liaisons shall be formal and in writing.

Service relocation may be required. If any design is required to temporarily or permanently relocate the service such design shall not be to the Employer's account unless agreed during liaison with the service owner. Regardless that any agreement is reached the Employer shall not take responsibility for the subsequent design, it being deemed that it cannot assume liability for property that it does not own or operate. However, the Service Provider is at liberty to offer its design capabilities to the service owner under an agreement between them. The service owner's design cost recovery may be via the contract should the Employer and service owner so agree, but no design liability shall pass to the Employer.

C3.1.24 Procedure for Procurement of sub-Service Providers

A sub-service is taken to mean any service necessary for the production of the project design and later construction, which is performed by someone other than the Service Provider. A sub-service procured directly by the Service Provider requires the Service Provider to enter into a sub-service agreement with that sub-Service Provider. The relationship between the Service Provider and sub-Service Provider is that of contractor/sub-contractor.

Another type of sub-service is less direct because the service required has already been procured by the Employer under a separate agreement. The role of the Service Provider in the management of this sub-service is that of the Employer's agent.

In both cases the Service Provider is responsible for the performance of the sub-service.

Procurement of a sub-service shall be undertaken by means of a quotation/tender process. The Service Provider shall compile and issue relevant and approved terms of reference, together with the relevant work/pricing schedules, in accordance with the Employer's standard proformas and Supply Chain Management and procurement policies. This will require the Service Provider to advertise for an open tender process or invite quotations from identified potential sub-Service Providers and submit tender documents to the relevant regional office for collection and receipt of the tenders by that office. Submitted quotations/tenders, in a sealed envelope, directly to the Employer's regional office by the date and time agreed, will be opened in public by the Employer's delegated staff. The Service Provider shall remove under signature all submitted offers for analysis and submit a report with recommendations to the Employer for approval prior to the appointment of any sub-Service Provider. Once approved, the Service Provider shall enter into an agreement with the sub-Service Provider with a copy of same submitted to the Employer.

Service Providers appointed to a project are not permitted to bid for any sub-service related to the project, with the exception to laboratory services. In the case of laboratory services, the appointed Service Provider must declare the conflict of interest and shall not be involved in the evaluation and adjudication of the resultant tender. The Employer will resume this responsibility.

C3.2 PROJECT ASSESSMENT STAGE

C3.2.1 Scope

This section covers the project assessment stage which precedes any design development. Thereafter, the actual designs will be produced in a single or multiple phases depending on the complexity of the project. This stage requires assessment of the project through perusal of relevant reports and previous studies, designs or surveys relating to the project, undertaking new inspections, surveys, studies and/or intrusive investigations, including subsequent testing, and analysis of test results.

Whilst the aspect of Land Acquisition may still be premature in the sense that the work required to determine what land will be required is only done later, it is nevertheless important that the Service Provider is always familiar with the contents of the SANRAL Land Acquisition Guideline Manual for Consulting Engineers (hereinafter referred to as the “LAC Manual”).

The stage ends with the production of a report detailing the findings of the assessment and the identification of multiple design options to be developed in the following stage.

C3.2.2 Assessment in Phases

Assessment of the project shall be conducted in the sequence described hereunder.

In the first part of project assessment the Service Provider shall undertake an initial assessment, i.e. a desktop assessment of the information provided, which may also include additional data, reports, studies etc. issued with the letter of acceptance of an offer. This part culminates with attendance at the project hand-over meeting at which the Service Provider will put forward for discussion and approval of the planned assessments in the context of an overall design development strategy.

The second part of project assessment is the visual assessment and thorough analysis of information provided, whereafter the Service Provider shall arrange for the first progress meeting with the Employer for the purpose of confirming the design strategy and acquiring approval for the type, quantity and positioning of intrusive and other investigations which form the third part of project assessment.

First and second parts of the assessment requirements are summarised below and expanded in the following paragraphs:

- Review and analyse information provided
- Conduct visual assessment of the road
- Identify statutory and regulatory requirements
- Identify other stakeholders with whom consultations may be needed
- Consider feasibility of various construction strategies
- Evaluate risk that the project presents to the Employer
- Other criteria

C3.2.3 Initial Assessment

Existing information will be provided when the services provider is appointed for a specific project. The information provided there is deemed sufficient both for purposes of tendering and for initial assessment (i.e. desktop assessment). This information shall be studied and used to determine the extent of intrusive investigations that need to be undertaken to prove pavement or existing ground or structural conditions. In the case of reports, studies or designs previously undertaken, these must be collected from the Employer by the Service Provider and returned together with the submission of the Detailed Design report. Failure to return information for which the Service Provider will have signed out from the Employer's registry will constitute reason for the Employer to withhold payment until such information has been returned in an acceptable condition for continued archiving.

The Service Provider should not take the existing data at face value only but shall interrogate its integrity and accuracy as well as determine the need to access any additional data such as as-built drawings,

plans, traffic counts etc. and enquire from the Employer whether such additional information does exist and assist in sourcing same if possible.

With the release of the SARDS, the available electronic information will be made available online for review during the tender period to assist the Service Provider.

Existing data is, by itself, insufficient to conduct a detailed assessment and must be amplified by visual inspections and subsequent surveys and investigations.

a) Traffic assessment

The Service Provider shall review the traffic data provided to determine any potential need for capacity and pavement improvement and identify any need for additional traffic counts or studies.

With the release of the SARDS, the Capacity Analysis will be performed by the Service Provider using the SARDS software.

b) Geometric assessment

The Service Provider shall compare the existing horizontal and vertical alignment data and accompanying geometric values with the Employer's geometric standards to identify any potential need for capacity improvements.

With the release of the SARDS, the Capacity Analysis will be performed by the Service Provider using the SARDS software.

c) Pavement assessment

Identify uniform sections within the project site.

With the release of the SARDS, the identification of uniform sections will be performed by the Service Provider using the SARDS software.

d) Structures assessment

Assess the available information and conduct a site inspection of all structures located on the route in order to undertake a condition assessment and to gain a general appreciation for the structures and the structural issues that may arise as a result of the envisaged work.

Identify which structures require capacity improvement (hydrologically, traffic, strength, etc.) and maintenance/rehabilitation interventions. All structures shall be assessed, however, in addition bridges that have been identified by the Employer that require assessment for defects to be repaired as part of this project will be provided.

e) Drainage assessment

Assess all drainage systems and compare to drainage manual guidelines.

f) Geotechnical assessment

Identify potential geotechnical risks from the provided Slope Management System data or any other information provided.

g) Assessment of material sources

Assess information provided from previous contracts (if available).

h) Safety assessment

Assess Incident Management System (IMS) data for potential hazardous locations.

With the release of the SARDS, the identification of potential hazardous locations will be performed by the Service Provider using the SARDS software.

i) Environmental assessment

Category 2 projects will generally not require any environmental approval. However, certain special maintenance projects may require both environmental and/or WULA GA approvals.

j) Land Assessment

Category 2 projects will generally not require land acquisition, but for certain special maintenance projects, temporary acquisition may be required for possible temporary deviations, etc

C3.2.4 Visual Survey

The Service Provider shall carry out a comprehensive visual assessment survey for the project with the purpose of comparing the desktop assessment assumptions against visible reality. Apart from an overall impression the visit shall be used to assess the existing condition of the pavement, all drainage and other structures, roadside furniture, slopes, road safety and all other aspects in order to ascertain the current overall condition. This survey shall be conducted by the Service Provider's designated design specialist(s) and cannot be delegated to others.

With the release of the SARDS, the data from the Visual Assessment based on TMH 9 (Pavements) will need to be uploaded into the SARDS portal by Service Provider as per the defined standard format in TMH 18.

The visual survey shall also include the identification of any other associated aspects located within the road prism affecting the functionality/structural integrity of the road and/or road safety issues including but not limited to:

- Surface drainage
- Sub-surface drainage (including pipe culverts)
- Present or potential geotechnical instability
- Excessive shoulder drop-off
- Intersection details
- Pedestrian issues
- Any evident or suspected road safety issues
- Condition of bridge joints and balustrades/handrails
- All identifiable services
- Any other issues that may be glaringly evident

The visit should include an inspection of all borrow pits and quarries identified during the initial assessment and act on any other relevant information emanating from the hand-over meeting discussions. Where any borrow pit or quarry is in any way affected by an informal settlement, the information gathered must immediately be brought to the attention of the Employer.

The condition of all existing structures shall be inspected. The BMS inspection sheets shall be forwarded to the Service Provider, who shall verify the accuracy thereof and report on the advancement of the identified defects and the development of any new defects. Rehabilitation and maintenance requirements are to be identified and incorporated into the designs in discussion with the Employer. Any structures that are not listed on SANRAL's BMS that are found within the project limits are to be included. SANRAL is to be notified of such inclusions in order to update the BMS. The structures are also to be assessed in order to gain a general appreciation for the structures and structural issues that may arise as a result of the envisaged works.

C3.2.5 Identification of Statutory and Regulatory Controls

The Service Provider shall identify legislation applicable to this project and bring to the notice of the Employer together with recommendations how compliance thereto can be incorporated into the project design.

The following aspects must be dealt with at this point:

- Road closures arising from the design;
- The closure of public places that would arise from the design;
- The impact must be determined that the project/design will have on zoning criteria for properties in a township. This is in particular reference to where such properties will be reduced to a size as a result of the design and where such remaining portions will be in conflict with such zoning criteria; and
- Statutory provisions relating to Mining Rights, Proclamations and De-proclamations of Provincial and Municipal Roads, the closure of streets and public places, the existence of Informal Property Rights, Traditional Authorities, etc. need to be clearly identified at this stage.
- Agreements with Municipality(ies) – the Employer have prepared a “generic” agreement with respect to the following:
 - Take-over of Access Roads by a Municipality; and
 - Declaration of National Road through “Towns”.

The above-named agreements are annexures to the LAC Manual.

The Service Provider will be required to facilitate the conclusion of the above agreement(s) and where such agreement(s) shall be concluded prior to the commencement of any construction phase of the project.

All of the above may give rise to the need to appoint other professionals such as a Land Surveyor, Town Planner, etc. in order to ensure formal compliance at the time of Detailed Design. The Service Provider must therefore set out the Terms of Reference with regards to each such statutory requirement in a report to the Employer having specific regard to the time frames involved and an estimate of costs in obtaining such statutory authorisation. In this regard the Employer may instruct the PSP to assist the Service Provider if it becomes evident that there are complexities that would require specialist input.

C3.2.6 Other Authorities and Stakeholders

The Service Provider shall identify all authorities and stakeholders who should be consulted about the design and implementation of this project and the degree to which liaison with each is expected. In addition, the Service Provider shall compile a list of the relevant persons, their capacity to act for such authority or body and their contact details, with whom liaison must take place but shall not commit to any meetings without first engaging the Employer to confirm how and when such meetings should be held.

Where the Project traverses land under the control of a Tribal (Traditional) Authority then the Department of Rural Development and Land Reform is to be notified and a determination and record of which officer is responsible for the area affected must be made.

Where a Project Liaison Committee (PLC) has not been established as a community structure, the Service Provider under the guidance of the Employer shall establish such a PLC within the boundary of the Local/District Municipality(ies) consisting of members as specified in C3.1.6.

During the development of the design and the construction phases the Service Provider shall continue these same liaison duties, including representing the Employer if so authorised and providing the Employer with written records of all liaison meetings and conversations.

Allowance has been made for these requirements in the Pricing Schedule under Additional Duties.

C3.2.7 Other Criteria

The above aspects of project assessment should not be considered as exhaustive. The Service Provider shall undertake the first phase of assessment to identify as many items as possible that will need to be considered when developing the design and the emanating scope of work, including consultation with the relevant routine maintenance Service Provider.

C3.2.8 Presentation of Visual Survey

The Service Provider shall, at the first progress meeting, present for discussion the findings of the visual survey that will ultimately be included in the project assessment report. This meeting also serves the purpose of affording the Service Provider the opportunity to further demonstrate his understanding of the project and seek approval for proposed investigations and/or studies.

With the release of the SARDS, the presentation of the visual survey will be based on utilising the SARDS portal by Service Provider.

The Service Provider shall also present initial design strategy proposals at this meeting.

C3.2.9 Market Analysis and Databases

The Service Provider shall undertake a market analysis in terms of the CIDB guidelines for undertaking a feasibility study (CIDB grading, Central Supplier Database (CSD), etc.) of availability and type of Targeted Enterprises for the Works Contract. The Service Provider shall further set up databases for Targeted Enterprises and Targeted Labour, assist local Targeted Enterprises to register on the CSD and maintain and update these databases on a monthly basis. Provision for this service has been made under Additional Duties.

C3.2.10 Project Assessment Report

A project assessment report shall be submitted for discussion at the progress meeting. The Service Provider shall, using the findings of the Initial Assessment and Visual Survey already conducted, identify problem areas and provide comprehensive evidence that their underlying cause is understood and propose appropriate corrective or reparative remedies. These proposals will accompany others for multiple design methodologies that are considered appropriate to the project including identification of their respective technical inputs. All proposals shall be discussed with the Employer. At least 3 (three) different methodologies must be proposed in the assessment report in cases where a Concept and/or Preliminary Design is not required so that the Employer is presented with an array of design options from which to make decisions for progression to Detail Design. The content of this report will depend on the available information and the scope of the work and may include the following aspects where applicable:

- Document initial scope of works and the methods and procedures required to maintain the condition of infrastructure
- Establish the scale and cost plan for the project
- Identify risks that need to be mitigated
- Identification of additional studies, e.g. geotech, survey, traffic, etc.
- X-section development strategy – 20 years
- Intersection/interchange improvements
- Appropriate Legislation
- Identify stakeholders
- Identify services
- Existing pavement condition
- Geotechnical stability
- Road furniture condition and compliance
- Confirm BMS assessment with recommendations
- Economic Feasibility Analysis (where applicable)
- Preliminary Land Report
- Market Analysis and Databases

Although all aspects are important, particular emphasis should be given to the materials making up the existing pavement, their current reported condition and their respective sources.

A separate Structures Assessment Report (which includes bridges, major culverts, lesser culverts, walls, gantries, light masts and buildings) must be submitted for new structures and existing structures. The report must discuss the available information, describe each structure, report on the condition assessments undertaken and the need for any maintenance/rehabilitation of existing structures and describe the structural constraints as a result of the envisage works.

During the first part of the assessment and based purely on the information given and/or collected, the Service Provider must devise other feasible strategies for further discussion with the Employer.

C3.2.11 Measurement and Payment

The duties in this chapter will be paid for under the percentage fee tendered in STAGE 1: PROJECT ASSESSMENT STAGE.

Payment will be made on a pro rata basis until all obligations are met.

