



# public works & infrastructure

Department:  
Public Works and Infrastructure  
**REPUBLIC OF SOUTH AFRICA**

Private Bag X65, Pretoria, 0001, Tel (012) 337-2000  
CGO Building, Cnr Bosman and Madiba street, Pretoria 0001

## TENDER DOCUMENT

### INVITATION TO TENDER FOR PROFESSIONAL SERVICES:

#### **SPECIALIST CIVIL ENGINEERING AND GEO-PROFESSIONAL SERVICES**

#### FOR THE PROJECT

**DRMS: PHASE 5: EMERGENCY AND AD-HOC PROPERTY INVESTIGATIONS IN  
SUPPORT OF THE DOLOMITE RISK MANAGEMENT STRATEGY FOR THE  
PROPERTIES OF THE NATIONAL DEPARTMENT OF PUBLIC WORKS**

**WCS: 055 846  
REFERENCE NO:**

**TENDER NO: H20/035 AI**

**APRIL 2021**

**Name of tenderer: .....**

**ISSUED BY:  
THE DIRECTOR-GENERAL  
DEPARTMENT OF PUBLIC WORKS**

Version 7.3 CIVIL ENG tender 2018-04

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The conditions of tender are the standard conditions of tender (January 2009 edition) as contained in annex f of the construction industry development board (CIDB) standard for uniformity in construction procurement

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**DOCUMENT A:**

Example of a Design Level Dolomite Stability Investigation (DSI), complete with Shallow Geotechnical Investigation (SGI) report for the SAPS Potchefstroom Equestrian Centre.

**DOCUMENT B:**

Example of a Phase 2 Footprint Dolomite Stability Investigation (FDSI) for the SAPS Potchefstroom Equestrian Centre.

**DOCUMENT C:**

Example of a Dolomite Status Certificate (DSC) of a property owned by the Department of Public Works.

Note: Listed documents here above (Documents A, B and C) will be available to Tendering Service Providers for viewing at the compulsory tender clarification meeting. Should it be required, said documents may also be viewed at the offices of the Departmental Project Manager (PM) after the date of the compulsory tender clarification meeting, but not later than the advertised tender closing date/time.

**T1: TENDERING PROCEDURES**

**T1.1 Notice and Invitation to Tender**

- T1.1.1 The words “**tender**” and “**bid**” in this document or any documents referred to in this document are interchangeable and are deemed to have the same meaning, similarly the words “tenderer” and “tendering Service Provider” are interchangeable and are deemed to have the same meaning. Unless inconsistent with the context, the masculine gender includes the feminine and neuter genders and *vice versa*, and the singular includes the plural and *vice versa*. In this document, words and expressions signified in the text by the use of capital initial letters, shall have the meanings defined in the Standard Professional Services Contract except where the context otherwise requires.
- T1.1.2 The Government of the Republic of South Africa in its Department of Public Works invites tenders for the provision of **SPECIALIST CIVIL ENGINEERING AND GEO-PROFESSIONAL SERVICES** as further fully described in C3 Scope of Services hereof.
- T1.1.3 The address for collection of tender documents and the telephone number of the tender section at this address are as advertised in the Tender Bulletin.
- T1.1.4 Tender documents may be collected on working days **between 07:30 and 12:45** and **between 13:30 and 15:30**.
- T1.1.5 A non-refundable deposit of **R 100.00** is payable, in cash only, on collection of the tender documents. Tender document can be downloaded at no cost on [www.publicworks.gov.za](http://www.publicworks.gov.za)
- T1.1.6 Queries relating to these documents may be addressed to the Employer’s authorised and designated representative who is the departmental project manager:
- a) Departmental Project Manager (PM): Mr M. Ramushu**  
Tel no: **012 406 2109**  
Cell no: **066 307 3273**  
e-mail address: [mokgobi.ramushu@dpw.gov.za](mailto:mokgobi.ramushu@dpw.gov.za)
- b) Departmental Procurement Officer: Ms S. Monageng (Bid Administration Enquiries)**  
Tel no: **012 406 1819**  
Cell no: **N/A**  
e-mail address: [shirley.monageng@dpw.gov.za](mailto:shirley.monageng@dpw.gov.za)
- Physical address: Central Government Offices  
Annex Building Room B230  
c/o Madiba (previously Vermeulen Street) and Bosman  
Streets (entrance Madiba Street)  
Pretoria  
0001**
- T1.1.7 The closing time for receipt of tenders is as advertised in the Tender Bulletin. Telephonic, facsimile, electronic and late tenders will not be accepted.
- T1.1.8 Requirements for sealing, addressing, delivery, opening and assessment of tenders are stated in T1.2 Tender Data.

## T1.2 Tender Data

T1.2.1 Standard Conditions of Tender  
The conditions of tender are the **Standard Conditions of Tender(January 2009 edition)** as contained in **Annex F** of the **Construction Industry Development Board (CIDB) Standard for Uniformity in Construction Procurement**.

The Standard Conditions of Tender is not included in this tender document. Tenderers must obtain it on the CIDB's Website at:

[http://www.cidb.org.za/procurement/procurement\\_toolbox/cidb\\_pub/default.aspx](http://www.cidb.org.za/procurement/procurement_toolbox/cidb_pub/default.aspx)

Clause number	
	<p>The conditions of tender are the Standard Conditions of Tender as contained in Annex F of the CIDB Standard for Uniformity in Construction Procurement as published in Board Notice 62 of 2004 in Government Gazette No 26427 of 9 June 2004 as amended in Board Notice 67 of 2005 in Government Gazette No 27831 of 22 July 2005, Board Notice 99 of 2005 in Government Gazette No 28127 of 14 October 2005, Board Notice 93 of 2006 in Government Gazette No 29138 of 18 August 2006, Board Notice 9 of 2008 in Government Gazette No 30692 of 1 February 2008 and Board Notice 11 of 2009 in Government Gazette No 31823 of 30 January 2009.</p> <p>The Standard Conditions of Tender make several references to the Tender Data for details that apply specifically to this tender. The Tender Data shall have precedence in the interpretation of any ambiguity or inconsistency between it and the Standard Conditions of Tender.</p> <p>Each item of data given below is cross-referenced to the clauses marked "F" in the Standard Conditions of Tender to which it mainly applies.</p> <p>By submitting a tender in response to T1.1 Notice and Invitation to Tender above, the tenderer binds himself to a <i>pactum de contrahendo</i> (contract aimed at conclusion of another contract), the terms of which are contained in the Standard Conditions of Tender and T1.2 Tender Data.</p>
F.1.1	The Employer is the <b>Government of the Republic of South Africa in its Department of Public Works.</b>
F.1.2	<p>For this Contract the single volume approach is adopted.</p> <p>This procurement document has been formatted and compiled under the headings for a single volume approach as contained in table 6 of the CIDB's "Standard for Uniformity in Construction Procurement."</p> <p>The tendering Service Provider's attention is specifically drawn to the T2 Returnable Documents identified in the T2.1 List of Returnable Documents and in the T2.2 Returnable Schedules. The Returnable Documents must be obtained and the Returnable Schedules must be completed by a tenderer when submitting a tender. The tenderer must complete these documents, including the "Offer" document in C1.1 Form of Offer and Acceptance, and deliver his tender back to the Employer bound as it was received.</p> <p>The tender document, issued by the Employer, comprises the following separate identifiable documents collectively forming the "Tender Document in a single volume":</p> <p><u>The Tender</u> T1: Tendering Procedures     T1.1 Notice and Invitation to Tender     T1.2 Tender Data</p> <p>T2: Returnable Documents</p>

	<p>T2.1 List of Returnable Documents T2.2 Returnable Schedules</p> <p><u>The Contract</u></p> <p>C1: Agreement and Contract Data C1.1 Form of Offer and Acceptance C1.2 Contract Data</p> <p>C2: Pricing Data C2.1 Pricing Instructions C2.2 Activity Schedule</p> <p>C3: Scope of Services</p> <p>C4: Site Information</p> <p>C5: Annexures, Appendices &amp; Sample Documents: C5.1: Annexure 1 (refer appended CD at the back of tender document); Annexure 2: Attached Annexures A, B, C and D (Functionality): Bound in at the back of Tender document; Annexure E (External Independent Peer Reviewer) C5.2: Appendix A and B C5.3: Examples of Specified Outcomes: Sample Documents A, B and C (available for viewing only at the compulsory tenderer's briefing meeting and at the Departmental Project Manager's offices during the advertised tender period).</p>
F.1.4	<p>The Employer's agent for the purpose of this tender is deemed to be the authorised and designated representative of the Employer, who will be the departmental project manager as noted in T1.1.6 Notice and Invitation to Tender.</p>
F.2.1	<p><b><u>Tenders will only be considered for acceptance if</u></b> (i.e. will only be regarded as responsive if):</p> <ol style="list-style-type: none"> <li>1. The tendering Service Provider is a civil engineering business undertaking, which is under the fulltime supervision of a registered professional civil engineer or a registered professional civil engineering technologist, and which is owned and controlled by registered professionals by at least a percentage determined by the Engineering Council of South Africa, in its Code of Professional Conduct, in terms of number, shareholding and voting power, who are registered in terms of the Engineering Profession Act, 2000 (Act no 46 of 2000), and who will hereafter be referred to as <b>registered principals</b> of the business undertaking, <b>or</b> a multidisciplinary professional practice, that also practises civil engineering work, which civil engineering division/section is under the fulltime supervision of a registered professional civil engineer or a registered professional civil engineering technologist, and which is owned and controlled by registered professionals by at least a percentage determined by any of the relevant professional Councils for cases pertaining to multi-disciplinary practices/business undertakings, in their respective Codes of Professional Conduct, in terms of number, shareholding and voting power who are registered in terms of the Architectural Profession Act, 2000 (Act no 44 of 2000), Landscape Architectural Profession Act, 2000 (Act no 45 of 2000), Engineering Profession Act, 2000 (Act no 46 of 2000), Project and Construction Management Professions Act, 2000 (Act no 48 of 2000) and/or Quantity Surveying Profession Act, 2000 (Act no 49 of 2000), and who will hereafter be referred to as <b>registered principals</b>.</li> </ol> <p>In the event of any legal entity, as meant above, being a listed public Company on the stock exchange, the percentages related to ownership and control referred to are to be deemed relevant to persons duly appointed as Directors of such entity.</p> <ol style="list-style-type: none"> <li>2. Copies of certificates or other documentation clearly proving current professional registration with the relevant council, including registration numbers, of all the registered principals mentioned in 1 above are included with the tender as part of the returnable documentation. In the event of any legal entity, as meant above, being a private Company with shareholding, the same information/documentation as for registered principals must be provided with the tender,</li> </ol>

in respect of all Directors formally appointed to manage the business undertaking. Sole Proprietors, Partners in Partnerships, and Members of Close Corporations are principals as defined in 1 above and information/documentation in respect of such persons must be provided as described;

3. The information, required in respect of 1 and 2 above, has been provided for all Service Providers tendering in consortium or joint venture;
4. At least one registered professional civil engineer, of whom the same documentation as in 2 above has been included in the tender, of the tendering Service Provider has been listed in C1.2.3, clause 7.1.2 Key Persons;

[The Employer retains the right to verify current professional registration required in terms of 2, 3 and 4 above with the relevant council as part of the tender evaluation process. **In the event of any such person not currently being registered with the relevant council, it will render the tender as unacceptable (i.e. non-responsive) and excluded from further consideration.**]

5. All Returnable Documents mentioned in T2: Returnable Documents (T2.1 List of Returnable Documents and T2.2 Returnable Schedules) have been included in the tender;
6. (a) The tendering Service Provider has provided the required information/documentation to enable an evaluation panel to perform functionality and risk assessments as described in 6(b) and 6(c) hereafter and referred to in T2.1 – sub paragraph 4;

(b) Tender offers are judged by an evaluation panel in terms of functionality, which functionality will be evaluated against the following criteria on a scoring system of 1 to 5, weighted as indicated:

**Note:** *Functionality will be applied as a prequalification criterion. Such criteria is used to establish minimum requirements whereafter bids will be evaluated solely on the basis of price and preference.*

<b>Functionality Criteria</b>	<b>Weighting Factor</b>
<p><b>1. Tenderer's Experience:</b></p> <p><b>Tenderer's past and current experience in performing *comparable specialist advisory project services for infrastructure developments on problematic soils, amongst other performing Dolomite Stability Investigations, geotechnical engineering services and preparation of Dolomite Risk Management Plans (DRMP) during the past 5 (five) or more years:</b></p> <p><b>Tenderers must complete and submit ANNEXURE A, attaching appointment and completion/recommendation letter(s) from the client(s) for each project listed in their tender submission, describing in detail project reference particulars.</b></p> <p><b>Note: The term *comparable in the context of this tender means similar work performed by tenderers having been appointed to execute assignments/duties relevant and appropriate to the scope of works applicable to this tender.</b></p> <p><b>Scoring:</b>  5 or more comparable projects = 5 points  4 comparable projects = 4 points  3 comparable projects = 3 points  2 comparable projects = 2 points</p>	20

	<p><b>1 comparable projects = 1 point</b> <b>0 comparable projects = 0 points</b></p>	
	<p><b>2. Key Persons:</b></p> <p>Reference is made to C1.2.3, Clause 7.1.2: Tenderers must prepare and submit requisite documentation for each listed professional Key Person comprising his Curriculum Vitae (detailing amongst other experience in the type/class of work required for this project), complete with copies of professional registration/s and qualifications.</p> <p><b>Note:</b> i) The Project Principal shall not perform more than 2 (two) Key Person's specific jobs / functions. ii) Tenderers must complete and submit ANNEXURE B with their tender submission, complete with requisite documentation.</p> <p><b>Scoring:</b> All 6 (six) Key Persons listed as per contract requirements = 5 points 5 (five) or less Key Persons listed as per contract requirements = 0 points</p>	30
	<p><b>3. Dolomite Case study:</b></p> <p>Tenderers must prepare in writing a systematic account of dealing with a sinkhole event that has just been reported to the DPW Dolomite Risk Manager (DRM), who in turn instructs the "successful" tenderer to duly attend to the incident, such being categorized by the PM as an Emergency Event Incident (EEI). Said systematic account or methodology should describe such actions/activities deemed necessary, from the date/time of receiving the instruction up to the recommendation(s) stage, whether to retain, repair or demolish the affected structure.</p> <p>Details about the reported EEI are as follows: a) The sinkhole size measures about 2m dia. x 3m deep, which incident occurred on a property with a Hazard rating = 6/(7)/1, with utility wet services installed before 1980. b) The sinkhole was noted and reported by an employee who observed the sinkhole, such having occurred right next to a three storey office block.</p> <p>Tenderers must complete and submit ANNEXURE C with their tender submission, describing in detail their methodology in dealing with the EEI, comprising each of the three main components of response, namely:</p> <p>i) attending to the incident upon arrival on site ii) options and criteria to be considered for investigative methods and means, iii) relevant and appropriate considerations should rehabilitation of the sinkhole be regarded feasible.</p> <p><b>Scoring:</b> All 3 (three) and more components as per item i, ii and iii above = 5 points 3 (three) components as per item i, ii and iii above = 3 points 2 (two) components as per item</p>	30



	<p>i, ii and iii above = 2 points</p> <p>1 (one) components as per item</p> <p>i, ii and iii above = 1 point</p> <p>0 (zero) components as per item</p> <p>i, ii and iii above 0 points</p> <p><b>Note: Tenderers will be held to this high and or improved level of quality as per the tender submission for the duration of the project.</b></p>	
	<p><b>4. Dolomite Risk Management Strategy (DRMS) / Dolomite Risk Management Plan (DRMP):</b></p> <p>Tenderers must prepare and submit details of the basic elements that should be covered when preparing a DRMS/DRMP for a dolomite property located on a site with a dolomite area designation = D4, which is occupied by a Government Department.</p> <p>Details of the site:</p> <p>i) The target site's building and civil engineering services were developed/installed prior to 1965.</p> <p>ii) The site had one large sinkhole (10m dia and 20m deep) some 20 m from the building footprint, which was rehabilitated in 2013. The cause was identified to have been inappropriate storm water control.</p> <p>iii) Wet and dry civil engineering services were replaced/upgraded in accordance with SANS 1936-3, under the same contract.</p> <p>Tenderers must complete and submit their DRMS/DRMP in writing on ANNEXURE D and submit same with their tender documents.</p> <p><b>Scoring:</b></p> <p>Tenderer addresses all 3 (three) and more elements of a DRMP with regards to item i, ii and iii above = 5 points</p> <p>Tenderer addresses only 3 (three) elements of a DRMP with regards to item i, ii and iii above = 3 points</p> <p>Tenderer addresses only 2 (two) elements of a DRMP with regards to item i, ii and iii above = 2 points</p> <p>Tenderer addresses only 1 (one) elements of a DRMP with regards to item i, ii and iii above = 1 point</p> <p>Tenderer addresses 0 (zero) elements of a DRMP with regards to item i, ii and iii above = 0 points</p> <p><b>Note: Tenderers will be held to this high and or improved level of quality as per the tender submission for the duration of the project.</b></p>	20
	<b>Total</b>	<b>100 Points</b>

(Weightings will be multiplied by the scores allocated during the evaluation process to arrive at the total functionality points)

<b>Minimum functionality score to qualify for further evaluation:</b>	<b>70</b>
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(c) Tender offers are judged by an evaluation panel in terms of risk to the Employer. Such risk will be evaluated against the criteria listed below. An assessment of unacceptable risk on any single criterion will constitute unacceptable risk for the award as a whole, resulting in the tender to be disqualified and removed from further consideration.

The risk criteria are as follows:

Description of risk criteria and sub criteria	
<p>(Note: Information provided in the returnable documentation must be provided in sufficient detail to enable the evaluation panel to evaluate the risk criteria set out below. The Employer reserves the right to request further clarification, elucidation, additional documentation/information, etc. as may be required to evaluate the tender. The afore-mentioned can also entail that the persons, named in the schedule of Key Persons (C1.2.3 Data provided by the Service Provider, clause 7.1.2), be invited to an interview.</p>	
A	<p>Allocation of <b>suitably qualified and appropriately experienced human resources</b>, both in respect of principals and/or other staff (professional, technical and/or administrative) of the tendering Service Provider to the project, as described in the schedule of Key Persons in terms of clause 7.1.2 of the General Conditions of Contract, as proof that the tendering Service Provider will be able to react/respond appropriately to the Services required herein.</p> <p>[An opinion will be formed by each of the members of an evaluation panel according to his/her assessment of the qualifications and experience of the human resources allocated to the project in terms of the Key Persons (C1.2.3 Data provided by the Service Provider, clause 7.1.2), from information contained in curriculum/curricula vitae submitted with the tender. Members of the evaluation panel will discuss their respective risk perceptions in order to reach consensus, failing which the specific risk will be put to the vote. <b>No risk assessment will be performed for this criterion in the absence of relevant information/ curricula vitae with the tender and will therefore render the tender as unacceptable and excluded from further consideration.</b>]</p>
B	<p>The tendering Service Provider's <b>experience and performance on comparable projects</b> during the past 5 years. Aspects to be regarded as "comparable" includes (but may be extended according to circumstances): size of projects (measured against monetary value, or other project quantifying parameters), nature of projects (building, engineering, high/low rise, etc.), locality/area of execution (site-specific influences, knowledge of local conditions, etc.), complexity of project, projects for similar client department irrespective of end purpose of buildings/facilities created or in progress of being created and time scales of projects (normal, fast track, etc.) and stage of its/their development.</p> <p>[An opinion will be formed by each of the members of an evaluation panel according to his/her assessment of the experience and performance of the tendering Service Provider from information submitted with the tender (in written-, report- and/or brochure format), and upon further investigations/reference checks that may be performed, for which purpose the tendering Service Provider must include names and contact particulars of present and previous Employers to whom services are/were rendered. The Employer retains the right to contact references not mentioned by the tendering Service Provider. Members of the evaluation panel will discuss their respective risk perceptions in order to reach consensus, failing which the risk assessment will be put to the vote. <b>No risk assessment will be performed for this criterion in the absence of relevant information with the tender and will therefore render the tender as unacceptable and excluded from further consideration.</b>]</p>
C	<p><b>Confirmation of the required level of professional indemnity insurance</b> specified in terms of Contract Data clause 5.4.1 (C1.2.3 Data provided by the Service Provider).</p> <p>[If confirmation/proof of professional indemnity insurance is not duly confirmed in C1.2.3 Data provided by the Service Provider, the risk to Employer will be regarded as unacceptable and render the tender unacceptable on grounds of not being to specification. The Employer retains the right to request documentary proof of such insurance as part of the tender evaluation process. <b>Unconfirmed professional indemnity insurance will render the tender as unacceptable i.t.o. risk and excluded from further consideration.</b>]</p>
D	<p><b>Attendance</b> of compulsory clarification meeting, if applicable in terms of F.2.7 below, by a representative of the tendering Service Provider.</p>

	<p>[Non-attendance, if compulsory in terms of F.2.7, will be regarded as a risk to the Employer in that salient information required for tender purposes would not have been to the knowledge of the tendering Service Provider, rendering any resultant tender to be incomplete. <b>Non-attendance will render the tender a risk to the Employer and therefore excluded from further consideration.</b></p> <p>In the event of the clarification meeting not being compulsory, this risk criterion will not be applicable.]</p>
E	The tendering Service Provider shall, as a <b>compulsory requirement</b> to this Tender, provide full particulars and a comprehensive Curriculum Vitae of the external independent Senior Competent Person (Dolomite land), who shall be retained to perform all required peer review activities necessitated by this Contract. Said detail(s) and commitment must be submitted with the tenderer's <b>RETURNABLE DOCUMENTS</b> . [See also T2.1 (5)], which information must be appended to this Tender document, as ANNEXURE E.
F	Other – N/A
	<b>Note: Any tender not complying with all six of the above-mentioned stipulations, numbered 1 to 6 above, will be regarded as non-responsive and will therefore <u>not</u> be considered for further evaluation.</b>
F.2.7	A tender clarification meeting <b><u>will not be</u></b> held in respect of this tender.
F.2.13.3	Each tender offer communicated on paper shall be submitted as an original.
F.2.13.4	Delete the last sentence of the paragraph: "Signatories for ... of the tender offer."
F.2.13.5	<p>The Employer's addresses for delivery of tender offers are as advertised in the Tender Bulletin.</p> <p>In addition, the following identification details must be provided on the <u>back</u> of the envelope:  <b>Tenderer's name, contact address and telephone number</b>  and in the top left corner on the back of the envelope:  <b>"Tender no.           "</b> (and fill in the tender number as on the front page hereof)  <b>"WCS no.           "</b> (and fill in the WCS number as on the front page hereof)  <b>"Tender for Civil Engineering Services".</b></p>
F.2.13.6	A two-envelope procedure will not be followed.
F.2.15	The closing time for submission of tenders is as advertised in the Tender Bulletin.
F.2.16	The tender validity period is 60 days from date of tender closure.
F.2.19	The tenderer shall provide access for inspections to his offices as may be required by the Employer.
F.2.22	Not a requirement.
F.2.23	The tenderer is required to submit with his tender all documents listed in T2 Returnable Documents, T2.1 and T2.2.
F.3.4	<p>The time and location for opening tender offers are:</p> <p>Time: tenders will be opened immediately or as soon as possible after the closing time as advertised in the Tender Bulletin;</p> <p>Location: room Reference shall be made to the Tender Advertisement for details</p>
F.3.5	A two-envelope procedure will not be followed.
F.3.9.3	<p>Omit the wording and replace with the following:</p> <p>"Notify the tenderer of all errors, omissions and/or rate imbalances that are identified in the tender offer and request the tenderer to, within a stipulated time, accept the total of prices as corrected in accordance with F.3.9.4."</p>
F.3.9.4	<p>Omit the wording of the first sentence and replace with:</p> <p>"In cases where tender offers contain errors, omissions and/or rate imbalances, these are to be corrected as follows:"</p>
F.3.9.4 (continued)	<p>Add sub-paragraph c) as follows:</p> <p>"c) If the tenderer does not accept the corrected tender offer, or cannot reach consensus with the Employer on a corrected tender offer, the tenderer is to be classified as not acceptable/non-responsive and removed from further contention."</p>

F.3.11	The procedure for the evaluation of responsive tenders is Method 2.																																
F.3.11.2	Not applicable.																																
F.3.11.3 and F.3.11.7	<p>Scoring financial offers:</p> <p>The formula to determine points for price is:</p> <div><math display="block">W_C = W_3 \left[ 1 - \left( \frac{P - P_m}{P_m} \right) \right]</math></div> <p>where</p> <p><math>W_C</math> = the number of tender evaluation points awarded for the financial offer</p> <p><math>W_3</math> = the number of tender evaluation points for financial offer and equals:</p> <ol style="list-style-type: none"><li>1) 90 where the financial value inclusive of VAT of all responsive tenders received have a value in excess of R 50 000 000; or</li><li>2) 80 where the financial value inclusive of VAT of one or more responsive tender offers equals or is less than R 50 000 000</li></ol> <p><math>P_m</math> = the lowest acceptable tender offer;</p> <p><math>P</math> = the tender offer under consideration.</p>																																
F.3.11.3 (continued)	<p>Scoring for preferences:</p> <p>Up to 100 minus <math>W_3</math> tender evaluation points will be awarded to the tenderer who submits a valid original or certified copy of its B-BBEE Status Level Verification Certificate which is in compliance with the requirements of instructions and guidelines issued by the National Treasury and is in accordance with notices published by the Department of Trade and Industry in the Government Gazette.</p> <p>An original or certified copy of the B-BBEE status level verification certificate must be submitted in order to qualify for preference points for B-BBEE. Certificates issued by IRBA and Accounting officer have been discontinued; however valid certificates already issued before 01 January 2017 may be used until they phase out completely by December 2017</p> <p>In the case of Exempted Micro Enterprises (EME) and Qualifying Small Business Enterprise (QSE) a valid sworn affidavit must be submitted with the bid offer)</p> <p>A consortium or joint venture will qualify for points for its B-BBEE status level only if such consortium or joint venture submits a consolidated B-BBEE status certificate which covers the consortium or joint venture as a combined unit as if it were a single enterprise. Tenderers anticipating tendering in consortium or joint venture must allow sufficient time for obtaining such status level verification.</p> <p>Preference points will be allocated according to the following *table:</p> <table><tr><th rowspan="2">B-BBEE Status Level of contributor</th><th colspan="2">Number of preference points, where <math>W_3</math> :</th></tr><tr><th>= 90</th><th>= 80</th></tr><tr><td>1</td><td>10</td><td>20</td></tr><tr><td>2</td><td>9</td><td>18</td></tr><tr><td>3</td><td>6</td><td>14</td></tr><tr><td>4</td><td>5</td><td>12</td></tr><tr><td>5</td><td>4</td><td>8</td></tr><tr><td>6</td><td>3</td><td>6</td></tr><tr><td>7</td><td>2</td><td>4</td></tr><tr><td>8</td><td>1</td><td>2</td></tr><tr><td>Non-compliant contributor</td><td>0</td><td>0</td></tr></table> <p>* PPPFA Regulations 2017 – Regulations 6(2) and 7(2).</p>	B-BBEE Status Level of contributor	Number of preference points, where $W_3$ :		= 90	= 80	1	10	20	2	9	18	3	6	14	4	5	12	5	4	8	6	3	6	7	2	4	8	1	2	Non-compliant contributor	0	0
B-BBEE Status Level of contributor	Number of preference points, where $W_3$ :																																
	= 90	= 80																															
1	10	20																															
2	9	18																															
3	6	14																															
4	5	12																															
5	4	8																															
6	3	6																															
7	2	4																															
8	1	2																															
Non-compliant contributor	0	0																															

F.3.11.3 (continued)	<p>Calculate total tender evaluation points:</p> <p>The point calculated for financial offer will be added to the point scored for preference for each individual tender offer according to the formula:</p> <p>Total tender evaluation points = <math>W_c</math> + preference points based on B-BEE status level of contributor.</p>
F.3.11.4 and F.3.11.5	Not applicable.
F.3.11.9	Not applicable.
F.3.17	The number of paper copies of the signed contract to be provided by the employer is <u>one</u> .

**T2: RETURNABLE DOCUMENTS**

**This tender document in its entirety, all returnable documents which must be attached to this tender document, and all returnable schedules must be returned when the tender is submitted.**

**T2.1 List of Returnable Documents** (to be obtained/compiled by the tenderer and attached to this tender). All documents must be duly completed and signed where applicable.

1. Copies of present registration with the **Engineering Council of South Africa** as “Professional”, with the registration numbers, of all the registered principals and professionals mentioned under T1.2 Tender Data, clause F.2.1, item 2, as well as in C1.2.3 Data provided by the Service Provider, clause 7.1.2 Key Persons.

and,

Copies of present registration with the **South African Council for Natural Scientific Professions**, with the registration numbers of all the registered principals and professionals mentioned under T1.2 Tender Data, clause F.2.1, item 2, as well as in C1.2.3 Data provided by the Service Provider, clause 7.1.2 Key Persons.

2. A valid original or certified copy of B-BBEE status level verification certificate.
3. An exposition, with necessary annexures, in suitable format and in sufficient detail, providing all the information necessary for the evaluation panel to be able to evaluate the functionality and risk set out in T1.2 Tender Data, clause F.2.1.  
**IMPORTANT ADDITIONAL REQUIREMENT:** Tenderers must complete, sign and submit ANNEXURES A, B, C and D (bound in at the back of this tender document).
4. Use of correction fluid is prohibited.
5. Registration on National Treasury’s Central Supplier Database (CSD).
6. Compliance with Pre-qualification criteria for Preferential Procurement for level 1 & 2 only.
7. The tendering Service Provider shall, as a compulsory requirement to this Tender, provide full particulars and a comprehensive detailed Curriculum Vitae of the independent Senior Competent Person (Dolomite land) to be retained, to perform all required peer review activities necessitated by this Contract, and such details and commitment must be submitted in writing with the tenderer’s returnable documents as ANNEXURE E.

**T2.2 Returnable Schedules** (all bound into this tender document – to be completed by tenderer)  
All documents must be duly completed and signed where applicable.

1. Form of Offer and Acceptance (C1.1). Provide proof of registration with National Treasury Central Supplier Database by completing the Supplier Registration Number on the form of offer
2. Data provided by the Service Provider (C1.2.3).
3. Ownership Particulars, PA-16.1 (PSB) (form PA-16.1 (PSB) is bound in hereafter).
4. Particulars of Tenderer’s Projects, DPW-09 (PSB) (form DPW-09 (PSB) is bound in hereafter).
5. If applicable, a Tender Clarification Meeting Certificate, DPW-16.1(PSB) for compulsory clarification meeting (form DPW-16.1(PSB) is bound in hereafter).
6. Declaration of Interest and Tenderer’s Past Supply Chain Management Practices, PA-11 (form PA-11 is bound in hereafter).

7. Resolution, PA-15.1 (or resolutions for each tendering Service Provider tendering in consortium or joint venture, PA-15.2 plus special resolution, PA-15.3) (forms PA-15.1 to 3 are bound in hereafter). A resolution, PA-15.1 (for a single Service Provider tendering herein) or PA-15.2 plus special resolution, PA-15.3 (for multiple Service Providers tendering in consortium or joint venture herein) (forms PA-15.1 to 3 are bound in hereafter).
8. Certification of Independent Bid Determination, PA-29 (form PA-29 is bound in hereafter).
9. Preference Points Claim Form, PA-16 (form PA-16 is bound in hereafter).
10. Activity Schedule for Value Based Fees (C2.2.2) – only if remuneration is stipulated as “value based” in C2.1.1.1.
11. Activity Schedule for Time Based Fees (C2.2.3) – only if remuneration is stipulated as “time based” in C2.1.1.1.
12. If applicable, a security clearance form for projects requiring a security clearance.

## PA-16.1 (PSB): OWNERSHIP PARTICULARS

- NB:** 1. This form is to be read with the Notice and Invitation to Tender and F.2.1 sub paragraphs 1 and 2 of the Tender Data pertaining to this Tender, and completed according to the definitions and information contained in said documents.
2. **Failure to complete this form may result in the tender being disqualified.**

<b>Project title:</b>	DRMS: PHASE 5: EMERGENCY AND AD-HOC PROPERTY INVESTIGATIONS IN SUPPORT OF THE DOLOMITE RISK MANAGEMENT STRATEGY FOR THE PROPERTIES OF THE NATIONAL DEPARTMENT OF PUBLIC WORKS.
<b>Tender no:</b>	H20/035 AI

### 1. REQUIRED DOCUMENTARY PROOF

The following documentation must be included in the tender as part of the Returnable Documents. Failure to provide the said documentation may result in the tender being disqualified.

<b>Legal Status of Tendering Entity:</b> <b>If the Tendering Entity is:</b>	<b>Documentation to be submitted with the tender:</b>
a. A close corporation, incorporated prior to 1 May 2011 under the Close Corporations Act, 1984 (Act 69 of 1984, as amended)	Copies of the Founding Statement – CK1
b. A profit company duly registered as a private company.  [including a profit company that meets the criteria for a private company, whose Memorandum of Incorporation states that the company is a personal liability company in terms of Section 8(2)(c) of the Companies Act, 2008 (Act 71 of 2008, as amended)].	Copies of: i. Certificate of Incorporation – CM1; ii. Shareholding Certificates of all Shareholders of the company, plus a signed statement of the company's Auditor, certifying each Shareholder's ownership / shareholding percentage relative to the total; and/or iii. Memorandum of Incorporation in the case of a personal liability company.
c. A profit company duly registered as a private company in which any, or all, shares are held by one or more other close corporation(s) or company(ies) duly registered as profit or non-profit company(ies).	Copies of documents referred to in a. and/or b. above in respect of all such close corporation(s) and/or company(ies).
d. A profit company duly registered as a public company.	Copy of Certificate of Incorporation – CM1, and a signed statement of the company's Secretary or Auditor confirming that the company is a public company.
e. A non-profit company, incorporated in terms of Section 10 and Schedule 1 of the Companies Act, 2008 (Act 71 of 2008, as amended).	Copies of: i. the Founding Statement – CK1; and ii. the Memorandum of Incorporation setting out the object of the company, indicating the public benefit, cultural or social activity, or communal or group interest.
f. A natural person, sole proprietor or a Partnership	Copy(ies) of the Identity Document(s) of: i. such natural person/ sole proprietor, or ii. each of the Partners to the Partnership.
g. A Trust	Deed of Trust duly indicating names of the Trustee(s) and Beneficiary (ies) as well as the purpose of the Trust and the mandate of the Trustees.



**2. DETAIL OF ALL PARTNERS, PROPRIETORS, MEMBERS AND/OR SHAREHOLDERS OF THE SERVICE PROVIDER:**

Full Name #	Identity Number	Relevant Professional Council	Professional Registration Number	Date of Ownership	Percentage Owned	Percentage Voting
<b>Totals:</b>					<b>100%</b>	<b>100%</b>

# All registered principals, i.e. sole proprietors, partners in partnerships, members of close corporations and in the event of a legal entity being a private company with shareholding, all directors formally appointed to manage the business undertaking

## DPW-09 (PSB): PARTICULARS OF TENDERER'S PROJECTS

<b>Project title:</b>	<b>DRMS: PHASE 5: EMERGENCY AND AD-HOC PROPERTY INVESTIGATIONS IN SUPPORT OF THE DOLOMITE RISK MANAGEMENT STRATEGY FOR THE PROPERTIES OF THE NATIONAL DEPARTMENT OF PUBLIC WORKS</b>		
<b>Tender / quotation no:</b>	H20/035 AI	<b>Closing date:</b>	22 April 2021
<b>Advertising date:</b>	01 April 2021	<b>Validity period:</b>	60 days

*Note: The Tenderer is required to furnish the following particulars and to attach additional pages if more space is required.*

### 1. PARTICULARS OF THE TENDERER'S CURRENT AND PREVIOUS COMMITMENTS

#### 1.1. Current projects

Projects currently engaged in	Name of Employer or Representative of Employer	Contact tel. no.	Contract sum of Project	Scope of Services (Work stages appointed for – eg 1 to 6)	Work stages completed	Work stages in progress
1						
2						
3						
4						
5						
6						
7						

## 1.2. Completed projects

Projects completed in the last 5 (five) years		Name of Employer or Representative of Employer	Contact tel. no.	Contract sum of Project	Scope of Services (Work stages appointed for – eg 1 to 6)	Date of appointment	Date of completion
1							
2							
3							
4							
5							
6							
7							
8							
9							

Name of Tenderer	Signature	Date

## PA- 40: DECLARATION OF DESIGNATED GROUPS FOR PREFERENTIAL PROCUREMENT

Name of Tenderer .....