C3.3 INVESTIGATIONS FOR DESIGN DEVELOPMENT

C3.3.1 Scope

This section covers the investigations preceding any design development. This process requires investigations to be undertaken either in-house or through the appointment of relevant sub-Service Providers.

C3.3.2 Investigations, Sampling and Testing

Intrusive investigations are deemed to be any type of investigation that probes into or removes from the pavement layers, sub-grades, structures' elements and other areas, e.g. cuttings, etc.

Supervision of intrusive investigations shall not be delegated, they shall be supervised and logged by the key person listed as the relevant design specialist.

Provision for investigations, sampling and testing has been allowed for in the Pricing Schedule.

The Service Provider shall submit for approval a schedule of proposed work for all field work, sampling and testing prior to commencement.

With the release of the SARDS, the Service Provider will be required to follow the standard workflow within SARDS to determine the number and locality of testing required. The data will need to be uploaded into the SARDS portal by Service Provider as per the defined standard format.

C3.3.3 Survey Services

All survey requirements must be identified by the Service Provider as early as possible during the Project Assessment stage in order to ensure that there will be sufficient time to undertake these surveys. It is important that the Service Provider familiarises himself with the requirements of TMH11: Standard Survey Methods in order to ensure that the survey deliverables will conform to the Service Provider's requirements.

The Employer has a continuous standing agreement with a property Service Provider (PSP) who is tasked with providing survey services when instructed. In view of the need for all survey controls used on the national road network to be available in a single managed database the Employer requires that its PSP remains fully responsible for checking and the approval of all survey controls used on all projects.

Unless otherwise agreed the Service Provider is required to make use of the PSP for its survey needs. The Service Provider is required to provide the type and extent of the survey and determine a reasonable time period for its production. A request for survey work form is included in Part C4, Appendix G for this purpose. This request must be sent to the relevant Employer's Regional Survey representative for approval.

a) Procurement of the survey sub-service

The Service Provider shall identify all potential survey requirements during the initial and visual assessment stages, including the survey of potential borrow pits and/or quarries. Discussion of purpose and extent of the survey shall be included in the agenda of the first progress meeting to which the PSP may be invited should it be required.

While interaction between the Service Provider and the PSP will be necessary, the survey tender documents, advertising, evaluation, appointment of surveyor, payment of the surveyor, the survey project management and quality control shall be undertaken by the PSP. The Service Provider will agree to a program with the PSP, who shall be responsible for the performance of their sub-Service Providers.

However, if agreed that the Service Provider have to procure the survey services, a prime cost sum has been provided in the Pricing Schedule. In such a case the latest standard survey proforma tender document, which covers all survey types, will be made available by the PSP. Tenders shall be invited only from surveyors who are suitably registered in terms of the Geomatics Profession Act, Act 19 of 2013. The procurement of survey work shall conform to the Employer's procurement policies and procedures. The procedures as set out below shall apply after appointment of the survey contractor. The Service Provider shall then become responsible for the performance of their sub-Service Providers.

All surveys are to be carried out to TMH11 standards as set out in the survey proforma tender document.

b) Management of the survey sub-Service Provider

Whenever the Service Provider procures the survey services, the following processes shall be applied:

- Call for and evaluate regular progress reports and attend relevant progress meetings.
- Attend to enquiries from the survey company.
- It is a requirement for the survey sub-Service Provider to submit a survey verification report for existing beacons prior to using their values. The verification entails the following:
 - Evaluate the verification survey methodology
 - Evaluate the verification residuals
 - Advise the survey sub-Service Provider to re-survey the existing control beacons or to adopt their values for the rest of the survey
- Receive the newly established permanent survey control survey data and co-ordinates for approval prior to the acceptance of the values for any further surveys.

The approval of the co-ordinates will entail the following:

- Evaluate survey methodology for height and position determination
- Evaluate the reduction for height and position
- Evaluate the survey datums and the connection to other control

When receiving completed survey data from the survey sub-Service Provider the following processes listed below shall be followed:

- Check that all deliverables have been submitted by the survey sub-Service Provider in terms of the tender requirements.
- Submit the complete data set to the PSP for quality control.
- Receive quality control reports from the PSP and forward it to the survey sub-Service Provider for corrections. The date by when the corrections have to be completed must be advised by the Service Provider.
- Re-submit the corrected data to PSP for verification. The entire survey has to be re-submitted each time corrections have been undertaken in order for all previous data to be destroyed.
- Make payment to the survey sub-Service Provider.

C3.3.4 Traffic Monitoring Services

All traffic monitoring requirements must be identified by the Service Provider as early as possible during the Project Assessment stage in order to ensure that there will be sufficient time to undertake these surveys. It is important that the Service Provider familiarises himself with the requirements of TMH3: Specifications for the Provision of Traffic and Weigh-in-Motion Monitoring Services and TMH14: South African Standard Traffic Data Collection Format in order to ensure that the traffic monitoring deliverables will conform to the Service Provider's requirements.

The Employer has a continuous standing agreement with a Traffic Monitoring Service Provider (TMSP) who is tasked with providing traffic monitoring services when instructed. In view of the need for all traffic monitoring data used on the national road network to be available in a single managed database the Employer requires that its TMSP remains fully responsible for checking and the approval of all traffic monitoring data used on all projects.

Unless otherwise agreed, the Service Provider is required to make use of the TMSP for its traffic monitoring needs. The Service Provider is required to provide the type and extent of the survey and determine a reasonable time period for its production. A request for traffic monitoring should be submitted to the Employer (SANRAL Head Office – A Robinson – robinsona@nra.co.za).

a) Procurement of the traffic monitoring Service Provider (TMSP)

The Service Provider shall identify all potential traffic monitoring requirements during the initial and visual assessment stages. Discussion of purpose and extent of the survey shall be included in the agenda of the 1st progress meeting.

While interaction between the Service Provider and the TMSP will be necessary, the traffic monitoring tender documents, advertising, evaluation, appointment of the TMSP, payment of the TMSP, the project management and quality control shall be undertaken by the relevant SANRAL Head Office Project Manager (HO-PM) responsible for the TMSP (M van der Walt – vdwalm@nra.co.za). The Service Provider will agree to a program with the HO-PM who shall be responsible for the performance of the TMSP.

However, if agreed that the Service Provider have to procure the traffic monitoring services, a prime cost sum has been provided in the Pricing Schedule. In such a case, the latest standard traffic monitoring proforma tender document, which covers all traffic monitoring types, will be made available by the Employer. Tender shall be invited only from traffic monitoring Service Providers who are suitable certified in terms of TMH3 for the specific traffic monitoring system type required. The procurement of traffic monitoring work shall conform to the Employer's procurement policies and procedures. The procedures as set out below shall apply after appointment of the TMSP. The Service Provider shall then become responsible for the performance of the TMSP.

All traffic monitoring is to be carried out to TMH3 and TMH14 standards as set out in the traffic monitoring proforma tender document.

b) Management of the TMSP

Whenever the Service Provider procures the traffic monitoring services, the following processes shall be applied:

- Call for and evaluate regular progress reports and attend relevant progress meetings.
- Attend to enquiries from the traffic monitoring company.
- It is a requirement for the TMSP to submit a traffic monitoring report. The report entails the following:
 - Evaluate the survey methodology
 - Evaluate the positions for traffic monitoring
 - Advise the Service Provider to re-evaluate the proposed positions or advise on the suitability of the traffic monitoring system to be used.
 - Take the necessary geocoded photographs to verify positions of traffic counts.
 - Compile the Station Information Report
- Receive the traffic monitoring data for approval prior to the acceptance of the values for any further surveys.

When receiving completed traffic monitoring data from the TMSP the following processes listed below shall be followed:

- Check that all deliverables have been submitted by the TMSP in terms of the tender requirements.
- Submit the complete data set to the HO- PM for quality control.
- Receive quality control reports from the HO-PM and forward it to the TMSP for corrections. The date by when the corrections have to be completed must be advised by the Service Provider.

- Re-submit the corrected data to the HO-PM for verification. The entire survey has to be re-submitted each time corrections have been undertaken in order for all previous data to be destroyed.
- Make payment to the TMSP.

With the release of the SARDS, the data from the traffic monitoring based on TMH 3 or 8 will need to be uploaded into the SARDS portal by Service Provider as per the defined standard format in TMH 14.

C3.3.5 Environmental sub-service

The Service Provider shall identify all potential environmental issues relating to the envisaged scope of the Works during the assessment stage, including areas where potential borrow pits and/or quarries may be located.

The environmental sub-Service Provider shall distinguish between the design and construction stages. The Employer requires that the same sub-Service Provider fulfils the duties of the Environmental Assessment Practitioner (EAP) and later as the Environmental Control Officer (ECO), in accordance with the Mineral and Petroleum Resources Development Act (28 of 2002). The Service Provider shall use the Employer's standard documentation for the procurement of environmental sub-services.

Specialist studies identified as being necessary do not form part of normal duties, and such services may have to be separately procured, but still in accordance with the procedures for the procurement of sub-Service Providers.

C3.3.6 Geotechnical and Drilling Services

The Service Provider shall use the Employer's standard documentation for the procurement of Geotechnical and Drilling sub-services. Once appointed, the contract will be carried out between the Geotechnical and Drilling sub-Service Provider and the Service Provider.

Supervision of the sub-service work shall only be undertaken by suitably qualified and experienced personnel. Dependant on the scope and/or scale of such sub-services, supervision may be required on a full time or part time basis as determined by the Employer.

The logging of the cores and profiling of test pits are the Service Provider's responsibility. All core logging and test pit profiling are to be carried out, officially checked and signed by a suitably qualified and experienced engineering geologist as specified in Section 38 of the COLTO Standards and Specifications for Sub-service Investigations (2010).

The Service Provider's geotechnical engineer shall be responsible for reviewing the results of the investigations and confirming its acceptance. The geotechnical engineer will be involved in the planning, procurement and managing of the sub-contract. The geotechnical engineer will be responsible for the acceptance of data collected during the investigation including amongst others, core logs, test pit profiles, laboratory test, etc. and the production of a factual geotechnical report. In addition, the geotechnical engineer will be responsible for an interpretive geotechnical report as well as a design geotechnical report required for fulfilling the design. The geotechnical engineer shall be involved during the construction phase in accordance with his/her obligation with regard to professional responsibilities and Section C3.7.2(f) Site visits by Design Specialist(s).

C3.3.7 Other Special Services and Specialist Advice

The Employer may require other special services and specialist advice which are not included in the normal duties. These may include:

- road network planning studies
- traffic, axle weight and transportation studies (including traffic counts only)
- economic studies
- model studies
- soil mapping and seismic or similar surveys
- monitoring of road and bridge elements

- pavement surveillance surveys (e.g. FWD)
- mediation, arbitration and litigation
- land acquisition assistance provided by the PSP

The Service Provider shall, if and when required by the Employer to do so, procure such other specialist services in accordance with the procedures for the procurement of sub-Service Providers. The Service Provider may tender for these services.

It is to be noted that, subject to the Employer's approval, the land legal advice and property acquisition assistance provided to the Service Provider by the PSP will be paid under a separate contract administered by the Employer.

In the event of "specialist advice" the reimbursable costs shall be inclusive of the investigations and analysis to provide the Employer with an appropriate technical solution. In the case of "special services" the reimbursable cost is only for the specific survey, tests or data required and exclude the analysis thereof, the cost of which shall be included in the tendered rates for design.

Provision for payment of other special services and specialist advice are provided in Section C3.8: Additional Duties. Where investigations are to be undertaken the Service Provider shall compile a schedule of required work, which shall be subject to the approval of the Employer, before any investigation may commence.

C3.3.8 Specialist Transportation Engineering Service

For projects requiring basic analyses of traffic volumes and trends, or capacity improvements involving geometric designs that are basically extensions to existing road infrastructure, a design specialist will not be specified as part of the key persons. However, for more complex green-fields projects, a design specialist may be specified as part of the key persons. In both cases the cost for this service shall be deemed to be included in the rates tendered for design.

C3.3.9 Specialist Geometric Design Service

For projects requiring basic geometric analyses of traffic volumes and trends, or capacity improvements involving geometric designs that are basically extensions to existing road infrastructure, a design specialist will not be specified as part of the key persons. However, for more complex projects, a design specialist will be specified as part of the key persons. In both cases the cost for this service shall be deemed to be included in the rates tendered for design.

C3.3.10 Materials Investigation and Testing

a) Test pits

All test pits shall be excavated, profiled and sampled in accordance with the M1 Manual and industry best practice. The dimensions of the excavation shall be sufficient to permit safe working conditions and to allow for adequate quantities of material to be sampled from each horizon for the envisaged testing. All test pits shall be excavated to a minimum depth of 800mm, or deeper if so specified by the design engineer.

All test pits shall be backfilled utilizing material which is at least of a similar quality as that removed from the relevant horizon. The upper 150mm horizon shall consist of at least G2 quality material stabilized with 2% emulsion and 1% cement. The surfacing shall consist of hot/cold asphalt or prefabricated seal patches as appropriate to the existing surfacing and traffic/road class. Compaction shall be by appropriate compaction equipment in layers not exceeding 150mm.

With the release of the SARDS, the Service Provider will be required to follow the standard workflow within SARDS to determine the number and locality of testing required. The data will need to be uploaded into the SARDS portal by Service Provider as per the defined standard format or SARDS interface.

b) Dynamic Cone Penetration (DCP) testing

Dynamic Cone Penetration (DCP) testing shall be carried out in accordance with the standard test method. Appropriate drilling equipment shall be utilized to penetrate asphalt, highly stabilized or

cemented layers prior to proceeding with the testing. Results of DCP testing shall be produced in a format enabling full assessment of the various pavement layers to be assessed.

With the release of the SARDS, the Service Provider will be required to follow the standard workflow within SARDS to determine the number and locality of testing required. The data will need to be uploaded into the SARDS portal by Service Provider as per the defined standard format or SARDS interface.

c) Coring in pavement layers

Where required and scheduled, coring shall be carried out utilizing appropriate equipment. The layer type and diameter of the cores shall be as specified in the pricing schedule.

d) Transport of samples to laboratory

All samples shall be securely fastened, labelled and transported to the laboratory appointed to carry out the required testing. Distinction has been made in the Pricing Schedule between large bags and small bags/cores.

With the release of the SARDS, the Service Provider will be required to follow the standard workflow within SARDS to determine the number and locality of testing required. The data will need to be uploaded into the SARDS portal by Service Provider as per the defined standard format or SARDS interface.

e) Laboratory testing

Only SANAS accredited laboratories shall be permitted to carry out laboratory testing of materials. All testing shall be carried out in accordance with the methods specified in the relevant test methods.

Provision for the costs of any laboratory testing has been included under specific tests and/or under a Provisional Sum item in the Pricing Schedule.