☐ EME<sup>1</sup> ☐ QSE<sup>2</sup> ☐ Non EME/QSE (tick applicable box)

### 1. LIST ALL PROPRIETORS, MEMBERS OR SHAREHOLDERS BY NAME, IDENTITY NUMBER, CITIZENSHIP AND DESIGNATED GROUPS.

Name and Surname #	Identity/ Passport number and Citizenship##	Percentage owned	Black	Indicate if youth	Indicate if woman	Indicate if person with disability	Indicate if living in rural / under developed area/township	Indicate if military veteran
1.		%	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
2.		%	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
3.		%	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
4.		%	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
5.		%	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
6.		%	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
7.		%	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
8.		%	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
9.		%	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
10.		%	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No

# Where Owners are themselves a Company, Close Corporation, Partnership etc, identify the ownership of the Holding Company, together with Registration number  
## State date of South African citizenship obtained (not applicable to persons born in South Africa )

### 2. DECLARATION:

The undersigned, who warrants that he/she is duly authorized to do so on behalf of the Tenderer, hereby confirms that:

<sup>1</sup> EME: Exempted Micro Enterprise

<sup>2</sup> QSE: Qualifying Small Business Enterprise

- 1 The information and particulars contained in this Affidavit are true and correct in all respects;
- 2 The Broad-based Black Economic Empowerment Act, 2003 (Act 53 of 2003), Preferential Procurement Policy Framework Act, 2000 (Act 5 of 2000), the Preferential Procurement Regulations, 2017, National Small Business Act 102 of 1996 as amended and all documents pertaining to this Tender were studied and understood and that the above form was completed according to the definitions and information contained in said documents;
- 3 The Tenderer understands that any intentional misrepresentation or fraudulent information provided herein shall disqualify the Tenderer's offer herein, as well as any other tender offer(s) of the Tenderer simultaneously being evaluated, or will entitle the Employer to cancel any Contract resulting from the Tenderer's offer herein;
- 4 The Tenderer accepts that the Employer may exercise any other remedy it may have in law and in the Contract, including a claim for damages for having to accept a less favourable tender as a result of any such disqualification due to misrepresentation or fraudulent information provided herein;
- 5 Any further documentary proof required by the Employer regarding the information provided herein, will be submitted to the Employer within the time period as may be set by the latter;

**Signed by the Tenderer**

<b>Name of representative</b>	<b>Signature</b>	<b>Date</b>

## DPW-16.1(PSB): TENDER CLARIFICATION MEETING CERTIFICATE

<b>Project title:</b>	DRMS: PHASE 5: EMERGENCY AND AD-HOC PROPERTY INVESTIGATIONS IN SUPPORT OF THE DOLOMITE RISK MANAGEMENT STRATEGY FOR THE PROPERTIES OF THE NATIONAL DEPARTMENT OF PUBLIC WORKS.		
<b>Tender no:</b>	H20/035 AI	<b>Reference no:</b>	

This is to certify that I, \_\_\_\_\_

representing \_\_\_\_\_

—

attended the tender clarification meeting on: \_\_\_\_\_

I further certify that I am satisfied with the description of the work and explanations given at the tender clarification meeting and that I understand the work to be done, as specified and implied, in the execution of this contract.

Name of Tenderer	Signature	Date

Name of DPW Representative	Signature	Date

## PA-11: DECLARATION OF INTEREST AND TENDERER'S PAST SUPPLY CHAIN MANAGEMENT PRACTICES

Failure to complete this form in full and signed by the duly authorized person, as indicated on PA-15.1 or PA-15.3, shall render the tender non-responsive and will be removed from any and all further contention.

<b>Project title:</b>	DRMS: PHASE 5: EMERGENCY AND AD-HOC PROPERTY INVESTIGATIONS IN SUPPORT OF THE DOLOMITE RISK MANAGEMENT STRATEGY FOR THE PROPERTIES OF THE NATIONAL DEPARTMENT OF PUBLIC WORKS.		
<b>Tender no:</b>	H20/035 AI	<b>Reference no:</b>	

1. Any legal person, including persons employed by the State<sup>1</sup>, or persons having a kinship with persons employed by the state, including a blood relationship, may make an offer or offers in terms of this invitation to tender (includes a price quotation, advertised competitive tender, limited tender or proposal). In view of possible allegations of favouritism, should the resulting tender, or part thereof, be awarded to persons employed by the state, or to persons connected with or related to them, it is required that the tenderer or his/her authorised representative declare his/her position in relation to the evaluating/adjudicating authority and/or take an oath declaring his/her interest, where:

- the tenderer is employed by the state; and/or
- the legal person on whose behalf the tender document is signed, has a relationship with a person/ persons who are/is involved in the evaluation and or adjudication of the tender(s), or where it is known that such a relationship exists between the person or persons for or on whose behalf the declarant acts and persons who are involved with the evaluation and or adjudication of the tender.

2. **In order to give effect to the above, the following questionnaire must be completed and submitted with the tender.**

2.1 Full name of tenderer or his/her representative: \_\_\_\_\_

2.2 Identity number: \_\_\_\_\_

2.3 Position occupied in the Company (director, trustees, shareholder<sup>2</sup>, ect.): \_\_\_\_\_

2.4 Company registration number: \_\_\_\_\_

2.5 Tax reference number: \_\_\_\_\_

2.6 VAT registration number: \_\_\_\_\_

2.6.1 The names of all directors / trustees / shareholders / members, their individual identity numbers, tax reference numbers and, if applicable, employee / persal numbers must be indicated in paragraph 3 below.

<sup>1</sup> "State" means –

- any national or provincial department, national or provincial public entity or constitutional institution within the meaning of the Public Finance Management Act, 1999 (Act No. 1 of 1999);
- any municipality or municipal entity;
- provincial legislature;
- national Assembly or the national Council of provinces or
- Parliament.

<sup>2</sup> "Shareholder" means –

- (a) a person who owns shares in the company and is actively involved in the management of the enterprise or business and exercise control over the enterprise.

2.7 Are you or any person connected with the tenderer presently employed by the state? Yes ☐ No ☐

2.7.1 If so, furnish the following particulars:

Name of person / director / trustees / shareholder / member: \_\_\_\_\_

Name of state institution at which you or the person is connected to the tenderer is employed:

\_\_\_\_\_

Position occupied in the state institution: \_\_\_\_\_

Any other particulars: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

2.7.2 If you are presently employed by the state, did you obtain the appropriate authority to undertake remunerative work outside employment in the public sector? Yes ☐ No ☐

2.7.2.1 If yes, did you attach proof of such authority to the tender document? Yes ☐ No ☐  
(Note: Failure to submit proof of such authority, where applicable, may result in the disqualification of the tender.)

2.7.2.2 If no, furnish reasons for non-submission of such proof: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

2.8 Did you or your spouse, or any of the company's directors / trustees / shareholders / members or their spouses conduct business with the state in the previous twelve months? Yes ☐ No ☐

2.8.1 If so, furnish particulars: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_





- 2.9 Do you, or any person connected with the tenderer, have any relationship (family, friend, other) with a person employed by the state and who may be involved with the evaluation and or adjudication of this tender? Yes ☐ No ☐

2.9.1 If so, furnish particulars: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

- 2.10 Are you, or any person connected with the tenderer, aware of any relationship (family, friend, other) between the tenderer and any person employed by the state who may be involved with the evaluation and or adjudication of this tender? Yes ☐ No ☐

2.10.1 If so, furnish particulars: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

- 2.11 Do you or any of the directors / trustees / shareholders / members of the company have any interest in any other related companies whether or not they are tendering for this contract? Yes ☐ No ☐

2.11.1 If so, furnish particulars: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

### 3. Full details of directors / trustees / shareholders / members.

	Full name	Identity number	Personal tax reference number	State employee number / Persal number
1				
2				
3				
4				
5				

6				
7				
8				
9				
10				

**4. Declaration of tenderer's past supply chain management practices.**

- 4.1 This Standard Tender Document must form part of all tenders invited.
- 4.2 It serves as a declaration to be used by institutions in ensuring that when goods and services are being procured, all reasonable steps are taken to combat the abuse of the supply chain management system.
- 4.3 The tender of any tenderer may be disregarded if that tenderer, or any of its directors, have:
- (a) abused the institution's supply chain management system;
  - (b) committed fraud or any other improper conduct in relation to such system or
  - (c) failed to perform on any previous contract.

**5. In order to give effect to the above, the following questionnaire must be completed and submitted with the tender.**

Item	Question	Yes	No
5.1	<p>Is the tenderer or any of its directors listed on the National Treasury's Database of Restricted Suppliers as companies or persons prohibited from doing business with the public sector?</p> <p>(Companies or persons who are listed on this Database were informed in writing of this restriction by the Accounting Officer/Authority of the institution that imposed the restriction after the <i>audi alterem partem</i> rule was applied).</p> <p><b>The Database of Restricted Suppliers now resides on the National Treasury's website (<a href="http://www.treasury.gov.za">www.treasury.gov.za</a>) and can be accessed by clicking on its link at the bottom of the home page.</b></p>	<p>Yes</p> <input type="checkbox"/>	<p>No</p> <input type="checkbox"/>
5.1.1	If so, furnish particulars:		

5.2	Is the tenderer or any of its directors listed on the Register for Tender Defaulters in terms of section 29 of the Prevention and Combating of Corrupt Activities Act (Act No 12 of 2004)?  <b>The Register for Tender Defaulters can be accessed on the National Treasury's website (<a href="http://www.treasury.gov.za">www.treasury.gov.za</a>) by clicking on its link at the bottom of the home page.</b>	Yes <input type="checkbox"/>	No <input type="checkbox"/>
5.2.1	If so, furnish particulars:		
5.3	Was the tenderer or any of its directors convicted by a court of law (including a court outside of the Republic of South Africa) for fraud or corruption during the past five years?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
5.3.1	If so, furnish particulars:		
5.4	Was any contract between the tenderer and any organ of state terminated during the past five years on account of failure to perform on or comply with the contract?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
5.4.1	If so, furnish particulars:		

### **CERTIFICATION**

I, the undersigned (full name) \_\_\_\_\_

certify that the information furnished on this declaration form is true and correct.

I accept that, in addition to cancellation of a contract, action may be taken against me should this declaration prove to be false.

\_\_\_\_\_  
**Signature**

\_\_\_\_\_  
**Date**

\_\_\_\_\_  
**Position**

\_\_\_\_\_  
**Name of Tenderer**

This form is aligned to SBD 4 and 8.

## PA-15.1: RESOLUTION OF BOARD OF DIRECTORS

**RESOLUTION** of a meeting of the Board of \*Directors / Members / Partners of:

\_\_\_\_\_  
(legally correct full name and registration number, if applicable, of the Enterprise)

Held at \_\_\_\_\_ (place)

on \_\_\_\_\_ (date)

**RESOLVED that:**

- 1 The Enterprise submits a Tender to the Department of Public Works in respect of the following project:

\_\_\_\_\_  
(project description as per Tender Document)

Tender Number: \_\_\_\_\_ (Tender Number as per Tender Document)

- 2 \*Mr/Mrs/Ms: \_\_\_\_\_

in \*his/her Capacity as: \_\_\_\_\_ (Position in the Enterprise)

and who will sign as follows:

\_\_\_\_\_  
be, and is hereby, authorised to sign the Tender, and any and all other documents and/or correspondence in connection with and relating to the Tender, as well as to sign any Contract, and any and all documentation, resulting from the award of the Tender to the Enterprise mentioned above.

	Name	Capacity	Signature
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			

13			
14			
15			
16			
17			
18			
19			
20			

**Note:**

1. \* Delete which is not applicable.
2. **NB:** This resolution must, where possible, be signed by all the Directors / Members / Partners of the Tendering Enterprise.
3. In the event that paragraph 2 cannot be complied with, the resolution must be signed by Directors / Members / Partners holding a majority of the shares / ownership of the Tendering Enterprise (attach proof of shareholding / ownership hereto).
4. Directors / Members / Partners of the Tendering Enterprise may alternatively appoint a person to sign this document on behalf of the Tendering Enterprise, which person must be so authorized by way of a duly completed power of attorney, signed by the Directors / Members / Partners holding a majority of the shares / ownership of the Tendering Enterprise (proof of shareholding / ownership and power of attorney are to be attached hereto).
5. Should the number of Directors / Members / Partners exceed the space available above, additional names and signatures must be supplied on a separate page.

**ENTERPRISE STAMP**

## PA-15.2: RESOLUTION OF BOARD OF DIRECTORS TO ENTER INTO CONSORTIA OR JOINT VENTURES

**RESOLUTION** of a meeting of the Board of \*Directors / Members / Partners of:

\_\_\_\_\_  
(legally correct full name and registration number, if applicable, of the Enterprise)

Held at \_\_\_\_\_ (place)

on \_\_\_\_\_ (date)

**RESOLVED that:**

1. The Enterprise submits a Tender, in consortium/joint venture with the following Enterprises:

\_\_\_\_\_  
(list all the legally correct full names and registration numbers, if applicable, of the Enterprises forming the consortium/joint venture)

to the Department of Public Works in respect of the following project:

\_\_\_\_\_  
(project description as per Tender Document)

Tender Number: \_\_\_\_\_ (Tender Number as per Tender Document)

- 1 \*Mr/Mrs/Ms: \_\_\_\_\_

in \*his/her Capacity as: \_\_\_\_\_ (Position in the Enterprise)

and who will sign as follows:

\_\_\_\_\_  
be, and is hereby, authorised to sign a consortium/joint venture agreement with the parties listed under item 1 above, and any and all other documents and/or correspondence in connection with and relating to the consortium/joint venture, in respect of the project described under item 1 above.

- 2 The Enterprise accept joint and several liability with the parties listed under item 1 above for the due fulfilment of the obligations of the joint venture deriving from, and in any way connected with, the Contract to be entered into with the Department in respect of the project described under item 1 above.
- 3 The Enterprise chooses as its *domicilium citandi et executandi* for all purposes arising from this joint venture agreement and the Contract with the Department in respect of the project under item 1 above:

Physical address: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_ (code)

Postal Address: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_ (code)

Telephone number: \_\_\_\_\_

Fax number: \_\_\_\_\_

	Name	Capacity	Signature
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			

The tendering enterprise hereby absolves the Department of Public Works from any liability whatsoever that may arise as a result of this document being signed.

**Note:**

1. \* Delete which is not applicable.
2. **NB:** This resolution must, where possible, be signed by all the Directors / Members / Partners of the Tendering Enterprise.
3. In the event that paragraph 2 cannot be complied with, the resolution must be signed by Directors / Members / Partners holding a majority of the shares / ownership of the Tendering Enterprise (attach proof of shareholding / ownership hereto).
4. Directors / Members / Partners of the Tendering Enterprise may alternatively appoint a person to sign this document on behalf of the Tendering Enterprise, which person must be so authorized by way of a duly completed power of attorney, signed by the Directors / Members / Partners holding a majority of the shares / ownership of the Tendering Enterprise (proof of shareholding / ownership and power of attorney are to be attached hereto).
5. Should the number of Directors / Members / Partners exceed the space available above, additional names and signatures must be supplied on a separate page.

**ENTERPRISE STAMP**



## PA-15.3: SPECIAL RESOLUTION OF CONSORTIA OR JOINT VENTURES

**RESOLUTION** of a meeting of the duly authorised representatives of the following legal entities who have entered into a consortium/joint venture to jointly tender for the project mentioned below: *(legally correct full names and registration numbers, if applicable, of the Enterprises forming a consortium/joint venture)*

1	_____
	_____
2	_____
	_____
3	_____
	_____
4	_____
	_____
5	_____
	_____
6	_____
	_____
7	_____
	_____
8	_____
	_____

Held at \_\_\_\_\_ *(place)*

on \_\_\_\_\_ *(date)*

### RESOLVED that:

- A. The above-mentioned Enterprises submit a tender in consortium/joint venture to the Department of Public Works in respect of the following project:

\_\_\_\_\_  
\_\_\_\_\_  
*(project description as per Tender Document)*

Tender Number: \_\_\_\_\_ *(tender number as per Tender Document)*

B. Mr/Mrs/Ms:

\_\_\_\_\_

in \*his/her Capacity as: \_\_\_\_\_ (position in the Enterprise)

and who will sign as follows: \_\_\_\_\_

be, and is hereby, authorised to sign the tender, and any and all other documents and/or correspondence in connection with and relating to the tender, as well as to sign any Contract, and any and all documentation, resulting from the award of the tender to the Enterprises in consortium/joint venture mentioned above.

C. The Enterprises constituting the consortium/joint venture, notwithstanding its composition, shall conduct all business under the name and style of:

\_\_\_\_\_

D. The Enterprises to the consortium/joint venture accept joint and several liability for the due fulfilment of the obligations of the consortium/joint venture deriving from, and in any way connected with, the Contract entered into with the Department in respect of the project described under item A above.

E. Any of the Enterprises to the consortium/joint venture intending to terminate the consortium/joint venture agreement, for whatever reason, shall give the Department 30 days' written notice of such intention. Notwithstanding such decision to terminate, the Enterprises shall remain jointly and severally liable to the Department for the due fulfilment of the obligations of the consortium/joint venture as mentioned under item D above.

F. No Enterprise to the consortium/joint venture shall, without the prior written consent of the other Enterprises to the consortium/joint venture and of the Department, cede any of its rights or assign any of its obligations under the consortium/joint venture agreement in relation to the Contract with the Department referred to herein.

G. The Enterprises choose as the *domicilium citandi et executandi* of the consortium/joint venture for all purposes arising from the consortium/joint venture agreement and the Contract with the Department in respect of the project under item A above:

Physical address: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_ (code)

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

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_ (code)

Telephone number \_\_\_\_\_

Fax number: \_\_\_\_\_

	Name	Capacity	Signature
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			

The tendering enterprise hereby absolves the Department of Public Works from any liability whatsoever that may arise as a result of this document being signed.

**Note:**

1. \* Delete which is not applicable.
2. **NB:** This resolution must be signed by all the Duly Authorised Representatives of the Legal Entities to the consortium/joint venture submitting this tender, as named in item 2 of Resolution PA-15.2.
3. Should the number of the Duly Authorised Representatives of the Legal Entities joining forces in this tender exceed the space available above, additional names, capacity and signatures must be supplied on a separate page.
4. Resolution PA-15.2, duly completed and signed, from the separate Enterprises who participate in this consortium/joint venture, must be attached to this Special Resolution (PA-15.3).