With the release of the SARDS, the Service Provider will be required to follow the standard workflow within SARDS to determine the number and locality of testing required. The data will need to be uploaded into the SARDS portal by Service Provider as per the defined standard format or SARDS interface.

C3.3.11 Measurement and Payment

Payment for the duties in this chapter will be negotiated when the contract is concluded with the Service Provider.

C3.4 DESIGN DEVELOPMENT STAGE

C3.4.1 Scope

This section covers the requirements for the compilation and submission of a Concept and/or Preliminary and/or Detailed Design and the various phases that the Service Provider may have to apply so as to develop the design in such a way that the Employer is provided the opportunity to select the most appropriate design strategy.

It is a fundamental requirement that the Service Provider has a thorough working knowledge of the Employer's complete suite of design standards, codes, manuals and guidelines (i.e. those that it publishes and those for which it provides an industry custodianship), which shall be used in the production of the designs in all their separate phases. In addition, the Service Provider shall apply any other industry best practice publication that may be appropriate. Furthermore, the Employer's philosophy of appropriate standards and cost effectiveness shall always be considered.

C3.4.2 Design Development Strategy

On completion of the project assessment stage and before findings from further investigations and sub-services are available the Service Provider shall discuss with the Employer and confirm the design development strategy that will be applied.

Many capital expenditure projects that require capacity improvements in addition to rehabilitation and or repair may require development through the separate multiple phases of preliminary and detailed designs.

Some capital expenditure projects, and most operational expenditure projects, will only require the single phase of detailed design development.

The purpose of confirming the total strategy to be applied is based on the precept that public funds must be wisely expended and it may occur that the details emerging from the project assessment dictate that development through multiple phases is not required. Any decision not to proceed with either the conceptual or preliminary phases shall not give cause for a Service Provider to request or demand an adjustment to its pricing structure. Each development phase is distinctly separate and thus shall be priced in such a way that no cross-subsidisation between them occurs.

Conversely, any decision to introduce an additional development phase shall be subject to pricing variation.

C3.4.3 Investigations, Sampling and Testing

Intrusive investigations are deemed to be any type of investigation that probes into or removes from the roadbed, borrow pits, quarries, structure founding materials and other areas, e.g. cuttings, etc. Investigations, both intrusive and non-destructive, sampling as well as associated laboratory testing, must be approved by the Employer before they are undertaken.

The Service Provider shall initially identify and then determine the viability of sources for the supply of materials by arranging for test pits, samples, laboratory testing and reporting on them. The investigations may involve drilling, both by percussion and core recovery if needed to prove new sites or extensions to existing pits. Depending on the locality of the project site, the investigation of materials sources shall include the use of commercial sources as well as existing/new sources on, alongside or near the project site. This will require sampling and testing of the commercial products. When the project demands crushed stone products the investigation of more than one source shall be required. Where intrusive investigations are required to be carried out on land not under the current control and/or jurisdiction of the Employer, suitable arrangements must be made with the Land Owner, Authority etc. In this regard the Service Provider must refer to the LAC Manual and in particular to those sections dealing with access onto land.

Supervision of intrusive investigations shall not be delegated, they shall be supervised and logged by the key person listed as the relevant design specialist.

The Service Provider shall submit for approval a schedule of proposed work for all field work, sampling and testing prior to commencement.

With the release of the SARDS, the Service Provider will be required to follow the standard workflow within SARDS to determine the number and locality of testing required. The data will need to be uploaded into the SARDS portal by Service Provider as per the defined standard format or SARDS interface.

C3.4.4 Materials Investigation and Testing

a) Test pits

All test pits shall be excavated, profiled and sampled in accordance with the M1 Manual and industry best practice. The dimensions of the excavation shall be sufficient to permit safe working conditions and to allow for adequate quantities of material to be sampled from each horizon for the envisaged testing. All test pits shall be excavated to a minimum depth of 800mm, or deeper if so specified by the Design Specialist – Pavements & Materials.

All test pits shall be backfilled utilizing excess material excavated and additional material to ensure that there will be no unsafe depressions. The backfill shall be compacted sufficiently to ensure that no significant settlement occurs subsequent to completion of the investigation.

All test pits that are required to be left open and unattended shall be secured by means of appropriate fencing and danger tape.

At the commencement of excavation, all topsoil shall be stockpiled separately and replaced after completion of the backfilling operation.

With the release of the SARDS, the Service Provider will be required to follow the standard workflow within SARDS to determine the number and locality of testing required. The data will need to be uploaded into the SARDS portal by Service Provider as per the defined standard format or SARDS interface.

b) Dynamic Cone Penetration (DCP) testing

Dynamic Cone Penetration (DCP) testing shall be carried out in accordance with the standard test method. Results of DCP testing shall be produced in a format enabling full assessment of the various pavement layers to be assessed.

With the release of the SARDS, the Service Provider will be required to follow the standard workflow within SARDS to determine the number and locality of testing required. The data will need to be uploaded into the SARDS portal by Service Provider as per the defined standard format or SARDS interface.

c) Hire of excavator

Where an excavator is required to excavate the test pits, the Service Provider shall determine the capacity of such plant appropriate to the expected material category and depth of excavation.

The excavation of test pits by mechanical means shall be done in such a manner so as to prevent any contamination of the specific soil/gravel horizons encountered.

d) Transport of samples to laboratory

All samples shall be securely fastened, labelled and transported to the laboratory appointed to carry out the required testing. Distinction has been made in the Pricing Schedule between large bags and small bags/cores.

e) Laboratory testing

Only SANAS accredited laboratories shall be permitted to carry out laboratory testing of materials. All testing shall be carried out in accordance with the methods specified in the relevant test methods.

With the release of the SARDS, the Service Provider will be required to follow the standard workflow within SARDS to determine the number and locality of testing required. The data will need to be uploaded into the SARDS portal by Service Provider as per the defined standard format or SARDS interface.

C3.4.5 Preliminary Design

The underlying purpose of preliminary design is to develop more than one option for presentation to the Employer for selection of that which is the most appropriate based on technical functionality and economic benefit. The selected option(s) will then be further developed in the detailed design phase.

On projects that commence with this design phase, the Service Provider shall, using the findings of the project assessment and investigations or concept design already conducted, identify problem areas, provide comprehensive evidence that their underlying cause is understood and propose appropriate corrective or reparative remedies. These proposals will accompany others for multiple design methodologies that are considered appropriate to the project including identification of their respective technical inputs. All proposals shall be discussed with the Employer. At least 3 (three) different methodologies must be proposed not all of which need to include identified remedies. Proposed methodologies should separately deal with elements relating to capacity improvements so that these may be individually developed together with the methodologies so that the Employer is presented with an array of design options from which to make decisions for progression to detailed design.

The duties to be performed include but are not limited to the following:

- i. Provide a programme for documentation and implementation of the works;
- ii. Include a baseline risk assessment and a health and safety specification;
- iii. Include an operations and maintenance support plan over the service life;
- iv. Establish the feasibility of satisfying the original scope of works within the original budget, and if not, motivate a revised scope and/or budget;
- v. Include a technology (alternatives) options assessment;
- vi. Include a regulatory due diligence (compliance with various regulations and required statutory permissions impacting this project);
- vii. Advising the Employer as to the need for any further surveys of any kind, analysis, tests and site or other investigations which may be required, and arranging for these to be carried out at the Employer's expense including a risk assessment and sensitivity analysis associated with the need;
- viii. Advising the Employer regarding environmental requirements and management plans and attending to the same;
- ix. Advising the Employer, as may be necessary, upon the appointment of and brief to other professional engineers, architects and specialist advisers and arranging such appointments and consultations with such advisers in matters affecting the works;
- x. Preparation of preliminary design plans and other drawings in accordance with the Employer's current Codes, Manuals and Guidelines necessary for seeking approval of statutory authorities and beaconing of the road reserve; With the release of the SARDS, the Service Provider will be required to follow the standard workflow within SARDS to determine the number and locality of testing required. The data will need to be uploaded into the SARDS portal by Service Provider as per the defined standard format or SARDS interface and then analysed using SARDS.
- xi. Consultation on technical matters with authorities and interested and affected parties;
- xii. Making modifications to the preliminary design of the works in connection with or dictated by the consultations aforesaid;
- xiii. Identification and reporting on services and owners as well as relocations/protection measures required;
- xiv. Submission of estimates of capital and life cycle costs and economic and financial implications in relation to the proposals and the confirmation of the financial sustainability thereof;
- xv. Conduct a Land Audit as per the LAC Manual of each Route under consideration. In this regard the Service Provider must produce a (high level) property report for each such Route being investigated including the land required for material sources. This report must identify at the very least the following:
 - * property type
 - * ownership type
 - * title type
 - * informal rights
 - * informal settlements
 - * mining rights
 - * real rights (servitudes, etc.)

- * jurisdiction of affected non-National Roads
- * Traditional (Tribal) Authorities and their jurisdiction
- * Municipal Authorities
- * affected streets and public places
- * proclaimed forestry, conservation, irrigation, etc. areas.

In addition, the Service Provider must undertake a 'high level' Land Acquisition cost analysis for each Route being investigated inclusive of the land required for material sources.

The Service Provider shall at this stage ensure that relevant one-on-one consultations with affected land owners are conducted including the holders of formal, informal rights and all other rights as defined above. Where land is in the ownership of the State (Municipal, Provincial or National) or other State Authorities, then the Service Provider shall also attend on such authorities in order to give notice of the intention to acquire portions of or the whole of such properties. The impact of the routes on such rights must be clearly documented in the report.

In regard to all of the above, the Employer may instruct the PSP to assist the Service Provider if it becomes evident that there are complexities that would require specialist input.

The Employer must be advised immediately if there is evidence of unlawful occupation of land along the proposed Routes and on land earmarked for material sources;

- xvi. Compilation and submission of a Preliminary Design Report and if required a Preliminary Materials Report.
- xvii. The requirements for structures under the Preliminary Design Phase will be split into 2 (two) stages:
 - The first stage shall comprise submission of a separate Basic Planning Structures Report (which includes bridges, major culverts, lesser culverts, walls, gantries, light masts and buildings) for all new and existing structures in terms of Clause 13.2 of the Code of Procedure for the Planning and Design of Highway and Road Structures in South Africa. The first stage report shall be, in essence, a road planning report in which structural issues as envisaged are addressed. This stage shall include bridge width schedules submitted for approval and is submitted in conjunction with the submission of the overall Preliminary Design Report.
 - The second stage shall comprise submission of a separate structures report (which includes bridges, major culverts, lesser culverts, walls, gantries, light masts and buildings) for all new and existing structures in terms of Clause 13.3 of the Code of Procedure for the Planning and Design of Highway and Road Structures in South Africa. In the case of bridges, a separate report shall be submitted per bridge. This report shall investigate structural solutions in terms of environmental and site conditions, geometric constraints, structural requirements, financial aspects and those considerations that have a bearing on the feasibility of the postulated solutions. These submissions shall take place after approval of the Preliminary Design Report.
- xviii. Separate Factual, Interpretive and Geotechnical Design Reports must be submitted where geotechnical investigations are required.
- xix. A separate Drainage Report will be needed for all River Bridges, Major Culverts and Lesser Culverts on the project and shall be submitted before the Structures Report as described above. The purpose of this report is to assess, in terms of the latest version of the SANRAL Drainage Manual, the hydraulic capacities of all drainage structures for the project.

Unless the project terminates at the preliminary design stage, drawings produced to depict the various elements of the design methodologies need not follow the exacting standards for final drawings. However, they shall be comprehensive in their detail so that they accurately reflect the design outcomes. The size of drawings is similarly not prescriptive. Structural drawings shall comply with the standards set in the Employer's publication *Code of Procedures for the Planning and Design of Highway and Road Structures in South Africa*. Notwithstanding the aforesaid, sketches and hand-drawn depictions will not be accepted; they shall be professionally drawn.

C3.4.6 Detailed Design

The Employer will select from the outcome of the project assessment stage or preliminary design phase, the design option and other possible design elements that are to be developed to detailed design.

The duties to be performed include but are not limited to the following:

- i. Provide a programme for documentation and implementation of the works;
- ii. Include a baseline risk assessment and a health and safety specification;
- iii. Include an operations and maintenance support plan over the service life;

- iv. Establish the feasibility of satisfying the original scope of works within the original budget, and if not, motivate a revised scope and/or budget;
- v. Include a technology (alternatives) options assessment;
- vi. Include a regulatory due diligence (compliance with various regulations and required statutory permissions impacting this project);
- vii. Advise the Employer as to the necessity for setting out or staking out the works, establishment of construction beacons;
- viii. Advise the Employer as to the need for any further surveys of any kind, analysis, tests or other investigations which may be required and arranging for these to be carried out including a risk assessment and sensitivity analysis associated with the need;
- ix. Advise the Employer regarding environmental requirements and management and attending to same as agreed with the Employer;
- x. Preparation of designs inclusive of all calculations, drawings, project specifications and Engineering schedules of quantities in accordance with the requirements of the Employer's current appropriate Codes, Manuals and Guidelines; including labour maximisation/optimisation in all phase of the design as per COTO specifications. With the release of the SARDS, the Service Provider will be required to follow the standard workflow within SARDS to determine the number and locality of testing required. The data will need to be uploaded into the SARDS portal by Service Provider as per the defined standard format or SARDS interface and then analysed using SARDS;
- xi. Estimates of the cost of the works, using the unit rates of the Employer's database if applicable;
- xii. Identify and advise the Employer on communication channels, employment forums and issues impacting on the design;
- xiii. The timeous arrangement for the relocation of any services which may disrupt the construction programme. This may include relocation of services prior to construction stage;
- xiv. Conduct a Detailed Land Audit as per the LAC Manual of the entire project area.

The Employer may instruct the PSP to assist the Service Provider if it becomes evident that there are complexities that require specialist input

In regard to this land audit, the Service Provider must produce a detailed report for each property along the route and all land required for material sources. This report must identify, at the very least, the following

- * property type
- * ownership type
- * title type
- * informal rights
- * informal settlements / illegal occupation of land
- * mining rights
- * real rights (servitudes, etc.)
- * jurisdiction of affected non-National Roads
- * Traditional (Tribal) Authorities and their jurisdiction
- * Municipal Authorities
- * affected streets and public places and where such streets and public places may be impacted on and/or closed
- * proclaimed forestry, conservation, irrigation, etc. areas

The Service Provider shall, at this stage, then also conduct one-on-one consultations with each land owner affected by the project and with the holders of formal and informal rights and indeed all other rights as defined above. Where land is in the ownership of the State (Municipal, Provincial or National) or other State Authorities, then the Service Provider shall accompany the PSP when meeting with such authorities in order to deal with aspects raised by such authorities and where such aspects are of a Technical/Design nature. In this regard, careful reference must be made to the formalities as described in the LAC Manual.