## PA-29: CERTIFICATION OF INDEPENDENT BID DETERMINATION

<b>Project title:</b>	DRMS: PHASE 5: EMERGENCY AND AD-HOC PROPERTY INVESTIGATIONS IN SUPPORT OF THE DOLOMITE RISK MANAGEMENT STRATEGY FOR THE PROPERTIES OF THE NATIONAL DEPARTMENT OF PUBLIC WORKS.		
<b>Tender no:</b>	H20/035 AI	<b>Reference no:</b>	

### INTRODUCTION

1. This PA-29 [Certificate of Independent Bid Determination] must form part of all tenders<sup>1</sup> invited.
2. Section 4 (1) (b) (iii) of the Competition Act, 1998(Act 89 of 1998) as amended, prohibits an agreement between, or concerted practice by, firms, or a decision by an association of firms, if it is between parties in a horizontal relationship and if it involves collusive tendering (or tender rigging)<sup>2</sup>. Collusive tendering is a *per se* prohibition meaning that it cannot be justified under any grounds.
3. Treasury Regulation 16A9 prescribes that accounting officers and accounting authorities must take all reasonable steps to prevent abuse of the supply chain management system and authorizes accounting officers and accounting authorities to:
  - a. disregard the tender of any tenderer if that tenderer, or any of its directors, have abused the institution's supply chain management system and/or committed fraud or any other improper conduct in relation to such system;
  - b. cancel a contract awarded to a supplier of goods and services if the supplier committed any corrupt or fraudulent act during the tendering process or the execution of that contract.
4. This form (PA-29) serves as a certificate of declaration that would be used by institutions to ensure that, when tenders are considered, reasonable steps are taken to prevent any form of tender rigging.
5. In order to give effect to the above, the attached Certificate of Bid Determination (PA-29) must be completed and submitted with the tender.

---

<sup>1</sup> Includes price quotations, advertised competitive tenders, limited tenders and proposals.

<sup>2</sup> Tender rigging (or collusive tendering) occurs when businesses, that would otherwise be expected to compete, secretly conspire to raise prices or lower the quality of goods and / or services for purchasers who wish to acquire goods and/or services through a tendering process. Tender rigging is, therefore, an agreement between competitors not to compete.

## PA-29: CERTIFICATE OF INDEPENDENT BID DETERMINATION

I, the undersigned, in submitting the accompanying tender:

<b>Project title:</b>	DRMS: PHASE 5: EMERGENCY AND AD-HOC PROPERTY INVESTIGATIONS IN SUPPORT OF THE DOLOMITE RISK MANAGEMENT STRATEGY FOR THE PROPERTIES OF THE NATIONAL DEPARTMENT OF PUBLIC WORKS.
<b>Tender no:</b>	H20/035 AI

in response to the invitation for the tender made by:

The Government of the Republic of South Africa in its Department of Public Works,

do hereby make the following statements that I certify to be true and complete in every respect:

I certify, on behalf of: \_\_\_\_\_  
that:

**(Name of tenderer)**

1. I have read and I understand the contents of this Certificate;
2. I understand that the accompanying tender will be disqualified if this Certificate is found not to be true and complete in every respect;
3. I am authorized by the tenderer to sign this Certificate, and to submit the accompanying tender, on behalf of the tenderer;
4. Each person whose signature appears on the accompanying tender has been authorized by the tenderer to determine the terms of and to sign the tender on behalf of the tenderer;
5. For the purposes of this Certificate and the accompanying tender, I understand that the word "competitor" shall include any individual or organization, other than the tenderer, whether or not affiliated with the tenderer, who:
  - (a) has been requested to submit a tender in response to this tender invitation;
  - (b) could potentially submit a tender in response to this tender invitation, based on their qualifications, abilities or experience; and
  - (c) provides the same goods and services as the tenderer and/or is in the same line of business as the tenderer;
6. The tenderer has arrived at the accompanying tender independently from, and without consultation, communication, agreement or arrangement with any competitor. However communication between partners in a joint venture or consortium<sup>3</sup> will not be construed as collusive tendering.
7. In particular, without limiting the generality of paragraphs 6 above, there has been no consultation, communication, agreement or arrangement with any competitor regarding:
  - (a) prices;
  - (b) geographical area where product or service will be rendered (market allocation);
  - (c) methods, factors or formulas used to calculate prices;
  - (d) the intention or decision to submit or not to submit a tender;
  - (e) the submission of a tender which does not meet the specifications and conditions of the tender; or
  - (f) tendering with the intention not to win the tender.
8. In addition, there have been no consultations, communications, agreements or arrangements with any competitor regarding the quality, quantity, specifications and conditions or delivery particulars of the products or services to which this tender invitation relates.

9. The terms of the accompanying tender have not been, and will not be, disclosed by the tenderer, directly or indirectly, to any competitor prior to the date and time of the official tender opening or of the awarding of the contract.

I am aware that, in addition and without prejudice to any other remedy provided to combat any restrictive practices related to tenders and contracts, tenders that are suspicious will be reported to the Competition Commission for investigation and possible imposition of administrative penalties in terms of section 59 of the Competition Act, 1998(Act 89 of 1998) and/or may be reported to the National Prosecuting Authority (NPA) for criminal investigation and/or may be restricted from conducting business with the public sector for a period not exceeding ten (10) years in terms of the Prevention and Combating of Corrupt Activities Act, 2004 (Act 12 of 2004) or any other applicable legislation.

Name of Tenderer	Signature	Date	Position

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<sup>3</sup> Joint venture or consortium means an association of persons for the purpose of combining their expertise, property, capital, efforts, skill and knowledge in an activity for the execution of a contract.

## PA-16 : PREFERENCE POINTS CLAIM FORM IN TERMS OF THE PREFERENTIAL PROCUREMENT REGULATIONS 2017

This preference form must form part of all bids invited. It contains general information and serves as a claim form for preference points for Broad-Based Black Economic Empowerment (B-BBEE) Status Level of Contribution

**NB: BEFORE COMPLETING THIS FORM, BIDDERS MUST STUDY THE GENERAL CONDITIONS, DEFINITIONS AND DIRECTIVES APPLICABLE IN RESPECT OF B-BBEE, AS PRESCRIBED IN THE PREFERENTIAL PROCUREMENT REGULATIONS, 2017 AND THE AMENDED B-BBEE CODES.**

### 1. GENERAL CONDITIONS

1.1 The following preference point systems are applicable to all bids:

- the 80/20 system for requirements with a Rand value of up to R50 000 000 (all applicable taxes included); and
- the 90/10 system for requirements with a Rand value above R50 000 000 (all applicable taxes included).

1.2 The value of this bid is estimated to R50 000 000 (all applicable taxes included) and therefore the... **80/20**.....system shall be applicable.

1.3 Preference points for this bid shall be awarded for:

- (a) Price; and
- (b) B-BBEE Status Level of Contribution.

1.3.1 The maximum points for this bid are allocated as follows:

	POINTS
<b>1.3.1.1 PRICE</b>	<b>80</b>
<b>1.3.1.2 B-BBEE STATUS LEVEL OF CONTRIBUTION</b>	<b>20</b>
<b>Total points for Price and B-BBEE must not exceed</b>	<b>100</b>
1.4 Failure on the part of a bidder to fill in and/or to sign this form and submit a B-BBEE Verification Certificate from a Verification Agency accredited by the South African Accreditation System (SANAS) or an Accounting Officer as contemplated in the Close Corporation Act (CCA) together with the bid, will be interpreted to mean that preference points for B-BBEE status level of contribution are not claimed.	
1.5 An Exempted Micro Enterprise (EME) is only required to obtain a sworn affidavit or a certificate issued by Companies and intellectual property Commission (CIPC) confirming their annual turnover of R10 Million or less and level of black ownership to claim points.	
1.6 Qualifying Small Enterprise (QSE) is only required to obtain a sworn affidavit or a certificate issued by Companies and intellectual property Commission (CIPC) confirming their annual turnover of R10 Million or less and level of black ownership to claim points.	

1.6 The purchaser reserves the right to require of a bidder, either before a bid is adjudicated or at any time subsequently, to substantiate any claim in regard to preferences, in any manner required by the purchaser.

## 2. DEFINITIONS

- (a) **“all applicable taxes”** includes value-added tax, pay as you earn, income tax, unemployment insurance fund contributions and skills development levies;
- (b) **“B-BBEE”** means broad-based black economic empowerment as defined in section 1 of the Broad-Based Black Economic Empowerment Act;
- (c) **“B-BBEE status level of contributor”** means the B-BBEE status received by a measured entity based on its overall performance using the relevant scorecard contained in the Codes of Good Practice on Black Economic Empowerment, issued in terms of section 9(1) of the Broad-Based Black Economic Empowerment Act;
- (d) **“bid”** means a written offer in a prescribed or stipulated form in response to an invitation by an organ of state for the provision of services, works or goods, through price quotations, advertised competitive bidding processes or proposals;
- (e) **“Broad-Based Black Economic Empowerment Act”** means the Broad-Based Black Economic Empowerment Act, 2003 (Act No. 53 of 2003);
- (f) **“comparative price”** means the price after the factors of a non-firm price and all unconditional discounts that can be utilized have been taken into consideration;
- (g) **“consortium or joint venture”** means an association of persons for the purpose of combining their expertise, property, capital, efforts, skill and knowledge in an activity for the execution of a contract;
- (h) **“contract”** means the agreement that results from the acceptance of a bid by an organ of state;
- (i) **“EME”** means an Exempted Micro Enterprise as defines by Codes of Good Practice under section 9 (1) of the Broad-Based Black Economic Empowerment Act, 2003 (Act No. 53 of 2003);
- (j) **“Firm price”** means the price that is only subject to adjustments in accordance with the actual increase or decrease resulting from the change, imposition, or abolition of customs or excise duty and any other duty, levy, or tax, which, in terms of the law or regulation, is binding on the contractor and demonstrably has an influence on the price of any supplies, or the rendering costs of any service, for the execution of the contract;
- (k) **“functionality”** means the measurement according to predetermined norms, as set out in the bid documents, of a service or commodity that is designed to be practical and useful, working or operating, taking into account, among other factors, the quality, reliability, viability and durability of a service and the technical capacity and ability of a bidder;
- (l) **“non-firm prices”** means all prices other than “firm” prices;
- (m) **“person”** includes a juristic person;
- (n) **“QSE”** means a Qualifying Small Enterprise as defines by Codes of Good Practice under section 9 (1) of the Broad-Based Black Economic Empowerment Act, 2003 ( Act No. 53 of 2003);
- (o) **“rand value”** means the total estimated value of a contract in South African currency, calculated at the time of bid invitations, and includes all applicable taxes and excise duties;
- (p) **“sub-contract”** means the primary contractor’s assigning, leasing, making out work to, or employing, another person to support such primary contractor in the execution of part of a project in terms of the contract;
- (q) **“total revenue”** bears the same meaning assigned to this expression in the Codes of Good Practice on Black Economic Empowerment, issued in terms of section 9(1) of the



Broad-Based Black Economic Empowerment Act and promulgated in the *Government Gazette* on 9 February 2007;

- (r) **“trust”** means the arrangement through which the property of one person is made over or bequeathed to a trustee to administer such property for the benefit of another person; and
- (s) **“trustee”** means any person, including the founder of a trust, to whom property is bequeathed in order for such property to be administered for the benefit of another person.

### 3. ADJUDICATION USING A POINT SYSTEM

- 3.1 The bidder obtaining the highest number of total points will be awarded the contract.
- 3.2 Preference points shall be calculated after prices have been brought to a comparative basis taking into account all factors of non-firm prices and all unconditional discounts;.
- 3.3 Points scored must be rounded off to the nearest 2 decimal places.
- 3.4 In the event that two or more bids have scored equal total points, the successful bid must be the one scoring the highest number of preference points for B-BBEE.
- 3.5 However, when functionality is part of the evaluation process and two or more bids have scored equal points including equal preference points for B-BBEE, the successful bid must be the one scoring the highest score for functionality.
- 3.6 Should two or more bids be equal in all respects, the award shall be decided by the drawing of lots.

### 4. POINTS AWARDED FOR PRICE

#### 4.1 THE 80/20 OR 90/10 PREFERENCE POINT SYSTEMS

A maximum of 80 or 90 points is allocated for price on the following basis:

**80/20                      or                      90/10**

$$P_s = 80 \left( 1 - \frac{P_t - P_{\min}}{P_{\min}} \right) \quad \text{or} \quad P_s = 90 \left( 1 - \frac{P_t - P_{\min}}{P_{\min}} \right)$$

Where

- $P_s$  = Points scored for comparative price of bid under consideration
- $P_t$  = Comparative price of bid under consideration
- $P_{\min}$  = Comparative price of lowest acceptable bid

### 5. Points awarded for B-BBEE Status Level of Contribution

- 5.1 In terms of Regulation 6(2) and /or 7(2), of the Preferential Procurement Regulations, preference points must be awarded to a bidder for attaining the B-BBEE status level of contribution in accordance with the table below:

<b>B-BBEE Status Level of Contributor</b>	<b>Number of points (90/10 system)</b>	<b>Number of points (80/20 system)</b>
1	10	20
2	9	18
3	6	14
4	5	12
5	4	8
6	3	6
7	2	4
8	1	2
Non-compliant contributor	0	0

5.2 A trust, consortium or joint venture, will qualify for points for their B-BBEE status level as a legal entity, provided that the entity submits their B-BBEE status level certificate.

5.3 A trust, consortium or joint venture will qualify for points for their B-BBEE status level as an unincorporated entity, provided that the entity submits their consolidated B-BBEE scorecard as if they were a group structure and that such a consolidated B-BBEE scorecard is prepared for every separate bid.

5.4 Tertiary institutions and public entities will be required to submit their B-BBEE status level certificates in terms of the specialized scorecard contained in the B-BBEE Codes of Good Practice.

5.5 A person awarded a contract may not sub-contract more than 25% of the value of the contract to any other enterprise that does not have an equal or higher B-BBEE status level than the person concerned, unless the contract is sub-contracted to an EME that has the capability and ability to execute the sub-contract.

## **6. BID DECLARATION**

6.1 Bidders who claim points in respect of B-BBEE Status Level of Contribution must complete the following:

## **7. B-BBEE STATUS LEVEL OF CONTRIBUTION CLAIMED IN TERMS OF PARAGRAPHS 1.3.1.2 AND 5.1**

7.1 B-BBEE Status Level of Contribution: ..... = .....(maximum of 10 or 20 points)

(Points claimed in respect of paragraph 7.1 must be in accordance with the table reflected in paragraph 5.1 and must be substantiated by means of a B-BBEE certificate issued by a Verification Agency accredited by SANAS or Sworn Affidavit for EME's and QSE's.

## 8 SUB-CONTRACTING (relates to 5.5)

8.1 Will any portion of the contract be sub-contracted? YES / NO (delete which is not applicable)

8.1.1 If yes, indicate:

- (i) what percentage of the contract will be subcontracted?  
 .....%
- (ii) the name of the sub-contractor? .....
- (iii) the B-BBEE status level of the sub-contractor?  
 .....
- (iv) whether the sub-contractor is an EME/ a QSE? YES / NO (delete which is not applicable)

## 9 DECLARATION WITH REGARD TO COMPANY/FIRM

9.1 Name of company/firm ..... :

9.2 VAT registration number : .....

9.3 Company registration number ..... :

9.4 TYPE OF COMPANY/ FIRM

- ☐ Partnership/Joint Venture / Consortium
- ☐ One person business/sole propriety
- ☐ Close corporation
- ☐ Company
- ☐ (Pty) Limited

[TICK APPLICABLE BOX]

9.5 DESCRIBE PRINCIPAL BUSINESS ACTIVITIES

.....

.....

.....

9.6 COMPANY CLASSIFICATION

- ☐ Manufacturer
- ☐ Supplier
- ☐ Professional service provider
- ☐ Other service providers, e.g. transporter, etc.

[TICK APPLICABLE BOX]

9.7 Total number of years the company/firm has been in business? .....

9.8 I/we, the undersigned, who is / are duly authorised to do so on behalf of the company/firm, certify that the points claimed, based on the B-BBE status level of contribution indicated in paragraph 7 of the foregoing certificate/ Sworn Affidavit, qualifies the company/ firm for the preference(s) shown and I / we acknowledge that:

- (i) The information furnished is true and correct;

- (ii) The preference points claimed are in accordance with the General Conditions as indicated in paragraph 1 of this form.
- (iii) In the event of a contract being awarded as a result of points claimed as shown in paragraph 7, the contractor may be required to furnish documentary proof to the satisfaction of the purchaser that the claims are correct;
- (iv) If the B-BBEE status level of contribution has been claimed or obtained on a fraudulent basis or any of the conditions of contract have not been fulfilled, the purchaser may, in addition to any other remedy it may have –
  - (a) Disqualify the person from the bidding process;
  - (b) Recover costs, losses or damages it has incurred or suffered as a result of that person's conduct;
  - (c) Cancel the contract and claim any damages which it has suffered as a result of having to make less favourable arrangements due to such cancellation;
  - (d) restrict the bidder or contractor, its shareholders and directors, or only the shareholders and directors who acted on a fraudulent basis, from obtaining business from any organ of state for a period not exceeding 10 years, after the audi alteram partem (hear the other side) rule has been applied; and
  - (e) forward the matter for criminal prosecution

**WITNESSES:**

- 1. ....
- 2. ....

..... SIGNATURE(S) OF BIDDER(S)
------------------------------------

**DATE:**.....

**ADDRESS:**.....

.....  
**THIS FORM IS ALIGNED TO SBD 6.1**

**C1: AGREEMENT AND CONTRACT DATA**

**C1.1 Form of Offer and Acceptance**

**Offer**

The Employer, identified in the acceptance signature block, has solicited offers to enter into a contract for the procurement of:

**SPECIALIST CIVIL ENGINEERING AND GEO-PROFESSIONAL SERVICES**

**on the Project**

**DRMS: PHASE 5: EMERGENCY AND AD-HOC PROPERTY INVESTIGATIONS IN SUPPORT OF THE DOLOMITE RISK MANAGEMENT STRATEGY FOR THE PROPERTIES OF THE NATIONAL DEPARTMENT OF PUBLIC WORKS..**

The tenderer, identified in the offer signature block, has examined the documents listed in the Tender Data and addenda thereto as listed in the returnable schedules, and by submitting this offer has accepted the conditions of tender.