It is emphasised that the purpose of this interaction is to reach consensus with each land owner so affected with regards to the impact that the land acquisition will have on his property and to all of his entitlements and to clearly determine the conditions under which the land owner will be willing to sell the land required.

This is expanded on further in this document below. In this regard, the Employer must be advised immediately if there is evidence of unlawful occupation of land along the proposed route and on land earmarked for material sources.

The revised road reserve must be determined and have the Employer's approval.

The Service Provider shall then compile a detailed Property Report as defined in the LAC Manual and transmit same to the Employer's Project Manager and to the relevant Regional Survey Representative for their consideration and formal approval. Only on approval of the Detailed Property Report will be

- same be transmitted to the PSP who will then commence with the preparation and approval of Land Acquisition Diagrams and the necessary amended Declarations relating to the final road reserve;
- xv. Submit the necessary design documentation to local and other authorities for approval, if required;
 - xvi. Consultation on and incorporation of, where applicable, technical matters with authorities and interested and affected parties;
 - xvii. Submission of separate structures report(s) (which includes bridges, major culverts, lesser culverts, walls, gantries, light masts and buildings) for all new and existing structures in terms of Clause 13.3 of the SANRAL Code of Procedure for the Planning and Design of Highway and Road Structures in South Africa. In the case of bridges, a separate report shall be submitted per bridge. This report shall investigate structural solutions in terms of environmental and site conditions, geometric constraints, structural requirements, financial aspects and those considerations that have a bearing on the feasibility of the postulated solutions. These submissions shall take place after approval of the Preliminary Design Report and Bridge/Culvert Schedules which occurs at the commencement of Detailed Design.
 - xviii. Compilation and submission of a Detailed Design Report and if required a Materials Report; If the project requires only a Detailed Design Phase and a preliminary design on structures was previously conducted, the Service Provider must confirm the findings on the Preliminary Design and re-submit a structures report if changes are required. The selected recommended option is then to be approved by the Employer's Bridge Network Manager before any detail design is commenced.
 - xix. Submission of Economic Feasibility Analysis (where required) and confirm the financial sustainability of the project.
 - xx. Undertake a market analysis in terms of the CIDB guidelines for undertaking a feasibility study (CIDB grading, Central Supplier Database, etc. of availability and type of Targeted Enterprises for the Works Contract.

If the project requires only the detail design phase the Service Provider shall, using the findings of the project assessment and investigations or designs already conducted, identify problem areas, provide comprehensive evidence that their underlying cause is understood and propose appropriate corrective or reparative remedies. The Service Provider shall also identify which elements of the aforesaid publications will be applied and discuss them with the Employer before proceeding with development of the design to finality. Where a Preliminary Design on structures was previously conducted, the Service Provider must confirm the findings on the Preliminary Design and re-submit a Structures Report if changes are proposed. The selected recommended option is then to be approved by the Employer's Bridge Network Manager before any detail design is commenced.

Detail design requires the drafting of a final project specification that will be incorporated into a full tender document adopted from the Employer's proforma tender document. A full set of drawings complying with the Employer's latest drawing standards shall be presented for signature. The Service Provider shall be aware of the Employer's procedures for iterative presentations of drawings for approval, signature, archiving and amendment to include the as-built record. The process is also available on the Employer's website www.nra.co.za.

Guidelines for drawings are contained in TMH11: Standard Survey Methods (latest version) published by the Committee of Transport Offices (COTO). This reference contains all the relevant information relating to grid intervals, topographical detailing, symbols, colours, weight, and letter sizes etc and acts as the standard to be used for the production of drawings for use by a contractor.

C3.4.7 OHS Requirements

The Service Provider shall at all stages of the design development identify elements of the design that are inherently dangerous or hazardous during the construction phase and design in such a manner as to mitigate or eliminate the risk where possible. At the culmination of each development phase all identified dangers/hazards shall be listed and brought to the attention of the Employer and agreed hazards shall be emphasised and given prominence by way of notification on the drawings and separately listed in the respective phase-end reports. They shall appear in the drawings and the tender document for issue to a contractor.

For example, staging for bridge decks or shoring of unstable excavations is the designer's responsibility to identify and notify of the health and safety risk.

C3.4.8 Environmental Requirements

Throughout the development of the project design the Service Provider shall liaise closely with the appointed EAP as he/she performs the environmental subservice. It is desirable that the EAP accompanies the Service Provider to the regular progress meetings to ensure accurate reporting on the state of the application for environmental approvals. The compilation of the various Environmental Management Programmes (EMPrs) that the respective relevant authorities require shall be modelled on the Employer's standard Environmental Management Plan with as little deviation from it as possible. Any adaptation or change shall be reported to the Employer for approval and later incorporation into the contract document.

Any cause derived from these EMPrs that requires incorporation into the design shall similarly be reported to the Employer for approval.

C3.4.9 Land Requirements (May be required on certain Special Maintenance Projects)

a) Property Report

A comprehensive and detailed Property Report shall be compiled in accordance with the Employer's standard requirements. This Property Report shall deal with all aspects relating to each individual portion of land required for the project including all material resources and it is emphasised that the procedures as contained in the Land Acquisition Guideline Manual for Consulting Engineers, which is available on the Employer's web page (www.nra.co.za), shall be followed without exception.

With reference to all 'material sources' and where a "Borrow Pit" and/or "Quarry" site is identified for acquisition (permanent or temporary) then such site shall be named with reference to its kilometre distance of the road design and pre-fixed with a "L" or "R" e.g. Borrow Pit L29.100.

The Property Report will be considered by the Employer's Project Manager and the Regional Survey Representative. Should the Property Report be found to be incomplete and/or contain erroneous information, it will be returned to the Service Provider for his immediate attention and action. Once the Property Report has been approved by the Employer, it will be sent to the PSP who will conduct checks to discover any errors or omissions.

Although the PSP performs checks on property reports, the responsibility for the completeness and accuracy of property reports lies with the Service Provider. The PSP is able to identify errors in property reports only insofar as they are reasonably discoverable and will report any such errors found to the Employer's Project Manager and/or Regional Survey Representative as soon as any may be found. The Employer reserves its right to recover the costs of any claims for delays suffered by the contractor in getting access to Site or to portions of the Site that are attributable to the erroneous property reports submitted by the Service Provider. It must be noted that the 9 (nine) month period required to complete the Land Acquisition process to the point where "Site Access" has been achieved cannot commence until a Property Report is complete and correct in all respects. Any delay in correctly completing a Property Report will delay the commencement of the acquisition process and very often, also delay access to site. Late changes in design have exactly the same effect as submitting incomplete or erroneous Property Reports.

The Service Provider must carefully consider the relevant sections in the LAC Manual that deal specifically with Tribal Land and determine if any land is subject to the authority of a Tribal (Traditional) Authority at the earliest possible time in the Design Process (if this has not already been determined under a previous phase).

Individuals hold informal and community rights over Tribal Land. Consequently, the Service Provider must ensure that he is fully conversant with the Interim Protection of Informal Land Rights Act, Act 31 of 1996 and the procedures contained therein. These rights are not registered and recorded in a Deeds Office. On-site meetings must therefore be held with the affected communities and their leadership in order to determine the extent and nature of their rights. The exact impact that the project will have on their rights must be clearly determined in community meetings in order to avoid conflict at the time that the PSP undertakes the acquisition and determines the compensation due. The Property Report must define each right affected, identify the boundaries and ownership thereof and clearly record all information related to these rights.

The Employer may request the PSP to engage with the Service Provider at an early stage in the Design Process in order to assist the Service Provider to deal with complex land rights and to provide specialist input where required. Where the Service Provider is in any doubt concerning how to deal with specific complexities relating to the above, the Service Provider may also discuss these circumstances with the Employer who may then engage the PSP for specialist assistance.

Every 2 (two) months, in each of its Regions, the Employer holds Land Acquisition co-ordination meetings. At these meetings, every project involving Land Acquisition is discussed in detail and problems focused on. The Service Provider shall ensure that a senior representative attends these meetings until such time as the Land Acquisition process has reached the stage where access to site is confirmed.

The Service Provider shall meet with every land property owner whose property or rights therein may be required or impacted upon by the project. Whilst the Service Provider **may not** engage in any negotiations with respect to financial compensation (Value) the Service Provider must ensure that each owner is made aware of the extent of land required, and the consequences that the project may have on matters such as the access, boreholes, irrigation system, parking, frontage of buildings and the like, all in accordance with the relevant sections in the LAC Manual. The document that the land owner is required to sign must be carefully completed in order to minimise any additional issues that may be raised when the PSP engages with the land owner to negotiate the terms of the land acquisition. If the land owner insists on discussing matters relating to compensation, financial loss, legal aspects or any other matter that falls outside of the Service Provider's area of responsibility, the Service Provider must timeously request the Employer for the assistance of the PSP.

Where it is necessary to relocate families/individuals situated on land under the control of a Tribal (Traditional) Authority, the Service Provider must engage with the Employer and the PSP as soon as it is possible in the Design Phase in order to initiate land acquisition in good time. The Service Provider must as soon as possible provide details of notional sites, quitrents and all other details required in the form of Property Reports. The PSP will engage further with the affected families and the Tribal (Traditional) Authority's leadership in order to conclude a relocation agreement with each family affected. This is most often a lengthy process and consequently poses a material risk to the Employer's programme for the Construction Phase of the project.

The relocation agreement negotiated by the PSP will *inter alia* deal with all aspects relating to the relocation of the occupants of the land including for example:

- Alternative land;
- Acceptance of building plans for the alternative accommodation proposed;
- Who will construct the alternative accommodation and by when; and
- All other relevant matters peculiar to each relocation.

The Employer shall indicate if the occupants of Tribal land are to be relocated under this project, or by another contractor. The Works Contract must include the construction of the alternative accommodation, deal with the provision of services, the physical relocation of the family affected and the demolition of the structure(s) from which the occupants are being relocated. The Service Provider is required to supervise such Works Contract and attend to all administrative processes associated therewith.

The Service Provider must note that the guidelines contained in the LAC Manual, where applicable to the specific project, constitutes essential information concerning the role and responsibilities of the Service Provider and must be considered by the Service Provider in the pricing of the work.

b) SPLUMA Implications and Duties

(i) Introduction

The Spatial Planning and Land Use Management Act, Act 16 of 2013 ("SPLUMA Act") commenced from 1 July 2015 and constitutes enabling national legislation.

Section 25 of The South African National Roads Agency Limited and National Roads Act, Act No 7 of 1998 (the "SANRAL Act") sets out the powers of the Employer which include:

- All strategic planning concerning the South African National Road System; and
- The planning, design, construction, operation, management, control, maintenance and rehabilitation of National Roads for South Africa.

In terms of the Constitution of the Republic of South Africa, No. 108 of 1996 (the “Constitution”), the following is relevant:

- National Roads do not fall into either Schedule 4 or 5 of the Constitution and are thus a National competency;
- Provincial Planning is an exclusive Provincial competency;
- Municipal Planning is an exclusive Municipal competency;
- Municipalities may enact SPLUMA Planning By-laws (the “Municipal By-laws”) to administer Municipal Planning; and
- Municipal By-Laws are binding on **ALL**, including Organs of State unless a specific Municipal By-law provides for and expressly stated exemption.

With respect to Municipal Planning the following is relevant:

- *“Planning, in the context of Municipal affairs, is a term which has assumed a particular, well established meaning which includes the zoning of land and the establishment of townships. In that context, the term is commonly used to define the control and regulation of the use of land.” (Ie Sueur judgement)* and;
- *“It is, however, true that the functional areas allocated to the various spheres of government are not contained in hermetically sealed compartments. But notwithstanding, they remain distinct from one another. This is the position even in respect of functional areas that share the same wording like roads, planning, sport and others. The distinctiveness lies in the level in which a particular power is exercised.” (Gauteng Development Tribunal judgement)*

(ii) Impact of SPLUMA on the Employer’s Planning Authority

“Land Development” is defined in the SPLUMA Act as the erection of buildings or structures on land or the change of land use. Accordingly National Road Projects are included in this definition and are subject to the SPLUMA Act.

Section 2 of the SPLUMA Act *inter alia* provides that except as provided for in this Act, no legislation not repealed by this Act may prescribe an alternative or parallel system on Spatial Planning.

Section 33 of the SPLUMA Act provides *inter-alia* that except as provided in this Act, all development applications must be submitted to the Municipality as the authority of first instance; and Section 53 of the SPLUMA Act provides *inter-alia* that the registration of a property resulting from a Land Development Application may not be performed unless the Municipality certifies that all requirements and conditions for approval have been complied with, known as “Municipal Consent”.

(iii) The need for and consideration of an Agreement in terms of SPLUMA

Section 30(3): Whilst the relevant Municipality may regard an Authorisation in terms of any other legislation that meets all the requirements set out in the SPLUMA Act or Provincial legislation as an authorisation in terms of SPLUMA, one may argue that the Employer’s declaration in terms of Section 40 of the SANRAL Act was an approval in terms of SPLUMA. **This argument may be possible in the context of existing National Roads but in regard to new roads including the upgrading of roads, the widening of roads etc. this is not possible.**

Section 29: A municipality must in terms of this Section consult any Organ of State responsible of administering legislation relating to any aspect of an activity that also requires approval in terms of the SPLUMA Act in order to co-ordinate activities and give effect to the respective requirements of such legislation and to avoid duplication – Section 29(1).

A municipality, in giving effect to Chapter 3 of the Constitution, may, after consultation with the Organ of the State contemplated in Section 29(1), enter into a written agreement with that Organ of State to avoid duplication in the submission of information or the carrying out of a process relating to any aspect of an activity that also requires authorisation under the SPLUMA Act – Section 29(2); and

After a Municipality has concluded an agreement contemplated in Section 29(2), the relevant Municipal Planning Tribunal ("MPT") may take account of any process authorised under the legislation covered by that agreement as adequate for meeting the requirements of the SPLUMA Act – Section 29(3).

The Employer therefore intends to conclude a Section 29 Agreement in terms of the SPLUMA Act with the Municipalities for its National Road Projects.