By the representative of the tenderer, deemed to be duly authorized, signing this part of this form of offer and acceptance, the tenderer 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 remuneration to be determined in accordance with the conditions of Contract identified in the Contract Data.

**The offered price for Specialist Civil Engineering and Geo-Professional Services, inclusive of all applicable taxes (All applicable taxes" includes value- added tax, pay as you earn, income tax, unemployment insurance fund contributions and skills development levies) is :**

**R .....** (in figures)

.....

..... **Rand** (in words).

**Being:**

The total tendered price recorded above comprises the following combined contract activities:

- a) Tendered Rates for "Outcomes Based Services" (C2.2.2) - where remuneration is stipulated as tendered rates for "Outcomes Based Services" in C2.1.1.1.
- and
- b) Tendered Rates for "Time and Cost Based Fees Services" (C2.2.3) - where remuneration is stipulated as "Time and Cost Based Fees Services" in C2.1.1.1.

The award of the tender may be subjected to price negotiation with the preferred tender(s). The negotiated and agreed price will be considered for acceptance as <b><u>a firm and final offer.</u></b>
--

This offer may be accepted by the Employer by signing the acceptance part of this form of offer and acceptance and returning one copy of this document to the tenderer before the end of the period of validity stated in the Tender Data, whereupon the tenderer becomes the party named as the Service Provider in the conditions of Contract identified in the Contract Data.

**THIS OFFER IS MADE BY THE FOLLOWING LEGAL ENTITY:** (cross out block which is not applicable)

Company or close corporation: ..... ..... whose registration number is: ..... whose income tax reference number is: ..... and whose National Treasury Central Supplier Database (CSD) numbers are: CSD supplier number: .....  Tax Compliance Status Pin (TCSP).....	OR	Natural person or partnership: ..... ..... whose identity number(s) is/are: ..... whose income tax reference number is/are: ..... and whose National Treasury Central Supplier Database (CSD) numbers are: CSD supplier number: .....  Tax Compliance Status Pin (TCSP).....
--	----	--

**AND WHO IS** (if applicable):

Trading under the name and style of: .....
---

**AND WHO IS:**

Represented herein, and who is duly authorised to do so, by:  Mr/Mrs/Ms: .....  In his/her capacity as: .....	<b>Note:</b> <b>A resolution / power of attorney, signed by all the directors / members / partners of the legal entity must accompany this offer, authorising the representative to make this offer.</b>
--	---

**SIGNED FOR THE TENDERER:**

Name of representative	Signature	Date

**WITNESSED BY:**

Name of witness	Signature	Date

The tenderer elects as its *domicilium citandi et executandi* in the Republic of South Africa, where any and all legal notices may be served, as (physical address):

.....

.....

**Other contact details of the Tenderer are:**

Telephone no: ..... Cellular phone no: .....

Fax no: .....

Postal address: .....

Banker: ..... Branch: .....

## Acceptance

By signing this part of this form of offer and acceptance, the Employer identified below accepts the tenderer's offer. In consideration thereof, the Employer shall pay the Service Provider the amount due in accordance with the conditions of Contract identified in the Contract Data. Acceptance of the tenderer's offer shall form an agreement between the Employer and the tenderer upon the terms and conditions contained in this agreement and in the Contract that is the subject of this agreement.

The terms of the Contract are contained in:

- Part C1 Agreements and Contract Data, (which includes this agreement)
- Part C2 Pricing Data
- Part C3 Scope of Services

and drawings and documents or parts thereof, which may be incorporated by reference into Parts C1 to C3 above.

Deviations from and amendments to the documents listed in the Tender Data and any addenda thereto as listed in the tender schedules as well as any changes to the terms of the offer agreed by the tenderer and the Employer during this process of offer and acceptance, are contained in the schedule of deviations attached to and forming part of this agreement. No amendments to or deviations from set documents are valid unless contained in this schedule.

The tenderer shall within two weeks after receiving a completed copy of this agreement, including the schedule of deviations (if any), contact the Employer's agent (whose details are given in the Contract Data) to arrange the delivery of any bonds, guarantees, proof of insurance and any other documentation to be provided in terms of the conditions of Contract identified in the Contract Data. Failure to fulfil any of these obligations in accordance with those terms shall constitute a repudiation of this agreement.

Notwithstanding anything contained herein, this agreement comes into effect, if sent by registered post, 4 days from the date on which it was posted, if delivered by hand, on the day of delivery, provided that it has been delivered during ordinary business hours, or if sent by fax, the first business day following the day on which it was faxed. Unless the tenderer (now Service Provider) within seven working days of the date of such submission notifies the Employer in writing of any reason why he cannot accept the contents of this agreement, this agreement shall constitute a binding contract between the Parties.

### For the Employer:

Name of signatory	Signature	Date

<b>Name of Organisation:</b>	Department of Public Works
<b>Address of organisation:</b>	

### Witnessed by:

Name of witness	Signature	Date

## 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 matter in 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 incorporated into the final draft of the Contract.

<b>1.2.1. Subject:</b>
<b>Detail:</b>
<b>1.2.2. Subject:</b>
<b>Detail:</b>
<b>1.2.3. Subject:</b>
<b>Detail:</b>
<b>1.2.4. Subject:</b>
<b>Detail:</b>
<b>1.2.5. Subject:</b>
<b>Detail:</b>
<b>1.2.6. Subject:</b>
<b>Detail:</b>

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 tender 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.



## C1.2 Contract Data

C1.2.1 Standard Professional Services Contract  
The conditions applicable to this Contract are the **Standard Professional Services Contract (July 2009 edition)** published by the **Construction Industry Development Board (CIDB)**.

The Standard Professional Service Contract is not included in this tender document. Tenderers must obtain it on the CIDB's Website at:

[http://www.cidb.org.za/procurement/procurement\\_toolbox/cidb\\_pub/default.aspx](http://www.cidb.org.za/procurement/procurement_toolbox/cidb_pub/default.aspx)

C1.2.2 Data provided by the Employer

Clause	
	<p>The General Conditions of Contract in the Standard Professional Services Contract (July 2009) make several references to the Contract Data for details that apply specifically to this tender. The Contract Data shall have precedence in the interpretation of any ambiguity or inconsistency between it and the General Conditions of Contract.</p> <p>Each item of data given below is cross-referenced to the clause in the General Conditions of Contract to which it mainly applies.</p>
1	The Employer is the <b>Government of the Republic of South Africa in its Department of Public Works.</b>
1	The Period of Performance is from inception of this Contract for a duration of 36 months and any additional extension(s) of that period if ever so required by the Department.
1	The Project is: Specialist Civil Engineering and Geo-Professional Services for the Project: DRMS: PHASE 5: EMERGENCY AND AD-HOC PROPERTY INVESTIGATIONS IN SUPPORT OF THE DOLOMITE RISK MANAGEMENT STRATEGY FOR THE PROPERTIES OF THE NATIONAL DEPARTMENT OF PUBLIC WORKS.
3.4 and 4.3.2	The authorised and designated representative of the Employer is the departmental project manager, details of whom are as indicated in T1.1 Notice and Invitation to Tender under item T1.1.6.
3.4.1	Communication by e-mail is not permitted.
3.5	The Services shall be executed in the Service Provider's own office and on the Project site as described in item C3.2.2 Project description. No portion of the work may be performed by a person employed by the State. No portion of the work may be sublet to any other person or persons without the prior written approval of the Employer.
3.6	Omit the following: "... within two (2) years of completion of the Service ...".
3.12.1	<p>Period of Performance shall be sub dividable in separate target dates according to the programme to be submitted in terms of clause 3.15 hereof.</p> <p>A Penalty amount of R1 000 per day will be applicable per target date for the full period of the delay. In the event that the delay exceeds 30 days, the Employer will have the option to either: (i) terminate the contract and recover any loss as a result of the termination from the Service Provider, or (ii) allow the Service Provider to continue with the Services after the agreement of a new target date and recover the penalty of R1 000 per day for the full period of the delay.</p>
3.15	<p><b><u>For fees stipulated as "Outcome Based Services" in C2.1 Pricing Instructions, C2.1.1.1:</u></b></p> <p><u>Programme:</u></p> <p>A programme for the performance of Outcome Based Services shall be submitted by the Service Provider, to the Departmental PM, within a period of 10 (ten) working days following the project inception briefing meeting. During the briefing meeting information will be conveyed about various Outcomes Based Services required to be performed under Bill #2 to Bill #3. Thereafter, the Service Provider will have the opportunity to re-align his preliminary Project Execution Plan (PEP), which</p>

was submitted with the tender document, to enable him to compile his final PEP for the project, which will form the basis for management of the Contract and remuneration purposes. Should circumstances change considerably from the briefing (referred to above), the Service Provider and the Departmental PM will negotiate a revised final PEP to meet with and satisfy such change(s). Should the Parties fail to reach agreement on the revised final PEP, the matter will be dealt with in terms of clause 12.1.2 of the Standard Professional Services Contract (July 2009 edition) published by the Construction Industry Development Board (CIDB). Should the mediation process fail, the Contract will be deemed to have been mutually terminated and any reasonable Fees accrued at that stage settled by the Department for satisfactory Outcomes Based Services rendered.

The programme will be the result of the co-ordination of all supporting aspects/services required to be performed by the Service Provider for Outcomes Based Services WO's. The WO specific PEP shall in sufficient detail describe planned activities against targeted milestone dates, which will provide the fastest realistic time to undertake and complete the work. Reference shall be made to details of applicable milestone events/dates in C3.2.2.4.3.

Target milestone dates/events shall be referenced to and based on the Scope of Services described in relevant clauses of C3 of the tender documents. No targeted milestone dates/events may, at the co-ordination stage, be extended beyond the generic target milestone dates outlined in C3.2.2.4.3, without acceptable motivated reasons provided by the Project Principal.

The Service Provider Project Principal shall compile and submit a signed final PEP and present same to the PM for sign-off, as proof that the programme was agreed upon between the Service Provider and the PM, which information will be used when monitoring progress of WO instructed Bill #2 and Bill #3 Outcome Based Services.

The Department retains the right to negotiate amendments to the submitted final PEP for Outcomes Based Services, with the Project Principal, to promote the best interest of the project whenever required or deemed necessary.

**For fees stipulated as "Time and Cost Based Fees Services" in C2.1 Pricing Instructions, C2.1.1.1:**

**Generic Project Execution Plan (PEP) for GHI's and EEI's:**

A generic PEP for attendance to and performance of Dolomite Ground Hazard Incident (GHI) Services and/or Emergency Event Incident (EEI) Services shall be submitted by the Service Provider to the Departmental PM, within a period of 10 (ten) working days following the project inception briefing meeting.

Important: Reference shall *inter alia* be made to guiding milestone target dates specified in C3.2.2.4.3 B) and C) for WO's involving GHI's and EEI's. See also C3.3.5.1 A) & B)

**Programme for Additional Time and Cost Based Fees Services:**

The Service Provider shall compile and submit a WO specific Project Execution Plan (PEP) for the performance of instructed Additional Time and Cost Based Fees Services, for consideration and approval by the Departmental PM. Reference to amongst others C3.2.2.4.3, C3.2.3, C3.3.4 and C3.3.5. Said WO-specific PEP shall contain total estimated cost(s) for the performance of requisite Service(s), including designated/assigned Key Persons time and costs and target milestone dates, Unless circumstances dictate otherwise, each WO-specific PEP shall be submitted by the Service Provider within 10 (ten) working days following the WO instruction date.

In the event of the Department not being satisfied with the submitted WO-specific PEP, the parties will negotiate in good faith towards a PEP that will be agreeable to both. Such an agreed-upon PEP will form the basis for the management and remuneration of the WO-specific PEP. Should circumstance change from the initial briefing, the Service Provider and the Departmental PM will negotiate a revised WO-specific PEP to satisfy such change(s).

Milestone target date(s) may not extend beyond the submitted PEP program time frame(s), per each WO-specific assignment instructed by the PM, without timeous notification and reasonable motivation and/or justification put forward by the Service Provider. The programme thus compiled and presented by the Service Provider, must be formally submitted to the PM, duly signed by the

	<p>Project Principal, as proof of the Service Provider's undertaking and commitment to deliver upon Specified Time and Cost Based Fees Services.</p> <p>Should the Parties fail to reach agreement on any PEP for WO instructed Additional Services for Time and Cost Based Fees Services, the matter will be dealt with in terms of clause 12.1.2 of the Standard Professional Services Contract (July 2009 edition) published by the Construction Industry Development Board (CIDB). Should the mediation process fail, the applicable WO (or if applicable, such WO's as are in dispute), will be cancelled and will be deemed to have been mutually terminated and any reasonable fees accrued at that stage, settled by the Department.</p> <p><u>Note:</u> Reference shall be made to "generically" described penalties for Time and Cost Based Fees Services, detailed in C3.2.2.4.3, for duties required to be performed by Key Persons.</p>
3.16	Price Adjustment to Time and Cost Based Fees Services and Outcome Based Services for inflation shall apply in accordance with 3.16.1 hereunder.
3.16.1	Time and Cost Based Fees Services and Outcome Based Services shall be adjusted in terms of 3.16.2 on each anniversary of the Starting Date of the contract. The Starting Date of the contract is the date of the Letter of Acceptance issued by the client.
3.16.2	<p>Price Adjustment to Time and Cost Based Fees Services and Outcome Based Services shall be equal to:</p> $(CPI_n - CPI_s) / CPI_s$ <p>Where <math>CPI_s</math> = the headline index number for the month during which the Starting Date falls and  <math>CPI_n</math> = the headline index number for the month in which each anniversary of the Starting Date falls.</p> <p>Indices are obtained from Stats SA Statistical Release P0141 Table B1 and is available on the Website:  <a href="http://www.statssa.gov.za/Publications/statsdownload.asp?PPN=P0141">http://www.statssa.gov.za/Publications/statsdownload.asp?PPN=P0141</a></p> <p><u>Price Adjustment to Tendered Rates:</u></p> <p><u>Period one (01):</u>  Tendered rates shall be fixed for the first 12 (twelve) months of the contract period (no Price Adjustment applicable).</p> <p><u>Period two (02):</u>  Tendered rates are subject to adjustment of CPI headline index for the period following Period one (01) above for 12 (twelve) months with the base month being the month in which the Starting Date falls and the Price Adjustment date, the month in which the first anniversary of the Starting Date falls.</p> <p><u>PERIOD THREE (03):</u>  Tendered rates are subject to adjustment of CPI headline index for the remaining period following Period two (02) above for 12 (twelve) months with the base month being the month in which the Starting Date falls and the Price Adjustment date, the month in which the second anniversary of the Starting Date falls.</p>
4.1.1	<p>Briefing meeting:</p> <p>There will be no briefing meeting for this Tender</p>
4.4	Others providing Services on this Project are as listed in C3.5.1 Service Providers.
5.4.1	Minimum professional insurance cover of R1,5 million, with the first amount payable not exceeding 5% of the value of indemnity, and/or personal liability – all as more comprehensively described in C1.2.3 Data provided by the Service Provider and in respect of which the Service Provider must provide data as required.

	Tenderers shall note special and additional high risk contract insurance requirements, which are applicable to this contract, all as specified in C2.1.2.21.3, which policies shall be acquired and maintained in force for the contract period.
5.5	<p>The Service Provider is required to obtain the Employer's prior approval in writing before taking any of the following actions:</p> <ul style="list-style-type: none"> <li>a) Appointing subcontractors for performance of any part of the services,</li> <li>b) Appointing Key Person(s) not listed by name in the Contract Data 7.1.2 below,</li> <li>c) Any other action that may be specified in the Contract Data.</li> </ul>
5.5 (c)	<p>1. 1. Exclusion of authority/powers The Service Provider's authority to act and/or to execute functions or duties is <b>excluded</b> in respect of the matters listed below. The Employer shall retain its powers and authority as stipulated in the applicable clauses of the contract data which are relevant and applicable to the GCC conditions of contract.</p> <ul style="list-style-type: none"> <li>1.1 Execution of WO's, albeit for Outcomes based Services or Time and Cost Based Fees Services;</li> <li>1.2 Travelling &amp; sundry expenses for which payment will be beyond the provisions of C2.1.4.9 and C2.1.4.10;</li> <li>1.3 Granting of extension of time and/or ruling on claims associated with claims for extension of time;</li> <li>1.4 Acceleration of the rate of progress and determination of the cost for payment of such acceleration;</li> <li>1.5 Rulings on claims and disputes;</li> <li>1.6 Suspension of the works;</li> <li>1.7 Final payment certificate;</li> <li>1.8 Issuing of <i>mora</i> notices to the contractor;</li> <li>1.9 Cancellation of the contract between the Employer and contractor.</li> <li>1.10 Deviate from or change the Scope of Services;</li> <li>1.11 Deviate from the final programme as in clause 3.15 above;</li> <li>1.12 Deviate from the programme (delayed or earlier);</li> </ul> <p>Any claims, demands, notices, notifications, updated particulars and reports in writing, together with additional supporting documentation pertaining thereto, must be submitted by the contractor to the Service Provider, acting as principal agent, in respect of any of the matters listed in 1.1 to 1.8 above. This must be done within the time periods and in the format(s) as determined in the said/relevant conditions of contract. On receipt thereof, said Service Provider must study the documentation, obtain comments/advice/recommendations from the professional team members and submit a motivated recommendation to the Employer. This must be done timeously as to allow the Employer sufficient time to respond within the time periods and in the format(s) determined in said conditions of contract. The Employer's ruling will be copied to the Service Provider for information.</p> <p>2. Limitation of authority/powers The Service Provider's authority is <b>limited</b> in respect of the submission to the Employer of comments/recommendations/reports for prior endorsement/approval and further instructions. These pertain to any decision in respect of approval for/of:</p> <ul style="list-style-type: none"> <li>2.1 Institution of or opposing litigation;</li> <li>2.2 Issuing of variation orders/contract instructions/orders in writing which increase the value of the works/contract value and/or change the design of intended use of the project;</li> <li>2.3 Instructions to embark on dayworks;</li> <li>2.4 Dayworks rates;</li> <li>2.5 Material quotes relating to dayworks;</li> <li>2.6 Adjustment of general items relating to dayworks;</li> <li>2.7 Expenditure on prime cost items;</li> <li>2.8 Issuing of practical completion, completion, works completion, final completion and/or final approval certificates.</li> </ul> <p>In respect of the matters listed in 2.1 to 2.8 above, the Service Provider must submit all necessary documentation in order to enable the Employer to formulate decisions and to obtain</p>

	<p>the Employer's formal endorsement/approval prior to acting and/or executing functions or duties in respect of the contract between the Employer and the contractor. This must be done timeously so as to allow the Employer sufficient time for decision-making in terms of the said conditions of contract.</p> <p>Failure to adhere to the above stipulation will cause the Service Provider to be liable in terms of the Contract between Service Provider and Employer for all such unintended costs and damages.</p>
8.1	The Service Provider is to commence the performance of the Services immediately after the Contract becomes effective and execution to be as per the programme in clause 3.15 above (see C3 Scope of Services, C3.6 Brief).
8.4.3 (c)	The period of suspension under clause 8.5 is not to exceed two (2) years.
9.1	Copyright of documents prepared for the Project shall be vested with the Employer.
12.1.2	Interim settlement of disputes is to be by mediation.
12.2.1	In the event that the Parties fail to agree on a mediator, the mediator is to be nominated by the president of the Association of Arbitrators (Southern Africa).
12.2.4 / 12.3.4	Final settlement is by litigation.
13.1.3	All partners in a joint venture or consortium shall carry the same professional indemnity insurance as per clause 5.4.1 of the General Conditions of Contract.
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 5 years from the date of termination or completion of the Contract.
13.5	The amount of compensation is unlimited.
13.6	The provisions of clause 13.6 do not apply to the Contract.
14.4	In the first sentence, change "... period of twenty four months after ..." to "... period of thirty six months after ...".
15	In respect of any amount owed by the Service Provider to the Employer, the Service Provider shall pay the Employer interest at the rate as determined by the Minister of Finance, from time to time, in terms of section 80(1)(b) of the Public Finance Management Act, 1999 (Act no1 of 1999).