(iv) The Section 29 SPLUMA Agreement

The Employer has and continues to engage various state entities including the Department of Rural Development and Land Reform ("DRDLR"), the Department of Co-operative Governance and Traditional Affairs ("CoGTA"), South African Local Government Association ("SALGA") and others to have the draft SPLUMA Agreement adopted as part of the DRDLR's initiative to create National Norms and Standards and Guidelines with respect to the development by the State (in all its forms) of Public Service Infrastructure and in particular Public Service Infrastructure that is in the national interest such as National Roads;

As to the SPLUMA Agreement the following is emphasized:

- A preamble sets out the context for the agreement;
- The Agreement deals primarily with the planning impact that the National Road Project (the "Project") will have on the surrounding planning to the proposed the Project;
- The statement(s) contained in the SPLUMA Agreement and which is of material importance is: where the Municipality expressly confirms that it is satisfied, in as far as such confirmation is required in terms of the SPLUMA Act, Provincial Legislation or the Municipal By-Law, that the Employer's planning and designs for the Project in so far as it relates to access and/or acquisitions of severed land and as depicted on the Road Development Plan and Access Plan are adequate and further confirms that no further or additional process(es) relating to the Project are required. Such confirmation also extends to land use aspects as contemplated in terms of the SPLUMA Act and the Municipal By-Laws;
Further the Municipality confirms that it is satisfied that the information provided by the Employer in so far as it relates to access and/or acquisitions of severed land and recorded in the SPLUMA Agreement, is/are sufficient for a land development application contemplated in terms of the SPLUMA Act and the Municipal By-Laws;
- The Agreement then further provides *inter alia* for the incorporation of National Roads into the Municipality Spatial Development Framework and the amendment of the Municipality's Land Use Management Scheme;
Further the agreement expressly provides that the public participation process undertaken by the Employer in terms of National Environmental Management Act, Act No. 107 of 1998 ("NEMA"), is sufficient and satisfactory to satisfy the provisions of the SPLUMA Act and Municipal By-Laws ;
- Records the Employer standing as an Applicant in terms of Section 45(d) of the SPLUMA Act;
- Deals specifically with a dispute mechanism; and
- Provides for key annexures namely:
 - A Corridor Plan; a Road Development Plan and Access Plan.

(v) Service Provider's obligations in regard to the Section 29 SPLUMA Agreement

- The Service Provider, as an Agent of the Employer will be required to facilitate the conclusion of the Section 29 SPLUMA Agreement between the Employer and the relevant Municipality(s);
- The Service Provider will require to prepare the annexures to the Section 29 SPLUMA Agreement and in this regard proforma examples are attached as an Appendix in Part C4;
- The Service Provider will be required to interact with the Employer's Property Service Provider ("PSP") with respect to certain key plan(s) relevant to the National Road section being the subject of the Project;

- The above process will entail engagements with all relevant authorities stakeholder(s);
- The Service Provider will **not** be required to make a formal SPLUMA/Municipal By-Law Application **after** the Section 29 SPLUMA Agreement has been concluded; and
- The Section 29 SPLUMA Agreement must be concluded **prior** to the Project being tendered for construction.

(vi) Process after the conclusion of the Section 29 SPLUMA Agreement

Whilst PSP will undertake and submit the formal SPLUMA and/or Municipal By-Law application to give effect to the tasks as outlined further below, the Service Provider may be required to provide certain Project related information and plans in support thereof;

- The PSP will make the requisite application in terms of the SPLUMA Act and the Municipal By-Law using the Section 29 SPLUMA Agreement as the basis for such application;
- The PSP will notify the Minister of DRDLR in terms of Section 52 of the SPLUMA Act; and
- Once the MPT has made its decision it may be necessary for the Employer to deal with objections and/or lodge an appeal against the decision of the MPT. In this regard the Service Provider may be required to provide certain relevant Project information and/or evidence in support thereof. The PSP will act for the Employer in such event.

(vii) One or more Section 29 SPLUMA Agreements

Pending the complexities encountered in the design of the Project(s), it may be necessary to conclude more than one Section 29 SPLUMA Agreement.

(viii) Design amendments

It is to be noted that any amendments to the final design of the Road Project will necessitate that an addendum to the Section 29 SPLUMA Agreement be concluded. The Service Provider will be required to facilitate the conclusion of such addendum(s).

(ix) Transfer of access roads and declaration through Towns Agreements

The Service Provider is to note that the Section 29 SPLUMA Agreement is to be compiled and concluded in conjunction with the above Agreements.

(x) Municipal By-Law: Exemption

Certain Municipalities have and may still introduce an exemption in their Municipal By-Laws for "Public Service Infrastructure" of which National Roads form a part thereof.

In such instances the nature and context of the Section 29 SPLUMA Agreement may be substantially reduced and where the Section 29 SPLUMA Agreement would simply act as the Road Project Agreement with the Municipality in order to formalize how the impacts the Project on the surrounding areas have been accommodated in the final design.

The Service Provider must accordingly check the Municipality's By-Laws in order to establish this fact.

C3.4.10 Road Safety Audit

The Service Provider shall in terms of the South African Road Safety Audit Manual (Second Edition, May 2012), hereafter referred to as the SARSAM:

- a) Develop a Scope of Works for the procurement of the services of a Road Safety Audit Team for **Stages 1 and/or 2 and/or 3 and/or 4 and/or 5** of the Project are not limited to:
- Conducting a Project Information Review;
 - Conducting a Site Inspection/s;
 - Producing a Road Safety Audit Report
 - Issuing the Road Safety Audit Report and discussing the initial findings with Employer and Service Provider;

- Initiating and Conducting a Completion Meeting; as prescribed in the SARSAM.
- b) Recommend with motivation to the Employer the composition of the Road Safety Audit Team depending on the size and complexity of the project, as prescribed in the SARSAM. Generally, the Road Safety Audit Team will comprise an Audit Team Leader and at least two (2) Audit Team members. The Audit Team Leader is the lead auditor that is responsible for compiling the road safety audit report and representing the audit team in liaising with the Employer and the Service Provider. The Audit Team Member/s is the second auditor that assists in and contributes to the road safety audit. The Audit Team Leader and Member/s must be independent from the Service Provider and must not be under the employ of the Service Provider.

The Service Provider must ensure that the minimum requirements of the Audit Team Leader and Members comply with the Employers latest Road Safety Audit Policy..

Once the Road Safety Audit Team is appointed, the Service Provider shall:

- Compile and Issue a Road Safety Audit Brief to the Road Safety Audit Team;
 - Initiate and conduct a Commencement Meeting with the Road Safety Audit Team;
 - Attend a Completion Meeting if requested by the Employer;
 - Review Audit Findings and Recommendations;
 - Compile and issue a Response Report including Risk Assessment of Safety Concerns;
- as prescribed in the SARSAM

The Service Provider shall implement Design Changes as identified by the Road Safety Audit Team and as agreed to with Employer, as specified in the Response Report.

The Service Provider should provide written feedback on lessons learned and knowledge gained, which shall take the form of a short report.

With the release of the SARDS, the Service Provider will be required to follow the standard workflow within SARDS to identify potential hazardous locations. This will require assessment data to be uploaded into the SARDS portal by Service Provider as per the defined standard format or SARDS interface and then analysed using SARDS.

C3.4.11 Project Cost and Feasibility

At the reporting stage of each design development phase a cost estimate of the works, including contract price adjustment (CPA) shall be determined. A separate cost estimate shall be compiled for each design option. On completion of the detailed design stage this estimate shall consist of a priced schedule of quantities. This estimate shall include a contractor's probable preliminary and general costs as well as a provision for contract price adjustment. No allowance is to be made for a contingent sum. However, the inclusion of provisional sums within the schedule of quantities is acceptable.

In addition to a cost estimate of each design being developed a feasibility analysis shall also be conducted as specified.

C3.4.12 Project Programme and Constructability

At completion of the detailed design phase the Service Provider shall provide a comprehensive logic programme of construction activities regardless of the complexity of the project. The programme shall also be used to verify a realistic construction period.

The programme shall include the following:

- A work breakdown structure that identifies all major activities.
- Scheduled duration for each activity.
- Linkages between activities that clearly identify sequence, floats and critical path.
- Simultaneous activities shall be identified as well as priority activities.
- Time for each activity.
- A risk assessment schedule with mitigating plans of issues that could prevent the due completion date being met.

Should the Employer require an electronic version of the programme for review purposes, the Service Provider shall supply the programme in a format compatible with the Employer's software.

Throughout the development of the project design the Service Provider shall consider the constructability of the design which shall also be reflected in the programme. Typical aspects and/or constraints that should be considered (but not limited to) are traffic volumes, time of day/year, work space, weather, safety, environmental issues and land acquisition issues.

C3.4.13 Detailed Design Report

A detailed design report shall be submitted for discussion at the progress meeting. This report shall, as a minimum, cover all the duties as specified under Detail Design including:

- Deviations from standards, e.g. geometric, drainage, road classification, structures, etc.
- Geometric and capacity improvements
- Existing versus proposed X-section
- X-section development strategy – 20 years
- Intersection/interchange improvements
- Outcome of interaction with stakeholders
- Relocation of services
- Existing pavement condition and accepted pavement design
- Materials utilisation
- Geotechnical improvements
- Road furniture improvements
- Additional land requirements
- Drainage improvements
- New structures and any capacity improvements to existing structures (which includes bridges, major culverts, lesser culverts, walls, gantries, light masts and buildings)
- Comprehensive report on Land Acquisition (where the report shall *inter alia* report on the risks associated with gaining timeous access to the land required)

C3.4.14 Phase/Stage Discontinuity

Whenever discontinuity occurs between various design phases within the design development stage, the Service Provider shall review the design of the Service Provider who undertook the previous phase design. The Service Provider shall also take account of any other information and data acquired from its own approved investigations. Should the Service Provider be required to re-design certain portions of the previous phase, the Service Provider shall take full liability for that portion.

Whenever discontinuity between design development stage and/or tender documentation stage and/or contract administration and monitoring of the works stage occurs:

- The Service Provider shall review the design of the Service Provider who undertook the design development (the designer) taking account of any other information and data acquired from its own approved investigations. Should the Service Provider be required to re-design certain portions of the original design the Service Provider shall take full liability for that portion.
- The designer will be afforded the opportunity to review the final tender documentation compiled by the Service Provider. This is done in recognition of the designer's ongoing liability for the design and providing the protection to review and comment on the original design and specifications still being appropriate for the prevailing circumstances and/or conditions. In addition, the designer will be provided the opportunity to inspect the construction works periodically to ensure his/her professional obligations are not being compromised. Any visit shall be in the company of the Service Provider appointed for construction monitoring. The frequency of any such inspections shall be appropriate to the scope and scale of the Works.

C3.4.15 Measurement and Payment

The duties in clause C3.4.5, C3.4.6 and C3.4.7 will be paid for under the percentage fee tendered in **STAGE 3A- DESIGN DEVELOPMENT-PRELIMINARY DESIGN and STAGE 3B-DESIGN DEVELOPMENT DETAIL DESIGN.**

Payment will be made on a pro rata basis until all obligations are met.

Payment for the rest of the duties in this chapter will be negotiated when the contract is concluded with the Service Provider.

C3.5 TENDER DOCUMENTATION

C3.5.1 Scope

This section covers the requirements and process for the compilation of tender documentation and invitation to tender for the Works Contract.

C3.5.2 Tender Documentation

The following documents shall form the Tender Documents for the Works Contract:

- i) **VOLUME 1:** The FIDIC Conditions of Contract for Construction, 1999 issued by the International Federation of Consulting Engineers (to be purchased separately by tenderers).
- ii) **VOLUME 2:** The Standard Specifications for Road and Bridge Works for South African Road Authorities (Draft Standard October 2020 edition) prepared by the Committee of Transport Officials, (COTO), as amended.
- iii) **VOLUME 3:** The Project Document, which includes Conditions of Tender, Particular Conditions of Contract, Scope of Works and Forms, all in accordance with the Employer's standard proforma document.
- iv) **VOLUMES 4 and 5:** Books of Construction Drawings for tender purposes (if required).
- v) **VOLUME 6:** Materials Investigation and Utilisation Information (if required by the Employer to be bound separately)
- vi) **VOLUME 7:** Environmental Management Programme (if required by the Employer to be bound separately).

C3.5.3 Compilation of Final Tender Document

The Service Provider shall adhere to the following process:

- i) Compile and submit all relevant draft tender documentation for the purpose of discussion with the Employer.
- ii) Subsequent to discussion of the draft documentation, the Service Provider shall:
 - compile final documents incorporating all the amendments arising therefrom the discussion;
 - compile and write the requisite number of complete sets of document on CD's/DVD's with the standard cover detail imprinted on the CD/DVD as well as the CD/DVD case
 - prepare the requisite number of paper copies of the complete set of the tender document;
 - deliver the CD's/DVD's and paper copies to the Employer's regional office before the tender document availability date specified in the Tender Notice and Invitation to Tender.

In the event where draft documentation is of sub-standard/poor quality, the above-mentioned process will be repeated. In such circumstances the additional time spent by the Employer shall be paid for by the Service Provider as specified under Additional Duties.

C3.5.4 Tender Advertisement

The Service Provider shall prepare the tender advertisement and submit to the Employer who will place the tender advertisement with the relevant organisations.

C3.5.5 Measurement and Payment

The duties in this Chapter will be paid for under the percentage fee tendered in STAGE 4- TENDER DOCUMENTATION.

Payment will be made on a pro rata basis until all obligations are met.

C3.6 CLARIFICATION MEETING, TENDER PERIOD AND TENDER EVALUATION

C3.6.1 Scope

This section covers the requirements and process for the Contractors' clarification meeting, tender period and evaluation of tenders received for the Works Contract.

C3.6.2 Clarification Meeting

- i) The Service Provider shall prepare a tender presentation of the scope of the works for a clarification meeting and submit to the Employer's Procurement office for uploading onto the Employer's website, for prospective tenderers for the Works Contract in accordance with the Employer's standard requirements, which shall, inter alia, include the following: Presenting an agenda for the meeting.
- ii) Introduction of the team, including the Employer's Project Manager and Procurement Officer, the Service Provider's personnel, other Stakeholders, if any (for example, Provisional Government Officials, members of the PLC and the PLO).
- iii) Describing the Conditions of Tender and Tender Data.
- iv) Describing the Conditions of Contract and Contract Data.
- v) Describing the Works with as much detail as is required for specific items or operations.
- vi) Describing important aspects of the project, e.g. limits of the Contract, location of borrow pits/quarries, bridge sites, display of core samples, etc to provide a holistic overview.
- vii) Announce any amendments made to the tender documents.
- viii) Providing an Employer's email address for submission of any clarification questions.
- ix) The estimate for the cost of the Works shall not be divulged.

C3.6.3 Tender Period

The Service Provider shall in all cases only communicate, through the Employer, with all tenderers during the tender period in accordance with Conditions of Tender for the works contract. The actions below need to be followed:

- Compiling for distributing by the Employer minutes of the clarification briefing as an addendum at least 10 (ten) working days before the date and time of tender closure.
- Attending to any technical queries or points of clarification requested by tenderers by providing questions and answers to the Employer for distribution as part of any addenda.
- Compilation for distribution, by the Employer and confirmation of receipt by all tenderers of any addenda to the Tender Document.
- Informing and obtaining approval from the Employer of any unresolved enquiries, potential alternative proposals of which notice has been received from tenderers and changes to date for submission of tenders.