C1.2.3 Data provided by the Service Provider

Clause	
	Each item of data given below is cross-referenced to the clause in the General Conditions of Contract to which it mainly applies.
1	The Service Provider is the company, close corporation, natural person or partnership named in C1.1 Form of Offer and Acceptance by the tendering Service Provider.
5.3	The authorised and designated representative of the Service Provider is the person named in the resolution PA-15.1 or PA-15.3 by the tendering Service Provider.
5.4.1	<p><u>Indemnification of the Employer</u></p> <p>I, the undersigned, being duly authorized by the Service Provider, in terms of the completed resolution (PA-15.1 or PA-15.3)</p> <p>..... (Name of authorized person)</p> <p>hereby confirm that the Service Provider known as:</p> <p>..... (Legal name of entity tendering herein)</p> <p>tendering on the project:</p> <p><b>SPECIALIST CIVIL ENGINEERING AND GEO-PROFESSIONAL SERVICES:</b>  <b>DRMS: PHASE 5: EMERGENCY AND AD-HOC PROPERTY INVESTIGATIONS IN SUPPORT OF THE DOLOMITE RISK MANAGEMENT STRATEGY FOR THE PROPERTIES OF THE NATIONAL DEPARTMENT OF PUBLIC WORKS,</b>  holds professional indemnity insurance cover, from an approved insurer, duly registered with the Finance Services Board, of not less than <b>R1.5 million</b>, with the first amount payable not exceeding 5% of the value of indemnity. I further confirm that the Service Provider will keep such professional indemnity fully subscribed. I further confirm that should the professional indemnity insurance, with no knowledge of the Employer, be allowed to lapse at any time or in the event of the Service Provider cancelling such professional indemnity insurance, with no knowledge of the Employer, at any time or if such professional indemnity cover is not sufficient, then the Service Provider, (i) accepts herewith full liability for the due fulfilment of all obligations in respect of this Service; and (ii) hereby indemnifies, and undertakes to keep indemnified, the Employer in respect of all actions, proceedings, liability, claims, damages, costs and expenses in relation to and arising out of the agreement and/or from the aforesaid Service Provider's intentional and/or negligent wrongful acts, errors and/or omissions in its performance on this Contract.</p> <p>I confirm that the Service Provider undertakes to keep the Employer indemnified, as indicated above, beyond the Final Completion Certificate/Final Certificate by the Employer (whichever is applicable) for a period of five (5) years after the issue of such applicable certificate.</p> <p>I confirm that the Service Provider renounces the benefit of the <i>exceptionis non causa debiti, non numeratae pecuniae</i> and <i>excussionis</i> or any other exceptions which may be legally raised against the enforceability of this indemnification.</p> <p>Notwithstanding the indemnification required above, the Employer reserves the right to claim damages from the Service Provider for this Project where the Service Provider neglects to discharge its obligations in terms of this agreement.</p> <p>Furthermore I/we undertake to ensure that any person and/or entity, appointed by me/us on a sub-contracting basis, in the execution of any part or parts of the Scope of Services:</p> <p>a) hold(s)/maintains for the duration of their respective part(s) of the sub-contracted work, appropriate insurance, which must/may include professional indemnity insurance cover and/or Service Providers All risk insurance and/or Public Liability Insurance cover suitable for works / activities on high risk dolomite land and that such person or entity, mutatis mutandis, leave(s) the Department indemnified beyond the completion of the respective sub-contracted works/activities,</p>

	<p>for which the Service Provider will issue a sub-contract completion certificate to the sub-contracted party for a period of five (5) years after the issue of such applicable certificate. See also C2.1.2.21.3 for special insurance requirements applicable to this contract.</p> <p><b>NAME:</b> .....</p> <p><b>CAPACITY:</b> .....</p> <p><b>SIGNATURE:</b> .....</p>																		
7.1.2	<p>As an extension of the definitions contained in clause 1 hereof, Key Persons must, for the purposes of this Contract, include one or more of the professionally registered principal(s) of the Service Provider, <b>and/or</b>, one or more professional(s) employed to render professional services, for whom copies of certificates or other documentation clearly proving current professional registration with the relevant council, including registration numbers, must be included with the tender as part of the returnable documentation.</p> <p><b>Important Note #1:</b> Tendering Service Providers are required to furnish the requisite information in the table hereunder with the actual name(s) of personnel contemplated to perform <b>*Specific jobs / functions</b> recorded hereunder.</p> <p><b>Important Note #2:</b> Reference shall be made to C2.1.2.4 for Definitions concerning requirements applicable to the listed <b>**Key Persons</b> in the table hereunder.</p> <p>The Key Persons and their jobs / functions in relation to the Services are:</p> <table border="1"> <thead> <tr> <th>Name (nominated person's name must be recorded hereunder)</th> <th>Key Persons Position (who are permanently employed by the Service Provider):</th> <th>Category of professional registration</th> <th>*Specific jobs / functions:</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td><b>**Project Principal:</b></td> <td>ECSA registered</td> <td>Single point of contact/co-ordination between Service Provider and the Departmental' PM</td> </tr> <tr> <td>2.</td> <td><b>**Competent Person (Civil Engineering)</b></td> <td>ECSA Registered</td> <td>Civil Engineering Township Services design(s) and existing Civil Engineering Services integrity assessment.</td> </tr> <tr> <td>3.</td> <td><b>**Competent Person (Dolomite land) Engineering Geologist or Civil Engineer</b></td> <td>ECSA or SACNASP registered</td> <td>Render specialist Geo-professional Services</td> </tr> </tbody> </table>			Name (nominated person's name must be recorded hereunder)	Key Persons Position (who are permanently employed by the Service Provider):	Category of professional registration	*Specific jobs / functions:	1.	<b>**Project Principal:</b>	ECSA registered	Single point of contact/co-ordination between Service Provider and the Departmental' PM	2.	<b>**Competent Person (Civil Engineering)</b>	ECSA Registered	Civil Engineering Township Services design(s) and existing Civil Engineering Services integrity assessment.	3.	<b>**Competent Person (Dolomite land) Engineering Geologist or Civil Engineer</b>	ECSA or SACNASP registered	Render specialist Geo-professional Services
Name (nominated person's name must be recorded hereunder)	Key Persons Position (who are permanently employed by the Service Provider):	Category of professional registration	*Specific jobs / functions:																
1.	<b>**Project Principal:</b>	ECSA registered	Single point of contact/co-ordination between Service Provider and the Departmental' PM																
2.	<b>**Competent Person (Civil Engineering)</b>	ECSA Registered	Civil Engineering Township Services design(s) and existing Civil Engineering Services integrity assessment.																
3.	<b>**Competent Person (Dolomite land) Engineering Geologist or Civil Engineer</b>	ECSA or SACNASP registered	Render specialist Geo-professional Services																

	4.	<b>**Competent Person (Structural Engineering)</b>	ECSA Registered	Structural Engineering Services involving structural risk assessments of existing buildings & structures affected by dolomitic conditions.
	5.	<b>**Civil Engineering Technician</b>	ECSA Registered	Supporting and investigative services
	6.	<b>Geologist</b>	SACNASP Registered	Amongst other borehole logging and recording
	7.			
	8.			
	9.			
	10.			
7.2	A Company Personnel Schedule is not required as the contract is to be executed by the above specified Key Person(s) as per 7.1.2.			

If the space provided in the table above is not sufficient to describe the **specific duties**, this space may be utilized for such purpose:



## **C2: PRICING DATA**

### **C2.1 Pricing Instructions**

#### **C2.1.1 Basis of remuneration, method of tendering and estimated fees**

##### **C2.1.1.1 Remuneration for Specialist Civil Engineering and Geo-Professional Services will be paid for on tendered rates for:**

- i) Outcome Based Services (C2.1.3), and
- ii) Time and Cost Based Fees Services (C2.1.4).

##### **C2.1.1.2 Tenderers are to tender:**

- A) Rates for Outcome Based Services listed in Activity Schedule C2.2.2  
and
- B) Rates for Time and Cost Based Fees Services per Activity Schedule C.2.2.3.  
all as set out below.

#### **C2.1.2 Remuneration for Specialist Civil Engineering and Geo-Professional Services**

##### **C2.1.2.1 Remuneration for services rendered by the Service Provider shall be calculated as follows, taking due cognisance of requirements stated in C2.1.2.2 to C2.1.2.3:**

- A) Rates for "Outcome Based Services": The tendered unit rates in C2.2.2 Activity Schedule, multiplied by the quantity certified, plus Value Added Tax (VAT), all according to the provisions under C2.1.3  
plus
- B) Rates for "Time and Cost Based Fees Services": The different rates tendered for Services performed by Key Persons and specialist Geo-scientific specialists, assisted (where required) by geo-physical investigative means/methods, listed in C2.2.3 Activity Schedule, multiplied by the actual number of units expended, plus the permitted actual recoverable items certified, plus Value Added Tax, all according to the provisions under C2.1.4.

##### **C2.1.2.2 The amount tendered herein (C1.1) is for tender purposes only and will be amended according to C2.1.1.1.**

##### **C2.1.2.3 Upon the issue of a written WO instruction by the PM to the Service Provider on Time and Cost Based Fees Services, typing, printing and duplicating work and forwarding charges, as set out under C2.1.4.8 herein, will be paid in full.**

##### **C2.1.2.4 Disbursements in respect of all travelling and related expenses including all travelling costs, time charges and subsistence allowances related thereto will not be paid for separately. Tenderers must make provision for and include all such costs in their tender when calculating the rates as described in C2.1.1.2 above.**

The term "Site-Variable Activities" is associated with all travelling requirements/expenses of the Service Provider's Sub-contractors, to enable work to be performed at the locality of PM instructed WO site/property, for Bill #2, Bill #4 and Bill #5 Services. At the fundamental core of Site-Variable Activities are an all-inclusive tendered Rate for travelling towards and returning from a WO instructed site/property, which includes for travelling time/expenses of the designated supporting Sub-contracting entities personnel, equipment and machinery. To enable the Service Provider to produce Specified Outcomes in accordance with a WO instruction on a designated site/property, may require, amongst others, site inspections/arrangements for the contemplated work. These include, but are not limited to

physically and materially investigating/exploring site conditions, borehole drilling works access/inspections, transportation of materials for testing/logging and evaluation etc., all of which components/elements contribute towards delivering upon Specified Outcomes.

For the purpose of this contract, the Site-Variable Activities component includes, in the broadest possible meaning of the term, such items as can be related to travelling, which, amongst others, deal with the travelling entities travelling time, travelling expenses/costs, inclusive of any and all subsistence and sundry disbursements expenses/costs deemed necessary/required, as from the date/time of departure from its Home Base to reach the WO specified site/property and the date/time of the return trip back to Home Base.

### C2.1.2.5 Definitions:

For the purpose of this contract, the following terms shall have the definitions/meanings hereby assigned:

(Note: listing alphabetically arranged.)

<b>Civil Engineering Technician is a Key Person who:</b>	a)	is registered in terms of the Engineering Professions Act, 2000 (Act No. 46 of 2000) as a Professional Engineering Technician.
	b)	has at least 3 (three) years extensive applied experience of projects/work on dolomite land.
<b>Commencement date:</b>	The date formally recorded on the Department's letter of award to the successful tenderer.	
<b>Competent Person (Civil engineering) is a Key Person who:</b>	a)	Is registered in terms of the Engineering Professions Act, 2000 (Act No. 46 of 2000) as either a Professional Engineer or a Professional Engineering Technologist and ...
	b)	has at least 5 (five) years appropriate experience and a working knowledge of developments on dolomite land.
<b>Competent Person (Dolomite land) Engineering Geologist or Civil Engineer is a Key Person who:</b>	a)	Is registered as a professional engineer in terms of the Engineering Profession Act, 2000 (Act No. 46 of 2000) or a person who has a BSc degree , or higher, in geology or engineering geology and is registered as a professional natural scientist in terms of the National Scientific Professions Act, 2003 (Act No. 27 of 2003), or ....
	b)	Is a professional practitioner as a Geologist, Engineering Geologist or a Geotechnical Engineer, who is registered with SACNASP, who shall be able to prove more than 5 (five) years relevant experience of the assessment/analysis of dolomitic land and development(s) thereon, or ...
	c)	has demonstrated to his peers the following competency outcomes in relation to a parcel of dolomite land through an interview and the submission of a portfolio of work: (in the absence hereof, the Department will by formal instruction/demand, to have such a person's dolomite related work/experience evaluated by a committee, which will comprise three senior dolomite experts [to be identified/named by the Department], in an interview. Should the outcome of the interview prove an acceptable risk to the Department, such person will be allowed to work on this project) 1). Interpret and understand the geological and geo-hydrological setting. 2). Identify and determine the dolomite hazard i.e. the features (sinkhole or subsidence) that can cause damage and injury. 3). Analyse and determine the dolomite land inherent hazard class in accordance with the requirements of the SANS 1936 Part 2, Annex B (normative) Methodology for the determination of the inherent hazard by the method of scenario supposition. 4). Determine appropriate development and water precautionary measures in relation to risk. 5). Determine the procedures for the rehabilitation of sinkholes and subsidence(s). 6). Determine appropriate dolomite risk management strategies in accordance with the requirements of SANS 1936 Part 4.

<b>Competent Person (Structural engineering) is a Key Person who:</b>	<p>a) is registered in terms of the Engineering Professions Act, 2000 (Act No. 46 of 2000) as either a Professional Engineer or a Professional Engineering Technologist, and</p> <p>b) has at least 5 (five) years' experience of structural engineering design/development on dolomitic land.</p>
<b>Dolomite Manual:</b>	Department's dolomite reference manual for investigations, works and development on dolomite land, titled: APPROPRIATE DEVELOPMENT OF INFRASTRUCTURE ON DOLOMITE: MANUAL FOR CONSULTANTS, with Document reference PW 344/2017.
<b>DRMS:</b>	The term Dolomite Risk Management Strategy (DRMS) refers to the process of using scientific, planning, engineering and social processes, procedures and measures to manage an environmental hazard, and encompasses policies and procedures set in place to reduce the likelihood of events (sinkholes and subsidences) occurring on dolomite land.
<b>Emergency Event Incident (EEI):</b>	An Emergency Event Incident (EEI) requires an expeditious response, within 24 (twenty four) hours of notifying the Service Provider to risk assess the extent and influence of a reported dolomite instability incident, with specific reference to the term "EEI" mentioned in the WO, when instructed by the PM, albeit verbal or in writing. Reference shall be made to C3.2, C3.2.2.4.3 and C3.3.5.
<b>GIS:</b>	The term "GIS" refers to the Department's Geographical Information System, which utilizes a suite of registered patented computer software programs such as ArcGIS, ArcMap, ArcView and ArcEditor and others, which are currently utilized by the Department; Any and all information, features, attributes, data, files, programs, drawings, maps, etc., to be supplied under this contract as Deliverables and Time and Cost Based work, shall be fully compatible with the Department's currently utilized computer software programs and system(s) input/output requirements/formats.
<b>Ground Hazard Incident (GHI):</b>	A Ground Hazard Incident (GHI) requires expeditious response(s), within 72 (seventy two) hours from the Service Provider to risk assess the extent and influence of a reported incident, with specific reference to the term "GHI" mentioned in the written WO instructed by the PM. Refer also to C3.2, C3.2.2.4.3 and C3.3.5.
<b>Home Base:</b>	<p>Home Base means a fixed reference point of departure/return from where travelling distance measurement is determined, per each WO issued by the PM. For this contract the term Home Base shall mean The City of Pretoria, at Church Square.</p> <p><b>Note:</b> For any case of merit and where the context requires differently, Home Base may also mean the physical point of departure/return, as agreed upon in writing between the PM and the Project Principal, and confirmed in the associated WO issued by the PM.</p>
<b>Key Person(s):</b>	Key Persons are those persons listed in C1.2.3: Data Provided by the Service Provider, Clause 7.1.2.
<b>Lump Sum:</b>	An amount tendered for listed Services in Activity Schedules C2.2.2 and C2.2.3, which price is tendered to reflect an all-inclusive Lump Sum value for the particular Service.
<b>Outcome Based Services:</b>	<p>Outcome Based Services are performed by the Service Provider upon the issue of a written PM instructed WO, the result of which culminates in Specified Outcomes referenced in C3, measured in Activity Schedules C2.2.2 and C2.2.3.</p> <p><b>Important note:</b> The wording and intent of this definition is used interchangeably with the definition for Specified Outcomes.</p>