C3.6.4 Tender Opening and Tender Evaluation

The Service Provider shall be invited to the opening of tenders for the Works Contract that shall take place via live streaming. The Employer will conduct the compliance of all tender responses and identify all responsive tenders. The Employer will issue copies of the responsive tenders electronically to the Service Provider, including the Compliance evaluation report.

The Service Provider shall evaluate all responsive tenders received from the Employer and compile a consolidated Tender Evaluation Report for submission to the Employer. During tender evaluation, the Service Provider shall:

- Conduct the technical and financial analysis and risk assessment of postulated tender as well as alternative tenders.
- Advise tenderers, in terms of Conditions of Tender through the Employer of any arithmetical, or other corrections made to errors in the extension of rates and/or totals in their tenders and the effect of such corrections and receive written acceptance of such corrections.

- Identify imbalanced rates and request acceptable explanations and/or adjustments thereof in terms of Conditions of Tender through the Employer, which shall be taken into account in the tender evaluation process.
- Make available to the Employer (SANRAL Head Office – W Lategan) 1 (one) electronic copy of the Pricing Schedule of the lowest 2 (two) responsive tenders.

The Service Provider shall, during the tender evaluation, liaise closely with the Employer with respect to any possible disqualification of tenders or issues of a substantive nature identified prior to submission of the Tender Evaluation Report.

The Tender Evaluation Report shall conform to the requirement of the Employer's proforma document with respect to content and format. One (1) electronic copy of the Tender Evaluation report shall be submitted to the Employer on or before the date specified in Clause C3.1.8 **It is important to note that the evaluation of tenders and the compilation of a tender Evaluation Report will be on a similar SANRAL project from another Service Provider, in the case where the Service Provider compiled the tender documents for the Works Contract.**

C3.6.5 Contract Documents for the Works

The Service Provider shall, within 14 (fourteen) days of the date of the Letter of Acceptance, prepare and courier 2 (two) sets of contract documents for signature. These documents shall be prepared in accordance with the requirements listed in the Employer's proforma document. One (1) electronic copy in pdf format of a fully signed (by all parties) contract shall also be submitted. The number of additional sets of contract documents for use by the Engineer and his site staff shall be at the discretion of the Service Provider.

The following shall be bound at the back of Volume 3, or bound together as a separate volume together with a table of contents:

- (i) all addenda issued, together with proof of receipt, completed and signed by the successful tenderer;
- (ii) all letters, statements and documents submitted by the successful tenderer with his tender;
- (iii) all correspondence between the Service Provider and the successful tenderer prior to tender acceptance;
- (iv) the Employer's Letter of Acceptance of tender; and
- (v) the contractor's Letter of Acceptance, including any conditions.

The contract documents shall comprise all the documents mentioned above, together with Volumes 1 and 2 and the performance guarantee, which shall remain separate documents.

The Engineer shall assess the performance guarantee provided by the Contractor for conformance with the proforma working in the tender documentation and if satisfied, shall thereafter submit it to the Employer for safe keeping.

C3.6.6 Measurement and Payment

The duties in clauses C3.6.2, C3.6.3 and C3.6.5 will be paid for under the percentage fee tendered in STAGE 5: CLARIFICATION MEETING, TENDER PERIOD & TENDER EVALUATION

Payment will be made on a pro rata basis until all obligations are met.

Payment for the rest of the duties in this chapter will be negotiated when the contract is concluded with the Service Provider.

C3.7 ADMINISTRATION AND MONITORING OF THE WORKS CONTRACT

C3.7.1 Scope

This section covers the duties and obligations of the Service Provider in the provision of the Engineer and site supervisory staff for the administration, construction monitoring and measurement of the Works carried out by the Contractor appointed by the Employer during the original Works Contract duration, extended duration and including prolonged site stoppages not under the control of the Employer (i.e. Business Rescue or Community unrest).

C3.7.2 Standards

The Service provider shall administer and monitor the Works Contract in accordance with the following requirements and guidelines:

- Government legislation.
- The Contract Documents as issued for the Works Contract.
- The Employer's manuals of procedures and guidelines.
- Current industry good practice.

C3.7.3 Administration and Monitoring

(a) Fulfilling the functions of the Contract Engineer (CE)

The appointed Engineer for the project shall be that person listed in the tender, who shall be authorized by the Service Provider to carry out the work intended by the specifications and the duties required by the FIDIC general conditions of contract. Any alternative person to that offered in the tender shall possess similar competencies and experience and shall only be approved by the Employer if such alternative offer is as a result of genuine unforeseen circumstances.

The approved Engineer for the project shall be authorized by the Service Provider to carry out the work intended by the specifications and the duties required by the FIDIC general conditions of contract.

Towards the latter part of the Administration and Monitoring phase, the Assistant Contract Engineer (ACE) (if any), shall be afforded the opportunity to act as Contract Engineer (CE) in order to gain experience in this position, to assist in qualifying in this position in future contracts.

The duties of the Engineer shall be in accordance with the Employer's standard requirements and shall, *inter alia*, include:

- i) Conduct meetings with affected communities and relevant forums, if necessary, to establish communication channels and to determine issues impacting on the construction phase.
- ii) Appointment of suitable, able and competent site staff, together with the administration of such staff (including those of any independent service provider/s as approved).
- iii) Arranging and attending monthly site meetings and keeping minutes of such meetings.
- iv) Making arrangements on behalf of the Employer for the provision and reproduction of such drawings and documents as may be required by the contractor and site staff for the execution of the works.
- v) Fulfilling all functions and obligations stated or implied for the Engineer, and delegated to the Engineer's Representative, in the Employer's Particular Conditions of Contract, Standard Specifications or Scope of Works or any other document applicable to the control and administration of a works contract.
- vi) Issuing instructions to the Contractor, co-coordinating and generally inspecting the execution of the Works for compliance with the contract at such intervals as appropriate for the purpose of the proper inspection of the works, directing site staff and delegating the detailed and day-to-day supervision/inspection of the works and site administration.
- vii) Advising the Employer regarding the inspection and testing of such materials and plant as are usually inspected and tested and arranging for such inspection and testing to be carried out in accordance with current appropriate codes, manuals and guidelines.
- viii) Arranging for the carrying out of performance or acceptance tests and surveys as required by the Employer. With the release of the SARDS, the Service Provider will be required to follow the standard workflow within SARDS to determine the number and locality of acceptance testing

- required for each lot. The data will need to be uploaded into the SARDS portal by Service Provider as per the SARDS interface and then analysed using SARDS.
- ix) Ensure regular inspections by the design specialists for all work on the project.
 - x) Approve all materials and or surfacing designs as may be required.
 - xi) Actively manage, report and assist the Contractor on training, development and empowerment programmes committed to by the Contractor in relation to his tendered Contract Participation Goals. Reporting and signing off on monthly basis the mentorship programme for Targeted Enterprises provided by the Contractor and ensuring that all needs of the Targeted Enterprises are recorded monthly and dealt with as the need arises. The monthly report shall be agreed with the Targeted Enterprises which shall also be signed by each Targeted Enterprise undergoing mentorship. Monitor and report monthly on training, empowerment, capacity building, development of Targeted Enterprises, labour and staff returns, and any such aspects on the Employer's ITIS Project Information Module. Separate allowance for payment for this duty has been made in the Pricing Schedule.
 - xii) Monitor and report on conformance to all relevant Environmental legislation and requirements.
 - xiii) Monitor and report on conformance to all relevant Occupational Health and Safety legislation including regular internal audits to be conducted by the Service Provider's nominated specialist, arrangement for visits by the designer at identified critical phases of construction and recording/reporting of Section 24 incidents.
 - xiv) Checking and controlling of quantities measured and agreed by the Contractor and the site supervisory staff and settling any disputes that may arise in this regard. With the release of the SARDS, the Service Provider will be required to follow the standard workflow within SARDS for controlling of quantities measured.
 - xv) Issuing certificates electronically to the Employer for payment to the Contractor in accordance with the conditions of contract.
 - xvi) Review and analyse claims and/or disputes or differences that may arise between the Employer and Contractor. Present to the Employer the Engineer's ruling on a claim and/or dispute.
 - xvii) Issuing Works Authorisations, as agreed with and approved by the Employer.
 - xviii) Provide the Employer with progress and other reports on all aspects of material importance regarding the Works.
 - xix) Identification of risks to the Employer under the Works Contract, as well as communicating mitigations measures to the Employer.
 - xx) Perform bridge and/or culvert inspections on all major structures receiving upgrades or repairs under the project before the Taking-Over Certificate. Any defects for which the contractor is responsible, shall form part of the contractor's snag list for correction within the 28 (twenty-eight) day period allowed. The updated inventory information and structures principle inspection data of these structures must be captured on the Employer's ITIS system before the issue of the Taking-over Certificate of the works using the ITIS desktop capturing system. Confirmation that all the data has been correctly captured in the Employer's ITIS system shall be confirmed in the Service Provider's Construction Report. Failure to update the data in ITIS will result in penalties as specified in the Contract Data.
 - xxi) Provide the Employer within 3 months of issuing the Taking-over Certificate of the works with such draft construction reports, materials as-built records, as-built plans and all other documents normally associated with contract administration. The final reports/records shall be provided within 1 month of the issue of the Performance Certificate for the Works contract.
 - xxii) Certain construction monitoring duties may be delegated to Engineer's representative (RE).
 - xxiii) Receive the contractor's proposed programme, analyse it, comment on it and when found acceptable write to the contractor stating that the programme is acceptable.
 - xxiv) Conducting interim monthly performance evaluations on the Contractor and a final written and signed report to be submitted to the CIDB as gazetted.
 - xxv) Training Assistant Contract Engineer (if applicable).
 - xxvi) Declare structures (bridges, culverts, roads, sections of roads, etc.) safe for use in writing before it is opened for public use.
 - xxvii) Capturing the tendered rates or balanced rates of the successful contractor and also the tendered rates or balanced rates of the contractor scoring the second highest points to the COTO rates database in ITIS.

(b) Head office administration

The Service Provider shall supply sufficient head office administrative support to the site personnel to ensure efficient and timeous administration of the Works Contract.

The Service Provider shall furthermore be responsible for the safe keeping of all original documentation related to the different phases of the project, for a period of at least 5 (five) years after the defects notification period. No additional payment will be made for this.

(c) Occupational Health and Safety obligations

The Service Provider shall execute the duties of the employer, as his appointed agent, as contemplated in the Construction Regulations (2014) to the Occupational Health and Safety Act (Act No. 85 of 1993).

The Service Provider shall arrange, formally and in writing, for the Works Contractor to provide documentary evidence of compliance with all the requirements of the said Act. The Service Provider shall also carry out regular site audits to ensure compliance thereto. Should the Service Provider not have "in-house" capacity to undertake such duties, an external recognized specialist shall be appointed. This individual needs to be registered with the SACPCMP as a Professional Construction Health and Safety Agent or a Construction Health and Safety Manager. Provision for payment for all OHS obligations during the construction phase has been included in the Pricing Schedule.

d) Monthly Technical and Site Meetings

The appointed Engineer for the project shall visit the site at least 2 (two) times per month (excluding the contractor's annual shut-down period in December and January) on **separate** occasions. One visit shall be scheduled for the Technical Meeting with a thorough site inspection with the Contractor and the Engineer's representative. A second visit shall be scheduled for the monthly Site Meeting with a thorough site inspection with the Contractor and Employer's representative.

e) Compilation of monthly materials and laboratory report

The appointed engineer shall be responsible for the compilation of monthly materials and laboratory reports. These reports shall be in accordance with the Employer's guideline documents. The site laboratory Service Provider must supply the necessary information to be included in the report, but it will be the sole responsibility of the engineer to ensure that the information provided is true and correct. These reports shall be submitted to the Employer's relevant Project Manager on a monthly basis, for the duration of the works contract. The reports shall be submitted in hard copy format. The reports shall reach the Employer by no later than the 7th of the month. No additional payment will be made for this.

f) Site visits by design specialist(s)

The appointed design specialist(s) for the project shall visit the site to comply with the Construction Regulations of the Occupational Health and Safety Act (No 85 of 1993) as relevant for the design of the Works during the construction phase as well as the designer's obligations with respect to the relevant professional engineer's legislation. Furthermore, the design specialist(s) shall as a minimum attend the construction of trial section including inter alia, stabilization trials, base construction trials and final surfacing trials. The design specialist for structures shall visit the site at least once a month whilst construction of the new bridge and the widening of the existing is in progress and whilst remedial works to existing structures is being carried out. It is also expected during the initial foundation stage of structures that the founding material (including for piles) for major culverts and bridges shall be inspected by an experienced geotechnical engineer. This means that for all major structures it is expected that the geotechnical engineer will do the initial approvals of foundation founding material on a monthly basis or more often as required.

(g) Assistance at Clarification Meeting, Tender Period and Tender Evaluation of sub-contract packages

The Service Provider shall be required to assist the contractor with regards to the procurement of sub-contractors to comply with Part D of the Construction Contract.

h) Fulfilling the duties of the Senior Materials Technician/Materials Technician

The duties of the Senior Materials Technician/Materials Technician shall be in accordance with the Employer's standard requirements and shall, inter alia, include:

- i) Work in a close relationship with the laboratory including having regular discussions with the laboratory manager about the condition, progress and standard of the laboratory;
- ii) Conduct regular laboratory inspections and report and draft report;
- iii) Act as liaison between the Engineer's Representative and the laboratory;
- iv) Advise the Engineer's Representative where the laboratory does not comply with the contractual and technical requirements;
- v) Prepare and sign-off materials mix and seal designs or any other relevant matter for submission to the Engineer's Representative;
- vi) Verify the requests for lot approval submitted by the contractor and ensure the tests requested are in line with the lot submitted; With the release of the SARDS, the Service Provider will be required to follow the standard workflow within SARDS to determine the number and locality of acceptance testing required for each lot.
- vii) Ensure the laboratory is granted sufficient time for sampling with regards to every request received;
- viii) Keeps track of submission time for laboratory results; With the release of the SARDS, the Service Provider will be required to follow the standard workflow within SARDS to determine the number and locality of acceptance testing required for each lot;
- ix) Receive and verify all the test results from the laboratory manager; With the release of the SARDS, the Service Provider will be required to follow the standard workflow within SARDS to verify all tests.
- x) Sign-off test reports and make recommendations for approval or rejection; With the release of the SARDS, the Service Provider will be required to follow the standard workflow within SARDS to approve or reject tests;
- xi) Inspect works daily which shall inter alia include materials sources, layer works, structures and any other materials related to items on site;
- xii) Do visual inspections on materials in lots submitted for approval;
- xiii) Inspect all trial sections constructed and complete as well as record trial section checklists;
- xiv) Populate progress sheets linking test requests with the position on layer works; With the release of the SARDS, Service Provider will be required to follow the standard workflow within SARDS to identify test locations.
- xv) Draft the monthly materials and laboratory reports;
- xvi) Keep As-Built data up to date; With the release of the SARDS, Service Provider will be required to follow the standard workflow within SARDS to automatically update as-built data.