<b>Project Manager (PM):</b>	Person identified as the Departmental Project Manager (PM) in T1.1.6. See T1: Tendering Procedures.	
<b>Project Principal:</b>	<ul style="list-style-type: none"> <li>a)</li> <li>b)</li> <li>c1)</li> <li>c2)</li> <li>d)</li> </ul>	<p>Is a Key Person who:</p> <ul style="list-style-type: none"> <li>is a Senior Director and co-owner of the Service Provider consultancy and will be referred to as the Project Principal in this Contract:</li> <li>must perform a leading role as a Key Person to the Contract and act as the single point of responsibility contact/liaison between the Department and the Service Provider :</li> <li>is a Senior professional Civil Engineer and a Competent Person (civil engineering)*, with at least 10 years working experience in the dolomite design/development environment or alternatively ..</li> <li>is a Senior Competent Person (dolomite land), with at least ten (10) years' experience of design/development on dolomitic areas.</li> <li>must in name be nominated/recorded in the list of Key Persons</li> </ul>
<b>Provisional Cost Sum:</b>	An amount allowed for in the Activity Schedule(s) for a yet to be identified Service, the extent, scope and detail of which is not yet quantified or described, which may be instructed by the Department, as and when required. Generally, the use of such items must conform to the Department's particular procurement requirements, which involves the sourcing of at least 3 (three) quotations from relevant independent sub-contracting Service Provider entities.	
<b>Quantity:</b>	The measured number of units for listed Services quantified in C2.2.2 and C2.2.3.	
<b>Rate/s:</b>	The unit rate at which remuneration will be compensated for items listed in C2.2.2 and C2.2.3, for which the Service Provider shall tender all-inclusive scheduled rates for Bill #1 to Bill #6 Services, to requirements specified in C3.	
<b>Service/s:</b>	Performing and/or executing works/activities necessary in fulfilling the Scope of Work/Services instructed, albeit implied or otherwise, all as required by the written WO's issued by the Departmental PM to the Service Provider, with particular reference to Specified Outcomes for Services detailed in C2.2.2 and C2.2.3, read together with the requirements of the Scope of Services in C3.	
<b>Site-Specific Activities:</b>	An all-inclusive term, which requires attendance by the Service Provider, its supporting Service(s) entities/Key Persons, etc., to perform all material requirements/aspects required on a WO identified site/property, delivering upon <b>Specified Outcomes</b> . This item generally excludes travelling arrangements and costs associated with travelling to and returning from a target destination. See C2.1.2, C3.2.2, C3.2.3 and C3.3.2 C).	
<b>Site-Variable Activities:</b>	An all-inclusive term used to describe, in the broadest possible meaning/context, such travelling activities and sundry expenses as are required/necessitated by the various Service Provider's entities (albeit for Services performed by Exploratory drilling and/or Gravity surveys, etc.), to perform requisite Services to produce <b>Specified Outcomes</b> , by travelling of same to or returning from a specified WO site/property. See C2.1.2, C3.2.2, C3.2.3 and C3.3.2 D).	
<b>Specialist Civil Engineering and Geo-professional Services</b>	Specialist Civil Engineering and Geo-professional Services comprises Outcome Based Services measured in C2.2.2 and Time and Cost Based Fees Services performed Key Persons or specialist geo-scientific professionals and geo-physical investigative Services listed in C2.2.3.	

<b>Specified Outcomes:</b>	The Service Provider delivers tangible Specified Outcomes for various Services, meeting qualitative, measurable and verifiable requirements, to particular specified norms/standards (typically reports of different type and specified quantum). This definition (Specified Outcomes) shall be read in conjunction with the definition for Outcome Based Services, which is used interchangeably as the context requires.
<b>State Owned Sites/Properties:</b>	State Owned properties in this contract means all land, sites/properties, buildings and facilities constructed thereon, which are owned, and in some cases leased, by the State and which are administered by the National Department of Public Works (note: schools and health facilities are typically excluded, due to such being a provincial competency).
<b>Tenderer's Financial Offer:</b>	Total Financial Offer by Tenderer for required Services in C3, the amount of which is all inclusive and summarised in C2.2.4
<b>Time and Cost Based Fees Services</b>	Time and Cost Based Fees Services are described in C3 and listed in Activity Schedule C2.2.3...
<b>Unit:</b>	The unit of measurement for each scheduled Billed Service item.
<b>Water Auditing Initiative (WAI)</b>	Works required to be performed as described in C3.3.3, upon specific WO issued by the PM.
<b>Work Order (WO):</b>	A formal instruction issued by the PM to render required Services. Such formal instructions are reduced to writing as WO's, which are uniquely referenced with a sequential number, generated by the PM, upon issue of the WO. <u>Note:</u> The sum total amount (monetary re-measurable value) of all WO's issued by the PM constitutes the full extent of this tender. <u>Important:</u> Each WO issued by the PM must be priced by the Service Provider in a separate PEP, at either Outcomes Based Services and/or Time and Cost Based Fees Services Rates.

#### **C2.1.2.6 GENERAL CONTRACTUAL REQUIREMENTS AND SERVICE PROVIDER OBLIGATIONS:**

(Particulars are contained in C2.1.2.6 up to and inclusive of C2.1.2.19):

- C2.1.2.7** All fee accounts shall be signed by the Project Principal, which must be submitted in original format, failing which the accounts will be returned. Copies, facsimiles, electronic and other versions of fee accounts will not be considered for payment.
- C2.1.2.8** Upon the issue of a written WO by the PM, the Service Provider shall diligently perform requisite work in C3, which Services are measured and priced at tendered rates in C2.2.2 and/or C2.2.3. Remuneration for issued WO's shall be compensated at all inclusive tendered Rates.
- C2.1.2.9** Payments to the Service Provider will be made electronically according to the banking details furnished by the Service Provider. Any change in such banking details must be communicated timeously with the PM. Fee accounts, correct in all respects, will be deemed submitted when received (i.e. date stamped and registered at the Department's Head Office registry section), and settled when electronically processed by the Department. The Department reserves the right to dispute the whole account, any item or part of an item at any time and will deal with such case in terms of clause 14.3 of the Standard Professional Services Contract ((July 2009) (third edition of CIDB document 1014)).
- C2.1.2.10** Accounts for services rendered may be submitted on the satisfactory completion of written instructed WO's. In particular, reference shall be made to C2.1.3.2 A), B) and C), for incremental proportions payable, in lieu of Outcomes Based Services rendered, which will be certifiable at a particular stage of execution. Interim accounts will only be considered during the execution phase of WO's and then not more frequently than monthly. Payment of accounts rendered will be subject to checking by the PM. The Department reserves the right to amend the amounts claimed in order to conform to tendered rates in this Contract and make payment on the basis

of the balance of the account in accordance with clause 14.3 of the Standard Professional Services Contract ((July 2009) third edition of CIDB document 1014).

- C2.1.2.11** The onus for the timeous submission of all required documentation to register the Service Provider for payment in lieu of this Contract shall be the sole responsibility of the Service Provider.
- C2.1.2.12** Accounts for Services rendered shall be submitted to meet with the PM's account format requirements. The Service Provider shall timeously consult with the PM to formulate/agree to an acceptable format/standard.
- C2.1.2.13** The short descriptions of the payment items in the Activity Schedules are only given to identify Services required and to provide abbreviated details. Reference shall, amongst others, be made to C1.2 - Contract Data, C2 - Pricing data and C3 - Scope of Work for more detailed information regarding the description(s), specification(s) and particulars of work required under this contract.
- C2.1.2.14** Tendering Service Providers shall allow for all costs related to compliance with this Contract's **Standard Conditions of Tender (January 2009 edition)**, as contained in **Annex F** of the **Construction Industry Development Board (CIDB) Standard for Uniformity in Construction Procurement** and the **Standard Professional Services Contract (July 2009 edition)**, published by the **Construction Industry Development Board (CIDB)**, which costs/expenses shall be deemed to be included in tendered rates.
- C2.1.2.15** Tendering Service Providers shall fill in a rate or a Lump Sum for each item where provision is made for it, even where no quantities are given. Items against which no Rate or Lump Sum has been entered in the tender will not be paid for when work is executed, as payment for such work will be regarded as being covered by other Rates or Lump Sums in the Activity (Pricing) Schedule.
- C2.1.2.16** Tendering Service Providers shall fill in a Rate against all items where the words "rate only" appears in the amount column. Although no work may be foreseen under such item and no quantities consequently given in the quantity column, the tendered rate shall apply should work under this item actually be required. Tenderer's should note all provisions contained in Clause C2.1.2 of the Pricing Instructions.
- C2.1.2.17** Should the Tendering Service Provider group a number of items together and tender one lump sum for each group of items, this single tendered lump sum shall apply to that group of items and not to each individual item, or should it be indicated that full compensation for any item has been included in the rate for another item, the rate for the item included in another item shall be deemed to be nil.
- C2.1.2.18** Wherever unit rates are not indicated, such item(s) shall be interpreted to mean that the item has a zero extendable cost.
- C2.1.2.19** Tendered Lump Sum(s) and Rates shall be valid irrespective of any change in the quantities.
- C2.1.2.20** Tendered rates exclude Value Added Tax (VAT). VAT is however payable on this contract and is computed only once and added in the "TOTAL FINANCIAL OFFER BY TENDERER: (BILL COST SUMMARY TABLE)". See C2.2.4
- C2.1.2.21 Provisional Cost Sum(s):**
- 1) Where a Provisional Cost Sum is set out in the Activity Schedules and the work to which the Provisional Cost Sum relates is instructed by the PM and is executed:
    - a) By the Service Provider, it shall be valued in accordance with the rates contained in the Activity Schedules as may be applicable or .....
    - b) By a Sub-contractor, the Service Provider shall be reimbursed the sum or sums actually paid by him to the Sub-contractor, plus a mark-up, at the percentage stated by the Service Provider in the tender, but limited to a maximum of 7, 5% (seven and a half percent).

- 2) Expenditure in connection with Provisional Cost Sums shall be in accordance with the Department's procurement policies and shall be expended solely at the discretion and on the written WO instruction of the PM.
- 3) The Service Provider shall produce all relevant invoices, vouchers and receipts in respect of payments made in connection with Provisional Cost Sums, when payment is requested for these items.

**C2.1.2.22 PARTICULAR REQUIREMENTS APPLICABLE TO ALL WO SERVICES INSTRUCTED UNDER THIS CONTRACT:**

**C2.1.2.21.1 Occupational Health and Safety Act (OHSA), 1993 (Act No. 85 Of 1993) and Construction Regulations 2014:**

A) The Service Provider and his selected Sub-contractors shall jointly and severally be responsible for the implementation and maintenance of a Safety Management Plan (SMP) for all WO's required to be performed under this contract. No separate payment shall be made for compliance to the requirements of the above mentioned Act/Regulations in performing WO assignments under this contract. The cost of providing this service shall be deemed included in the rates tendered. See C3.2.3.7

iii)

B) The Service Provider's tendered rates in C2.2.2 and C2.2.3 shall be deemed inclusive of all Occupational Health and Safety Act/Regulations requirements/costs, which must be timeously arranged, serviced and maintained.

C) Measurement and Payment for Occupational Health and Safety Act (OHSA), 1993 (Act No. 85 of 1993) and Construction Regulations 2014 shall be deemed included in tendered rates.

**C2.1.2.21.2 Quality Management System Requirements:**

A) Tendering Service Providers shall make due allowance for the implementation of a two pronged reputable/auditable quality management system as recorded in C3.2.3.2. This requirement is applicable whether WO's are performed on either Outcomes Based Services or Time and Cost Based fees Services instructed by WO by the PM. The cost of implementing the first component of the QMS, namely the Internal Quality Assurance Program, is to ensure meeting the Department's basic quality objectives, which shall be deemed to be included in the tendered rates. See also C3.2.3.2 B1) in particular.

B) The second component of the required QMS requires implementation of an independent (external) peer review mechanism, which Services will be compensated at tendered all inclusive costs. See C3.2.3.2 in general and C3.2.3.2 B2) in particular. The cost of the Peer Review functionary (who shall be an independent retained senior Competent Person (Dolomite land), shall be deemed to be included in the tendered rates. See also C3.2.3.2 B2) in particular.

C) Measurement and Payment for QMS Requirements:

The Service Provider's tendered rates shall be deemed inclusive of all for QMS component requirements/costs, which must be arranged/implemented and maintained as recorded above.

**C2.1.2.21.3 Special High Risk Contract Insurance Requirements:**

**A) General:**

iv)

**A1) Cautionary Notice:**

Tendering Service Providers are forewarned that all sites/properties that will be attended/ investigated under this contract shall be treated as HIGH RISK DOLOMITE LAND.



**A2)** High Risk Dolomite Land could subject investigative teams, staff and equipment to geological conditions, which are the subject of highly unstable subsurface conditions, which may result in catastrophic ground movement(s), evident by sinkhole(s) and/or subsidence(s).

**A3)** It is a compulsory requirement of this Contract for the Service Provider to procure, maintain and keep in force, appropriate insurance policies for the full duration of this Contract.

**A4)** The Department's Specific Insurance Indemnity requirements for this contract shall inter alia render the Department, the particular Client Department, the public at large, and any state employee resident at or working on any designated site(s)/property(ies), harmless against any claim(s) of whatsoever nature. The appointed Service Provider shall, as a minimum requirement of this contract, arrange for insurance cover against identified risks described hereunder, but not limited thereto.

**B) Tenderer to Procure Appropriate High Risk Insurance Cover for this Contract:**

v)

**B1)** It is the responsibility of the Service Provider to ensure that he has adequate insurance to cover his and his sub-contractors' risks and liabilities as hereunder specified. Without limiting the Service Provider's obligations in terms of the Contract, the Service Provider shall, within 15 working days of the award of the contract, but before commencement of any work performed and/or instructed under this contract, submit to the Department sufficient and adequate proof of such insurance policies, if requested to do so.

**B2)** The minimum requirements for insurance cover for this contract shall include for, but not be limited to the following:

- Damage to the Works
- Injury to Persons or Loss of or damage to Properties
- Professional Indemnity Insurance Cover
- Service Provider's / Contractor's All Risks (CAR) Insurance
- Public Liability Insurance
- Service Provider Entity Insurance (company and employees)

**B3)** Reference shall be made to C3.3.1.3 for High Risk Contract Insurance requirements applicable to this contract.

**C) Measurement and Payment for Insurance Requirements:**

vi)

**C1)** Tendering Service Provider's shall tender an all-inclusive lump sum price for Insurance Requirements described in C2.1.2.21.3 A) and B) above, read with specification requirements C3.3.1.3. Said insurance(s) shall cover and include for all WO's issued and performed by the Service Provider, for Specified Services, described/detailed in C2.2.2 and C2.2.3.

**C2)** The Tenderers Financial Offer shall include for procuring, implementation and maintenance of insurance requirements for the duration of this contract. For pricing of this requirement, reference shall be made to Bill #01, item #1.1.

**C2.1.2.21.4 Specialist Geo-Professional Service Provider's Enabling Requirements (but not limited thereto) to Perform Bill #1 to Bill #5 Services.**

A). Basic Minimum Enabling Requirements:

A1). Studying, assimilating and understanding the Department's currently used DRMS systems, processes and procedures, amongst others detailed and described in the Department's Dolomite Manual, titled "APPROPRIATE DEVELOPMENT OF INFRASTRUCTURE ON DOLOMITE: MANUAL FOR CONSULTANTS, DOCUMENT REFERENCE PW 344/2017", which can be obtained from the website link referenced hereunder,

<http://www.publicworks.gov.za/consultantsguidelines.html> , see item 4, Civil Engineering.

The contents of said Dolomite Manual shall form an integral part of the intent and purpose of this tender.

A2). The use and application of a compulsory South African National Standard, SANS 1936 (2012): Parts 1 to 4: Development of Dolomite Land.

A3). Source and obtain relevant site/property ground water (inclusive of known compartments) information/studies on dolomitic areas in South Africa.

A4). Sourcing and verification of geodetic, cadastral and basic property information/data, for State owned properties, intended and due for investigation under this contract.

A5). The Service Provider will be allowed restricted access to selective reports/gathered data from the Department's GIS system (ARC platform), which will enable same to access/study/assess the desired standard of quality, norms and formatting various specified reports, thereby permitting the Service Provider a detailed understanding of patented software programs used.

A6). Specified Outcomes prepared in meeting particular requirements of this Contract, such as reports, maps drawings etc., must be fully compatible and integrated with the Department's currently used computing system(s) ("ARC"- platform software programs) and methods utilized.

A7). The Service Provider shall prepare and submit a WO-specific sub-level PEP to the PM for each instructed site/property instructed to be investigated and/or attended (based on the generic contents of sub-level PEP). This amongst others include for activities such as planning, establishment, detailed gravity surveys, deep geological exploratory drilling, reporting, peer reviewing, up to final delivery of report to the PM. For Time Based Fees Services, remuneration for the preparation of the sub-level WO-specific PEP will be remunerated at all inclusive tendered Time Based Fees rates.

A8). Basic information to be contained in the reporting standard must include a detailed description of the site, its current use, brief outline of buildings, services and its status quo condition, enlightening/detail photographs (as required) and other site specific geographical, geological and topographic features.

A9). The PM's instructed WO's will generally, though briefly, define the scope of work for each identified site/property to be investigated, but such shall not limit or waiver the general obligations of the Service Provider implied by this contract.

A10). The Service Provider shall have Specified Outcomes (i.e. all requisite specified reports), resulting from WO's executed/performed, to be subjected to the compulsory peer review process, all as specified per C2.1.2.21.2, C3.2.3.2 B2).

A11). The Service Provider shall be responsible to define a "Department compatible" country wide unique property/buildings referencing system, which must be formalized soon after award of this contract, and such must be compatible with the current reference system in use by the Department. Attendance to this requirement shall be deemed included in tendered rates.

B). Measurement and Payment:

Tendered Rates shall be all inclusive of all requirements noted under A1) – A11) above.

**C2.1.2.23 PROVISION FOR PRICE ADJUSTMENT TO TENDERED RATES:**

**Refer to Contract Data C1.2.2, Clause 3.16.**

**C2.1.3 SPECIFIC ADDITIONAL TENDER AND PRICING INSTRUCTIONS APPLICABLE TO OUTCOME BASED BILL #2 AND BILL #3 SERVICES:**

**C2.1.3.1 Tendered Rates to be All Inclusive:**

A) Tendering Service Providers shall tender all-inclusive rates for Services listed in the appropriate column of the relevant Activity Schedule(s). Without derogating from the general meaning of the term all-inclusive rates, any and all expenses which the Service Provider may incur or foresee to incur in the execution of delivering upon Outcome Based Services, irrespective of its substance, nature, class or cause thereof, unless noted otherwise, shall be deemed included in the tendered rates.