C3.7.4 Establishment of supervisory personnel on site

a) Supervisory team

The Service Provider shall be required to provide a team on site to monitor, administer and measure the Works in accordance with the requirements of the Works Contract, Employer's standard requirements and industry good practice.

Provision has been made for the envisaged staffing requirement. The establishment of such staff, however, shall be subject to the approval of the Employer. For the envisaged scope of the Works, the supervisory team will consist of at least the following:

(Note to compiler: Amend as appropriate to the scope of works but allow for ARE and Trainee Technician on all projects for training purposes. Furthermore, choose between Senior Material Technician and Materials Technician depending on complexity of project. Consideration should also be given to include some of the Targeted Enterprise staff as trainees in some of the positions. Consideration should also be given to allow sufficient funds for site staff salaries to include any possible mobilisation period.)

- i) Resident Engineer
- ii) Assistant Resident Engineer/s
- iii) Senior Materials Technician
- iv) Materials Technician
- v) Trainee Technician
- vi) Surveyor - full time
- vii) Survey assistant/s
- viii) Surveyor team (part time)
- ix) Trainee (student)

- x) Project Liaison Officer
- xi) Administrative Assistants (data capture)
- xii) Mentors/Coaches for Targeted Enterprises (sub-contractors)

The minimum requirements for qualification and experience of the supervisory team are specified in Clause C3.1.10.

Provision has been made to cover the total annual cost of employment (TACE) of the supervisory staff which shall include the following:

- i) Basic salary.
- ii) Other benefits not reflected in the basic salary, which may include:
 - normal annual bonus (maximum of one month's salary or part thereof if contract is less than 1 (one) year) but excluding any performance bonuses or merit bonuses;
 - consulting firm's contribution to medical aid;
 - group life assurance, accident and disability insurance;
 - pension/provident fund contributions by the consulting firm;
 - allowances forming part of the remuneration package which are pensionable (car allowances, etc.);
 - computer and cell phone allowance if part of package; and
 - other justifiable costs and allowances approved by the Employer.
- iii) costs payable due to all applicable statutory requirements such as:
 - Workmen's compensation fund contributions;
 - Unemployment insurance contributions; and
 - Other applicable statutory levies.

A standardised site staff overhead factor of 1.44 will be applied to the TACE of the supervisory staff (excluding the surveyor and his assistants, trainee (student) and Project Liaison Officer) which is made up as follows:

Description	Site staff overheads
Salaries (Technical) TACE	1.00
Salaries (Non-technical) TACE	0.24
Telephone and communication	Negotiated Item
Rental of premises, electricity, water	Provided by Client
Transport not recovered from project	Pay item
Paper, stationary, consumables	Negotiated Item
Audit, bank charges, interest, insurance	0.08
Marketing	0.02
Office equipment	Negotiated Item
Training and development	0.02
Project direct expenses not recoverable	0.08
Head Office expenses	Tendered fee
Net Overhead Factor before profit	1.44

Provision has also been made in the Pricing Schedule for additional overhead costs related to the employment of the relevant personnel, which may include the following:

- overtime by salaried professional and semi-professional staff (qualified Engineers, Technologists and Technicians) and all such other staff for which overtime is not payable in terms of the Labour Act;
- ordinary leave and sick leave (one month);
- administration related to salaries, legislation, etc.; and
- other overhead expenses and profit.

Replacement of staff as a result of any extended period of leave or sick leave outside the normal contractor's year end break shall be to the approval of the Employer.

Three (3) months prior to the commencement of the works contract the Service Provider shall submit for consideration and approval to the Employer a detailed proposal in the Employer's prescribed format which shall include a CV of appropriate experience and qualifications as well as a cost estimate (including salary adjustments/increases) for each required and/or proposed person on the Employer's E1K and E2K forms. In addition, the Service Provider shall also complete Returnable Schedule Forms B1 and B2 for at least the Resident Engineer (RE), the Senior Materials Technician (SMT) and the Materials Technician

(MT) for evaluation. Amongst other evaluation criteria to be used, shall be the individual threshold of 80%, for each of the above-mentioned site staff.

The annual salaries for those approved staff shall be substantiated by an auditor's certificate at the start of the project and whenever salary or staff changes occur thereafter. Prior approval is required for any salary adjustments/increases which shall be in line with CPI.

Survey services may be required on either a full time or part time basis as appropriate for the scope of the Works.

Where provision has been made, the surveyor shall be appointed as a sub-Service Provider and procured directly by the Service Provider in terms of Clause C3.1.23 The Service Provider shall enter into a sub-service agreement with the surveyor. The terms of reference with regards to the survey service on site shall be based on the requirement of the Employer as set out in Chapter 10 of Technical Methods for Highways TMH11: Standard Survey Methods.

The Employer shall be entitled to instruct the Service Provider to remove forthwith from the Works any person employed by the Service Provider on or about the execution of the Works who, in the opinion of the Employer, misconducts himself or is incompetent or negligent in the proper performance of his duties, or whose presence on site is otherwise considered by the Employer, on reasonable grounds, to be undesirable.

b) Relocation of site staff

Provision has been made in the Pricing Schedule for the costs to relocate the supervisory team to site.

c) Accommodation

Appropriate housing for the supervisory team will be required to be provided by the Service Provider. A provisional sum has been allowed in the Pricing Schedule for this purpose. Accommodation of the site staff shall be located as near to the Works as practically possible.

In the event that the contract period does not justify full relocation of staff and families, the Employer may approve temporary accommodation such as a bed & breakfast establishment in lieu of rented housing. In such approved instances, only the basic accommodation costs (excluding meals) will be payable under the Works Contract. Any allowances for services, etc. shall be approved beforehand by the Employer.

Where site staff elect to occupy their own housing and approved by Employer, payment will be made in accordance with the table below.

Table C3.7.4: Monthly accommodation allowance rates (April 2022)

ANNUAL BASIC SALARY	AREA IN WHICH HOUSING UNIT IS LOCATED	
	OTHER	METROPOLITAN AREAS
Up to – R130 000	R 3 628	R 4 180
R130 000 – R260 000	R 4 597	R 5 494
R260 000 – R500 000	R 5 635	R 7 061
R500 000 and over	R 6 731	R 7 987

NOTE:

- The amounts in this table are fixed for 1 (one) year only (April-March of each year) regardless of the Stage of the Project. The Employer may publish revised amounts on a yearly basis.

d) Establishment of site office

Provision for the erection and maintenance of a site office building and all related services will be made under the Works Contract. The Service Provider shall, however, provide sufficient office equipment to perform all required duties for the monitoring of the Works Contract. This shall, *inter alia*, include the following:

- all cell phones,
- safety equipment in accordance with the OHS requirements, e.g. safety jackets, rotating amber lights, safety boots, etc.
- photo copiers, fax machines, modems, personal computers and printers (including all hardware and software)
- consumables and stationery
- digital camera

One (1) landline, including rental, call and data costs for work related office and fax usage shall be provided through the Works Contract. Should fixed connectivity not be available mobile connectivity with data shall be provided through the Works Contract.

Provision has been made in the Pricing Schedule for supplying the equipment as well as the monthly operational costs thereof.

In addition, the Resident Engineer as his/her assistants shall be equipped with mobile phones for the Employer's ITIS mobile application, with the following minimum specification:

- Operating system: Android or higher
- Camera resolution: 5 Meg pixels or greater – 8MP recommended
- Screen resolution: 480 x 800 pixels or greater
- GPS facility: Yes, with geo-tagging for images
- Data connection: 3G or greater

C3.7.5 Monitoring of the Works Contract

The Service Provider shall ensure that all the work required under the Works Contract is carried out in accordance with the specifications and current best practice and shall include effective financial control. Construction monitoring shall be carried out in a pro-active manner and in accordance with the Employer's standard requirements and current best practice.

The Service Provider shall be responsible for the normal duties associated with the management and supervision of a works contract, which duties shall, *inter alia*, include:

- Monitoring and reporting of the Contractor's programme.
- Implement Engineer's quality control plan.
- Monitor Contractor's quality control plan.
- Site audits, inspection, quality control testing, approval, rejection of work. With the release of the SARDS, the Service Provider will be required to follow the standard workflow within SARDS with regard to quality control.
- Measurement and certification of completed work inclusive of cash flow forecasts.
- Management of ITIS software which includes the following modules:
 - contract module: contract management
 - project information module: uploading of data including personnel and employment data
 - structures module: update inventory report of the structures
- Provide a final cost estimate for the work contract on a monthly basis, including estimated costs of claims.
- Regular Site Meetings with Contractor and Employer.
- Monitoring of the third party claims.
- Monitoring and reporting of Contractor's CPG commitments through ITIS.
- Supervision of traffic accommodation arrangements.
- Statutory control functions, which may include investigations into the legality of services and accesses without formal wayleave agreements and assist with the application for approval where required.
- Attend Project Liaison Committee (PLC) and Project Management Team (PMT) and all other meetings relating to the Targeted Enterprises and Targeted Labour.
- Monitoring and reporting of the project's EMP and NEMA requirements.

- Implement the Engineers requirements in terms of compliance with the OH&S Act.
- Monitor the Contractor's compliance with the OH&S Act.
- Compile all reports and as-built data in accordance with the Employer's standard requirements. With the release of the SARDS, the Service Provider will be required to follow the standard workflow within SARDS with regard to as-built data capture.
- Perform a complete bridge and/or culvert inspection according to the Employer's requirements on all structures that underwent upgrading, rehabilitation or repairs (excluding replacement of bridge joints). Such inspection(s) should be performed by a SANRAL accredited bridge or culvert inspector for bridges and major culverts respectively. A fully updated inventory report of the structure(s) must be electronically captured online, using the prescribed capturing tool that can be downloaded from the Employer's website, on the Employer's ITIS system. For Capex projects all bridges and major culverts must be inspected and approved by the Employer before the issue of Taking-over-Certificate. This includes bridges and major culverts even if work was not done on the structures. Those structures that have been demolished shall be marked as demolished. The full list of structures is as listed in the Appendix. Any structures that are not on the list shall also be inspected, including new structures.

Separate allowances have been made for the duties during an extended Works Contract duration or during prolonged site stoppages (i.e. Business Rescue or Community unrest).

C3.7.6 Transport for site supervisory staff and additional services

The Service Provider shall provide sufficient appropriate vehicles on site to carry out the duties as specified in clause C3.7.4 and C3.7.6. Only travel in the execution of these duties, as well as any other travel necessary as a result of any additional duties as ordered by the Employer, shall be claimable. Estimated travel costs as a result of week-end travel by site staff to their place of permanent residence shall be approved beforehand by the Employer.

Travel log sheets for each vehicle utilised shall be certified by the Engineer and included under cover of the payment certificates submitted to the Employer. The kilometre rate for all travel in excess of 4000 kilometres per vehicle per calendar month shall be reduced and paid for at 60% of the rate.

The vehicle type for all supervisory staff (including PLO) shall be limited to a Category A and B with an 1800 Engine Volume cc, except for the surveyor, who shall be limited to a 2501 Engine Volume cc. In exceptional cases the Employer may consider a different category vehicle and/or engine volume.

Fuel rates can be downloaded monthly by following the link:

<https://www.transport.gov.za/web/departments-of-transport/roads>.

C3.7.7 Project Liaison Officer (PLO)

The PLO is a person who acts as the liaison officer for the PLC and PMT.

The PLO shall facilitate the employment of Targeted Labour and shall coordinate communication between the PMT and the PLC to address the day-to-day project, Stakeholder and community matters that impact on the parties to the project.

The Standard TOR for PLOs requires of the PLO to execute specific duties during each stage of the project, i.e. from project initiation to project completion. Some of these duties overlap project stages and hence, a full description is provided here.

The PLO shall execute the following duties:

- i) Except for taking the minutes of PLC meetings, which is a duty of the Engineer or his representative, the PLO shall provide a secretarial function to the PLC which includes, amongst others, the following:
 - a. Schedule meetings;
 - b. Compile meeting agendas;
 - c. Compile document packages for meetings;
 - d. Distribute minutes of meetings;

- e. Assist PLC to formulate their communication in writing;
- f. Distribute written communication to and from the PMT and the PLC;
- g. Keep records of all the above and any other PLC documentation; and
- h. Provide any other reasonable secretariat function pertaining to the PLC.
- ii) Attend all PLC meetings to report on the day-to-day project, Stakeholder and community matters that impact on the parties to the project.
- iii) Attend all monthly site meetings to report on the day-to-day project, Stakeholder and community matters that impact on the parties to the project.
- iv) Attend any other meetings related to the project and in which any of the project Stakeholders, affected communities, Local/Targeted Labour and Local/Targeted Enterprises are involved.
- v) Maintain a full-time presence on site to monitor and address the day-to-day project, Stakeholder and community matters that impact on the parties to the project.
- vi) Maintain a full-time presence on site to assist the PMT in the day-to-day liaison with project Stakeholders and affected communities. Typical information to be disseminated by the PLO includes:
 - a. Basic scope of works and how it will affect the community;
 - b. Project programme and regular progress opportunities;
 - c. Anticipated employment and sub-contracting opportunities;
 - d. Project programme as it pertains to the employment of Targeted Labour and sub-contracting of Targeted Enterprises;
 - e. Occupational Health and Safety precautions; and
 - f. Any other information relevant to project Stakeholders and the affected communities.
- vii) Be well acquainted with the contractual requirements as it pertains to Targeted Labour employment and training requirements.
- viii) Assist the PMT and PLC to establish and agree the eligibility and selection criteria to be followed when employing Targeted Labour.
- ix) Assist the PMT in its resources and skills audits by providing a coordinating function between the PMT, project Stakeholders and the affected communities.
- x) Ensure that Targeted Labour databases, compiled from the resources and skills audits, are based on the agreed eligibility and selection criteria and that it is updated as and when required.
- xi) Coordinate the selection and employment of Targeted Labour based on the agreed eligibility and selection criteria and based on the Contractor's labour requirements.
- xii) Ensure that each labourer enters into an employment contract which adheres to current and relevant labour legislation.
- xiii) Ensure that each labourer understands the conditions of his/her employment with an emphasis on the employment start date, end date and wages payable.
- xiv) Identify and inform the PMT of any relevant training required by the Targeted Labour.
- xv) Attend all disciplinary proceedings to ensure that hearings are fair and conducted in accordance to the current and relevant labour legislation.
- xvi) Be pro-active in identifying PLC, project Stakeholder, affected communities (including Targeted Labour and/or Targeted Enterprise sub-contractor), requirements, disputes, unrest, strikes, etc. and bring it to the attention of the PMT.
- xvii) Assist the PMT to liaise with the PLC, project Stakeholders and the affected communities to resolve any disputes, which occurs due to the project.
- xviii) Other than the document records to be kept as mentioned in (i) above, keep record of all other documents and processes pertaining to the employment of Targeted Labour and any other records that may be of relevance to the functions of the PLC.
- xix) Produce and submit a monthly report to the PMT and the PLC on PLC meetings, other meetings attended by the PLO, Targeted Labour employment, and project Stakeholder, affected community and any other project matters that impact on the parties to the project.

C3.7.8 Measurement and Payment

The duties in clause C3.7.3 will be paid for under the percentage fee tendered in STAGE 6 : ADMINISTRATION & MONITORING OF THE WORKS CONTRACT.

Payment will be made on a pro rata basis until all obligations are met.

Payment for the rest of the duties in this chapter will be negotiated when the contract is concluded with the Service Provider.

C3.8 ADDITIONAL DUTIES, SPECIAL SERVICES AND SPECIALIST ADVICE

C3.8.1 Scope

This section covers additional work, other special services and specialist advice, reporting and other duties, including a dispute process, etc. that the Service Provider may be required to undertake over and above the normal duties and obligations as specified. It also covers the cost of structured engagement with Community Stakeholders and the Project Liaison Committee (PLC), including the development and ongoing maintenance/updating of a Targeted Enterprise and Targeted Labour Database.

C3.8.2 Additional Duties, Special Services and Specialist Advice

a) By the Service Provider

The Employer may order additional duties, special services and specialist advice that fall outside the specified scope. Such additional duties, special services and specialist advice may involve, but not be limited to:

- Additional design requirements
- Additional investigations during the Defects Notification Period
- Diverse other services, etc.
- Establishment and liaison with PLC during Design and Construction Phases
- Establishment and maintenance of databases
- Disputes (including disputes between contractor and sub-contractors)

Allowance is made in the Pricing Schedule for payment on a time basis for any such work that may be required. The level of expertise necessary for any such work shall be concomitant with the issues to be addressed.

Any additional duties, special services and specialist advice shall be fully scheduled and submitted to the Employer for approval prior to the commencement therewith.

b) By the Employer

Additional duties performed by the Employer may involve, but not be limited to:

- re-evaluation of any replacement personnel by the Tender Evaluation Panel
- reviewing of draft documentation submitted more than once

Allowance is made in the Pricing Schedule for payment on a time basis for any such service performed more than once.

C3.8.3 Payment and Monthly Reporting

When submitting interim certificates for payment, the Service Provider shall use the Employer's standard forms and formats. No payment can be made before the Service Provider is registered as a vendor on the Employer's system.

The Service Provider shall submit payment certificates for all work rendered in the Employer's financial year within the specific year.

The Service Provider shall submit and update on a monthly basis a cash flow forecast for the remuneration of the full service to be rendered.

The Service Provider shall use the ITIS platform and modules to perform certain duties and to provide required information as listed in C3.1.16.

This includes using the Employer's different ITIS platforms:

- ITIS Web
- ITIS Desktop
- ITIS Mobile

The current modules applicable to this contract (modules can be running on any of the above platforms) and their description are as follows:

- (i) Contract Module – management of contracts
- (ii) Project Information Module – uploading of employment and training data
- (iii) Structures Module – uploading of structures details

The Service Provider shall use the South African Road Design System (SARDS) platform and modules to perform certain duties and to provide required information. The South African Road Design System provides a comprehensive framework to facilitate the process of pavement design. The process is initiated with the registration of projects at the road authority for tender purpose. Projects listed for tender are open to view by accredited users and these projects are populated with available network level data. The SARDS portal provides convenient viewing capability for design engineers to gain insight into the design requirements of the project.

Once appointed for the design of a specific project, the design engineer is supported with an array of tools through the SARDS portal that incorporates the latest pavement engineering technology.

- (i) Design Investigation A data management system that allows for capturing, viewing and processing of vast volumes of data associated with the design investigation process. Data views are presented in a linear viewer format that is easy to navigate. State-of-the-art data analysis procedures including:
 - Classification of visual condition data using the deduct point system
 - Comprehensive deflection bowl analysis
 - Dynamic homogenous section demarcation using automated change-point detection
 - Point-by-point back-calculation of effective layer stiffness moduli using the latest multi-layer and numerical optimisation routines

A materials information system that:

- Allows for capturing materials test results from existing pavement layers as well as potential external material sources including borrow-pits and commercial sources.
 - Prepares the necessary materials related input for the performance simulation component of the SARDS.
- (ii) Performance Simulation - Combined simulation of structural and functional pavement deterioration using mechanistic-empirical techniques. This also include Economic assessment of different pavement design alternatives with consideration of road authority and road user cost.
 - (iii) Construction Quality Assurance
 - Quality assurance material test units based on TMH1 and the latest SANS 3001 test methods
 - Quality assurance adjudication schemes based on COLTO 8200 and 8300
 - Automated quality assurance and as-built reporting

Failure to fully comply with the duties as listed above may result in payments being withheld and/or termination in terms of Clause 8.4 of the Conditions of Contract.

C3.8.4 Measurement and Payment

Payment for the duties in this chapter will be negotiated when the contract is concluded with the Service Provider.

C3.9 QUALITY CONTROL: WORKS CONTRACT

C3.9.1 Materials

a) Scope

This section covers the requirements for the provision and quality management of a site laboratory established or commercial laboratory to carry out the necessary materials testing and construction quality of the Works.

b) Standards

The Service Provider shall procure a fully operational laboratory and administer the laboratory to undertake the relevant investigative testing as well as process and acceptance control testing in accordance with specified requirements of the Works Contract as well as the Employer's standard requirements. A provisional sum has been allowed in the Pricing Schedule for this service. With the release of the SARDS, the Service Provider will be required to follow the standard workflow within SARDS with regard to administration of the laboratory.

The laboratory shall be a SANAS accredited laboratory or operate under the umbrella of a SANAS accredited main laboratory that shall be responsible for ensuring that all sampling and testing is carried out accurately and strictly in accordance with the relevant test methods as well as the SANAS accreditation requirements.

c) Duties and responsibilities

i) Establishment and operation of the laboratory

Where a site laboratory is required provision for the erection of a laboratory building, together with workbenches, services, furniture etc. will be made under the Works Contract, the planning and documentation for which shall be included in the tender documentation stage.

The Service Provider shall procure the services of a sub-Service Provider for laboratory services via a tender process in accordance with Clause C3.1.23. The successful sub-Service Provider shall be SANAS accredited and able to provide laboratory equipment and competent staff for the operation of the laboratory. The requirements in terms of the laboratory shall be specified in the sub-contract based on the Employer's proforma document. The appointment of the appropriate laboratory shall be approved by the Employer.

The Service Provider shall ensure the supply of such laboratory equipment as necessary to carry out the required testing relevant to the scope of the Works. All equipment shall conform strictly to SANAS accreditation requirements and/or the specifications as listed in the relevant test methods. With the release of the SARDS, the Service Provider will be required to follow the standard workflow within SARDS with regard to administration of the laboratory.

d) Testing of materials off-site

Any testing which may be of such a low frequency as to not warrant the establishment of the relevant equipment and staff on site, or being of a specialised nature, shall be carried out in an off-site SANAS accredited commercial laboratory or the National Reference Laboratory. A provisional sum has been allowed for the costs of this testing.

C3.9.2 Survey

a) Scope

This section summarises the requirements for the provision of a site survey service to carry out the necessary survey quality control on the Works as specified in Technical Methods for Highways TMH11: Standard Survey Methods.

The purpose of this service is to ensure that the works are constructed as designed and specified and the relevant records are kept up to date. In this regard, the service shall provide for, *inter alia*:

- The verification of existing control or the establishment of new control and the supply of the data.
- The verification of all relevant setting out work carried out by the contractor.
- The verification that the works are constructed within tolerances specified.
- The verification of relevant quantities for measurement purposes.
- The checking of designs from a setting out point of view.
- The verification of construction records (as-built data).
- To undertake any survey work as required by the Engineer.

b) Standards

The service shall be undertaken in accordance with TMH11 requirements, COTO Standard Specifications and Project Specifications.

c) Staking of Road Reserve fence positions

Before any fence is erected or replaced under the contract, the correct position of the fence must be verified by the Employer's PSP.

All requests for verification of the road reserve must be done via the Regional survey representative. Such a request must include the following information:

- Route and section
- Start and end as per blue marker boards
- Anticipated date when work will commence
- Contact person on site and his/her contact details

d) Procurement of the Survey Service

The Service Provider shall procure the services of a sub-Service Provider for survey in accordance with Clause C3.1.23.

e) Independent Survey Audits

As site supervision survey is a specialised function, the Employer may wish to appoint an independent audit surveyor for each site or the audit surveyor may be assigned a number of sites under his supervision.

The audit surveyor shall liaise with the Resident Engineer and conduct monthly audits with the surveyor to:

- Satisfy the audit team that all the required functions have been attended to.
- That suitable equipment is used to undertake this function.
- That the equipment claimed for as part of the quality control function is on site and in good working condition.
- Check survey procedures and methodology utilised on site.
- Check the processing of survey data.
- Check frequency of checks undertaken and the results obtained.
- Check the efficiency of the data submitted for control purposes.
- Evaluate the standard of recommendations made to the Resident Engineer with regards to all phases of the checked work.
- Check all records and the back-up of records.
- Check the signing off of records and the pointing out of non-conformance.
- Determine how the supervisory surveyor is utilised by the Resident Engineer and whether the Employer gets value for the money spent.
- Provide experiential training specifications, programs and compliance requirements as defined by the relevant academic qualification criteria.
- Provide registration procedures and programs to ensure that trainees are able to achieve registration status with the South African Geomatics Council.
- Attend to training and the implementation of new procedures on site.
- Check training material and report on the quality of training.
- Interview trainees and report on progress.

The audit surveyor will do a monthly audit report that shall be submitted to the Engineer and the Employer.

C3.9.3 Measurement and Payment

Payment for the duties in this chapter will be negotiated when the contract is concluded with the Service Provider.

C3.10 CLOSE OUT

C3.10.1 Scope

This section covers the fulfilling and completion of the project close-out including necessary documentation to facilitate effective completion, hand-over and operation of the project.

The Service Provider shall administer the Works Contract during the period subsequent to the issuing of the Taking-Over Certificate of the Works up to and including the issuing of the Performance Certificate to the Contractor and conclusion of the final payment certificate.

C3.10.2 Taking-over Certificate

Upon a request from the contractor for the Taking-over Certificate (TOC) to be issued in terms of the Conditions of Contract the engineer shall establish compliance with the Works Contract for a TOC to be issued.

The Service Provider shall undertake a full inspection of the Works (which shall include the health and safety aspects as far as reasonably practicable) to identify any outstanding minor works, defects and/or damages for the compilation of a snag list. The inspection shall be undertaken by the Engineer and his representative for the Works.

After the inspection and only when the Engineer is of the opinion that a TOC can be issued, the Service Provider shall arrange an on-site meeting and further inspection with representatives of the Employer, Contractor and RRM Service Provider. At this meeting, parties will be presented with the snag list for consideration. There-after an inspection will follow with all the parties involved to add additional items to the snag list.

After the above meeting the engineer shall re-establish compliance with the Works Contract with involvement of the Employer for a TOC to be issued, failing which the whole process is to be repeated.

The Service Provider shall also complete the updating of all structural inspection (bridges and major culverts) and capture into ITIS (using the capture software) and submit to the Employer for approval before the TOC is issued.

The TOC shall declare the structure (bridges, culverts, roads, sections of roads, etc.) safe for use as required in terms of Construction Regulation 6.1(j).

The engineer's representative shall be present on the site during the period required to complete the items on the snag list and monitor the completion thereof, unless otherwise agreed with the Employer.

C3.10.3 Contractor's CIDB performance evaluation

The Service Provider shall undertake the required performance evaluation of the contractor according to the CIDB's requirements as soon as the contractor requests the issuing of the TOC. The Service Provider shall submit the above to the Employer at the date of issuing of the TOC.

C3.10.4 Construction records (As-builts) and Contract report(s)

The Service Provider shall prepare and submit, in accordance with the Employer's standard requirements, draft construction records reflecting the works as constructed as well as any deviations from the designs as well as a draft contract report(s) providing information on how the contract was executed. Once reviewed and accepted by the Employer the Service Provider shall prepare and submit the final construction records and report(s).

C3.10.5 Performance Certificate

The Service Provider shall undertake a full inspection of the Works to identify any defects and/or damages before the end of the defects notification period. The inspections shall be undertaken by the Engineer and his representative for the Works. Should both of them not be available, the Service Provider shall propose a person having sufficient knowledge of assessing the work for approval by the Employer.

After the inspection the Service Provider shall arrange an on-site meeting and further inspection with representatives of the Employer, Contractor and RRM Service Provider. At this meeting, parties will be informed of the defects and/or damages identified during the inspection. Thereafter an inspection will follow with all the parties involved to identify any further defects and/or damages.

Once identified defects and/or damages are addressed the engineer shall notify the Employer that the Performance Certificate can be issued.

C3.10.6 Co-ordinate and Monitor Remedying of Defects

The Service Provider shall co-ordinate and monitor the remedying of any defects and/or damages identified during the defects notification period.

Prior to the provision of any service under this sub-clause the Service Provider shall submit to the Employer for approval a schedule of personnel necessary to undertake the additional services including a cost estimate. .

C3.10.7 Final Payment Certificate

Prior to the compilation of the final payment certificate the engineer shall ensure that all items on the Employer's checklist are complied with. The signed off checklist shall be submitted with the final payment certificate.

The engineer shall only compile and submit the final payment certificate once the Performance Certificate has been issued by the Employer and all unfulfilled financial obligations have been resolved.

C3.10.8 Extended Guarantees

Where the Service Provider is required to perform services (e.g. inspections after the completion date of the Works Contract) relating to extended guarantees for the Works Contract (e.g. Product Performance Guarantees) separate arrangements for remuneration will be made by the Employer under Additional Duties.

C3.10.9 Measurement and Payment

The duties in this chapter will be paid for under the percentage fee tendered in STAGE 7 : CLOSE OUT.

Payment will be made on a pro rata basis until all obligations are met.

PART C4: SITE INFORMATION

Project site information will be provided when the Contract is concluded with the Service Provider.