B) Each and every WO instruction issued by the PM, must be diligently attended to, and each WO must culminate amongst others in written report(s), commensurate with the generic requirements of each Specified Outcome for a Service, the substance of which is extensively covered in C3.2.3.

vii)

C) The Service Provider shall tender all inclusive rates in Activity Schedule C2.2.2 for Bill#2 and Bill#3 inclusive of items related to travelling, which, amongst others, deal with the travelling Key Person(s) travelling time, travelling expenses/costs, inclusive of any and all subsistence and sundry disbursements expenses/costs deemed necessary/required, as from the date/time of departure from their Home Base to reach the WO specified site/property and the date/time of the return trip back to Home Base.

#### **C2.1.3.2 Remuneration applicable to Outcome Based Services:**

##### **C2.1.3.2 A) General**

A1) The Service Provider shall take note that not all sites/properties instructed to be investigated, are *per se* located “on” Dolomite formation. Two scenarios apply, namely, those that are on face value expected to be located on **known**\*\* dolomite formation and others that are located within a defined band width - generally referred to as the dolomite buffer zone - which is outside/beyond the **known**\*\* dolomite formation distribution.

**\*\* Note:** The dolomite delineated areas are depicted on the “Geological map of the Republic of South Africa (1997, released 1998)” – compiled by Keyser, N.

A2) For the purposes of this contract, the dolomite buffer zone is limited to a max. strip-width of 4,0 (four) km beyond the plotted dolomite ‘boundary’ referenced above. In determining whether any site/property is actually located “on” Dolomite (i.e. those identified to be within the buffer zone of 0,0km to 4,0km), certain exploratory site work is necessary, which is to some extent common cause with those sites/properties that are notably “certain” to be located on Dolomite.

A3) Tendering Service Providers are to note that the modus operandi of investigation(s) and the remuneration method for such Services, i.e. for sites located “on” dolomite or “within” the 4 (four) kilometre dolomite buffer zone, are specified/measured differently (see C3.3.2). Such determination(s) and future follow-on work can only be confirmed from the outcome(s) of exploratory site investigation work(s). Three scenarios apply and these are separately described.

A4) Services measured in Bill #1, Bill #2 and Bill #3 shall be deemed Outcome Based Services, the performance/execution of which will result in fulfilment of particular requirements set in C3.3.2

viii)

A5) Measurement and Payment:

Tendered Rates, which will enable the Service Provider to meet with and comply to Specified Outcomes requirements in C2.1.3.2, shall amongst others, be deemed inclusive of and meticulously attending to specified requirements above, performed taking due cognisance of C2.1.2.21 to C2.1.2.22.

##### **C2.1.3.2 B) Interim Remuneration: Emergency Dolomite Incidence Determination(s):**

**B1)** Interim remuneration for partly completed activities will be considered for Emergency Dolomite Incidence Determination(s) (only applicable to sites located within the 0,0 km to 4,0 km dolomite buffer zone): Applicable to Bill #2.1 Services:

**B2)** Interim remuneration applicable to C2.2.2 Activity Schedule, for Outcomes Based Services listed in C2.2.2.2: Bill 2: Bill #2.1, may be claimed as a percentage of the total (all inclusive) Lump Sum tendered price, for each WO instructed site/property investigated.

**B3)** Permissible interim remuneration percentages applicable to Specified Outcome Based Services for Emergency Dolomite Incidence Determinations:

Item	Verifiable Specified Outcome Based Target Milestone event/activity per site/property:	% payable
a)	Desktop study and physical site visit by Competent Person (dolomite land): Source any and all relevant records, orthophotos, surveyor general information, maps, drawings (if applicable), etc., for desktop study of the designated site/property.  Personally attend and inspect the site and amongst others prepare a systematic portfolio of surveillance photographs, record pertinent geological features and/or any other relevant site information, etc. All reference(s) and relevant information shall be indexed and bound in a uniquely referenced report, which is intended to be used for further planning purposes.	15
b)	On-site setting out of boreholes, drilling exploratory boreholes, site supervision/attendance by Geologist; recovery, analysis, recording & logging borehole profiles, assessment of borehole samples and other pertinent drilling parameters, recording of borehole positions (with coordinates), backfilling of boreholes, etc. Submit site locality layout with borehole positions, submit authenticated borehole log sheets uniquely referenced, in bound report format, to Department	65
c)	Specified Outcome: Option 1: Should the site be classified as a non-dolomitic site, submit a peer reviewed close-out report, complete with associated Dolomite Status Certificate. The report must contain a comprehensive account of work done, complete with detailed motivation regarding the conclusion derived.  Option 2: Should the site be classified as a dolomitic site, submit peer reviewed report with recommendation(s) on further dolomite stability investigation study objectives.	20
	<b>TOTAL:</b>	<b>100</b>

#### **C2.1.3.2 C) Interim Remuneration: Emergency Design Level Dolomite Stability Investigations:**

C1) Interim remuneration applicable to Emergency Design Level Dolomite Stability Investigations, Inherent Hazard Class zoning and DRMP:

Note: This item is only applicable to developed or undeveloped sites/properties, located on identified dolomite land, as reflected upon per Bill 2: Bill #2.2 Services:

C2) Interim remuneration, applicable to C2.2.2 Activity Schedule C2.2.2 Activity Schedule, for Outcomes Based Services listed in C2.2.2.3: Bill 2: Bill #2.2 may be claimed as a percentage of the total (all inclusive) Lump Sum tendered price, for each site/property instructed to be investigated by WO.

C3) Permissible interim remuneration percentages applicable to Specified Outcome Based Services for Emergency Design Level Dolomite Stability Investigations:

ix)

Item	Verifiable Specified Outcome Based Target Milestone event/activity per site/property:	% of tendered price payable
a)	Source any and all relevant records, orthophotos, surveyor general information, maps, drawings (if applicable), etc., for desktop study of the designated site/property. Physical site visit and inspection to assess local site conditions and geological features, performed by Competent Person (dolomite land):  Compilation of systematic portfolio of surveillance photographs and a written report about site observations. All relevant information/reference(s) shall be compiled/indexed in hard copy format, uniquely referenced as a preliminary report, which is intended to be used for further planning purposes.	12
b)	Plan and perform gravity survey, analyse results, render all required input in acceptable format, to the Competent Person (dolomitic areas), in hard copy and electronic version. Uniquely referenced hard copy of report/data must be submitted to the Department.	18
c)	On-site setting out of boreholes, drilling exploratory boreholes, site supervision/attendance by Geologist; recovery, analysis, recording & logging borehole profiles, assessment of borehole samples, and other pertinent drilling parameters, recording of borehole positions (with coordinates), backfilling of boreholes, etc. Submit site locality layout with borehole positions, submit authenticated borehole log sheets uniquely referenced, in bound report format, to Department.	50
d)	Render requisite peer reviewed reports to specified standard to Department, complete with associated Dolomite Status Certificate.	20
	<b>TOTAL:</b>	100

**C2.1.3.2 D) Interim Remuneration: Emergency Building(s) Footprint Dolomite Stability Investigation(s):**

D1) Interim remuneration applicable to Emergency Building Footprint Dolomite Stability Investigation(s), Land Utilization Zoning and DRMP: Note: This item is only applicable to undeveloped sites/properties, located on identified dolomite land, as reflected upon per Bill #2: Bill #2.3 Services:

D2) Interim remuneration, applicable to C2.2.2 Activity Schedule for Outcomes Based Services listed in C2.2.2.4: Bill 2: Bill #2.3 may be claimed as a percentage of the total (all inclusive) Lump Sum tendered price, for each site/property instructed to be investigated by WO.

D3) Permissible interim remuneration percentages applicable to Specified Outcome Based Services for Emergency Footprint Dolomite Stability Investigations:

Item	Verifiable Specified Outcome Based Target Milestone event/activity per site/property:	% payable
a)	Desktop study/analysis of available Design Level Dolomite Stability Investigation(s), land utilization and monitoring reports. Plan and perform micro gravity survey, physical site visit by Competent Person (Dolomite land), analyse results, determine positions of new boreholes, render all required input in acceptable format, uniquely referenced, with hard copy documentation to the Department.	20
b)	On-site setting out of boreholes, drilling exploratory boreholes, site supervision/attendance by Geologist; recovery, analysis, recording & logging borehole profiles, assessment of borehole samples, and other pertinent drilling parameters, recording of borehole positions (with coordinates), backfilling of boreholes, etc.	60

	Submit site locality layout with plotted borehole positions, submit authenticated borehole log sheets, uniquely referenced, in bound report format, to Department.	
c)	Render requisite peer reviewed reports to specified standard to Department, complete with associated Dolomite Status Certificate.	20
	<b>TOTAL:</b>	100

**C2.1.3.2 E) Interim Remuneration: Water Auditing Initiative (WAI):**

E1) Interim payments applicable to Bill #3 Outcomes Based Services for Water Auditing Initiative (WAI):

E2) Reference shall be made to C3.3.3 Services rendered will be compensated as per the tabulated details in E3) hereunder.

E3) Interim payments for Outcomes Based Services listed in C2.2.2 Activity Schedule, C2.2.2.5, Bill #3 Services, may be claimed as a percentage of the total (all inclusive) Lump Sum tendered price, for any one or any grouping of Water Auditing Properties (WAP) instructed by the PM be investigated by WO..

E4) Work Breakdown Structure Table: Water Auditing Property Investigation Services;  
x)

Item	Verifiable Specified Outcome Based Target Milestone event/activity per each WAP:	% payable
a)	Monthly Water Audit: Readings taken at identified WAZ property: (Note: Interim payment applicable over contract period)	50
b)	Water Demand (consumption) Analysis - Theoretical	15
c)	Site Analysis:	10
d)	Water Distribution Network Analysis:	10
e)	Statistical Anomalies and Reporting	15
	Total:	100

**C2.1.4 SPECIFIC TENDER AND PRICING INSTRUCTIONS APPLICABLE TO TIME AND COST BASED FEES SERVICES:**

Application:

For WO's specifically instructed to be performed at Time and Cost Based Fees Services Rate(s), the following rules/requirements apply:

**C2.1.4.1 Fees for work done under a time based fee:**

Tendering Service Providers shall tender all inclusive \*Rates for itemised Time and Cost Based Fees Services listed in Activity Schedule C2.2.3 (only applicable if the basis of remuneration has been set at "Time and Cost Based Fees Services" in C2.1.1.1). The principles as described in clauses 4.4 (1), (2) and (3) of the 2016 NDPW - Scope of Engineering Services and Tariff of Fees, excepting that the rates referred to in clause 4.4 (3) shall be replaced by the various rates per hour tendered for the various categories in C2.2.3 Activity Schedule for Time Based Fees, column (e). These various rates will annually be adjusted for inflation as determined by clause 3.16.2 of the Contract, as amended in the Contract Data in C1.2.2. The time based rates applicable at the time of the execution of the work, as adjusted from time to time, may be claimed.

The tendering Service Provider's attention is drawn to the following:

Note 1: The term\* "all inclusive", in the context of this tender, is defined in C2.1.3.1 and C2.1.4.6.

Note 2: Price Adjustment provisions apply to tendered hourly Time and Cost Based Fees Rates for Key Persons (Bill #5). Refer to C2.1.2.22.

**C2.1.4.2 The various categories referred to in C2.2.3 Activity Schedule for Time Based Fees, are the categories described in clauses 4.4 (2) of the 2016 NDPW - Scope of Engineering Services and Tariff of Fees.**

The Time and Cost Based Fees Services categories as listed in C2.2.3 have been aligned to and shall be applicable for the identified Key Persons mentioned in C1.2.3, clause 7.1.2. Whenever a WO is issued by the PM to the Service Provider, the Project Principal shall, in consultation and collaboration with the PM, nominate appropriate Key Persons required to execute/perform each WO instruction issued.

**C2.1.4.3 Work will be remunerated for at the category level in which it falls as defined in C2.1.4.2 above, irrespective of whether the person who in fact had executed the work functions at a higher category of responsibility and competence.**

Remuneration for WO's instructed to be performed on Time and Cost Based Fees Rates, in undertaking Specialist Engineering and Geotechnical Services (Bill #4 and Bill #5 referenced items), will be remunerated at tendered all inclusive Time and Cost Based Fees Rates. The Service Provider's cost estimate for each WO instructed Time and Cost Based Fees Service, (contained in each WO specific PEP), shall be based upon the estimated hours for the various identified Key Persons, multiplied by different tendered Rates (at Bill #5 item rates), plus the various recommended entities/equipment items proposed to be utilized (at Bill #4 item rates). The actual remuneration of the Service Provider (per each specific WO instructed), will be based on actual hours spent by deployed Key Persons at tendered rates, plus the actual work undertaken by entities/equipment, at tendered Rates, on the specific proviso that the latter amount (actual work undertaken) shall not exceed the former amount (approved WO estimate), unless timely authorized by the PM before the WO is completed. Reference shall be made to C2.1.4. C3.2.3, C3.3.4 and C3.3.5

**C2.1.4.4 Upon submission of claims for payment of WO performed Time and Cost Based Fees Services, the Service Provider shall submit Service Provider management authenticated copies of time sheets, giving abbreviated particulars of work done, date of execution, time duration, travelling particulars, etc., with each fee account, in a format acceptable to the PM See C3.3.4 and C3.3.5.**

**C2.1.4.5 Additional Assignment Services:**

**A)** The PM may instruct WO's for Additional Assignment Services to be performed on Time and Cost Based Fees basis, which may be marginally beyond the scope of work required in this

Contract. Such additional assignment Services shall generally be within the competency of Key Persons of the Tendering Service Provider, which may include, but not be limited to:

- Contract related Specialist Services (generally advisory in substance)
- Professional consulting & supporting function(s), amongst others review of dolomite design reports, attendance at meetings o.b.o. the PM, etc.
- xiii) • Medium Term Expenditure Framework (MTEF) budgeting for Dolomite projects, project administration, project prioritization, etc.
- Assist PM with dolomite training and presentation events.
- Perform independent quality assurance control tests on DPW DRMS contracts.
- Prepare and Develop detailed Dolomite Risk Management Plans (DRMP's).

**B)** All additional assignment services will be instructed by the PM by means of a WO, which Services will be remunerated at all inclusive tendered Time and Cost Based Fees rates, according to requirements set out herein. The level of expertise necessary for such additional work/assignments by Key Persons shall be concomitant with the WO specified Services required, and payment thereof will be done at Tendered Rates.

**C)** WO's issued in connection with Ground Hazard Incidents (GHI) and Emergency Event Incidents (EEI) do not require the submission of a WO specific PEP per case (as PEP agreed provisions applies). See C1.2.2, Clause 3.15.

**D)** Key Persons as are selected/designated to undertake requisite Services, as instructed per WO by the PM, shall be discussed/agreed upon between the PM and the Project Principal. The Project Principal shall, under such direction, be obliged to submit a formal WO specific PEP for consideration/approval by the PM, providing amongst others, an estimated cost breakdown of the particulars of the WO requirements, a schedule of Time Based Fees (required to perform the necessary Services), complete with a target milestone program of events/activities. The estimated WO budget cost will serve as an upper maximum certifiable cost limit, which should not be exceeded without prior formal approval by the PM. Should it be foreseen by the Service Provider that a cost overrun is likely, such must be timeously reported to the PM, complete with a written motivation accompanying such notification. The Key Person's time and cost required to prepare the WO specific PEP will be remunerated at Time and Cost Based Fees rates, which must be separately itemized.

**E) IMPORTANT NOTE:** The estimated cost of any WO involving Time and Cost Based Fees Services must be approved in writing by the PM, before commencement/execution. **Any additional Service(s) deemed necessary during the execution of work thus instructed, and which has its origin with the Service Provider, shall be timeously and properly described/motivated/submitted for consideration by the PM for approval (in writing), prior to commencement/execution thereof, failing which, the cost of same shall be borne by the Service Provider.**

C2.1.4.6 Hourly rates tendered for Key Persons time shall be deemed to include overheads and charges in respect of time expended by clerical Personnel which shall, therefore, not be chargeable separately.

C2.1.4.7 The Service Provider Project Principal must at all times be available on call, 24/7/365, such that it is possible for the PM to contact him, as and when required. Tendered rates must accommodate this specific requirement, and no overtime or after hour rates shall apply. See also particular details recorded in C3.3.1 and C3.3.5

C2.1.4.8 **Typing, printing and duplicating work and forwarding expenses:**

**Important:** This item is applicable only to written WO's issued by the PM, which specifically makes reference for such Services to be performed on (tendered) Time and Cost Based Fees Services Rates. Reference in this regard is made to Bill #5 Services. See Appendix A.



C2.1.4.8.1 Reimbursable rates:

The costs of typing, printing and duplicating work in connection with the documentation which must of necessity be done, except those which must in terms of the relevant Manual or other instructions be provided free of charge, shall be reimbursable at rates applicable at the time of the execution of such work. The document "Rates for Reimbursable Expenses" as amended from time to time and referred to below, is obtainable on the Department's Website: <http://www.publicworks.gov.za/>, under "Documents"; "Consultants Guidelines"; Item 1.

C2.1.4.8.2 Typing and duplicating:

If the Service Provider cannot undertake the work himself, he may have it done by another Service Provider, which specialises in this type of work and it shall be paid the actual costs incurred upon submission of statements and receipts which have been endorsed by him confirming that the tariff is the most economical for the locality concerned.

If the Service Provider undertakes the work himself, he shall be paid in respect of actual expenses incurred subject to the maximum tariffs per A4 sheet as set out in Table 1 in the "Rates for Reimbursable Expenses".

Typing and duplicating expenses shall only be refunded in respect of the final copies of the following documents namely formal reports, formal soil investigation reports, specifications, feasibility reports, EEI and GHI, bills of quantities, material lists, minutes of site meetings and final accounts. The cost of printed hard covers shall only be paid in respect of documents which will be made available to the public such as bills of quantities and specifications or where provision of hard covers is specifically approved.

**IMPORTANT NOTE:** The cost of typing letters, correspondence (to the PM) and letter reports shall be deemed included in Time and Cost Based Fees tendered Rates for Bill #5 Services.

C2.1.4.8.3 Drawing duplication

- a) For drawing duplication the standard rate as set out in Table 2 in the "Rates for Reimbursable Expenses" may be claimed or may be claimed according to the provisions as in (b) or (c) below.
- b) If the Service Provider undertakes the duplication of drawings using his own duplication equipment, he shall be paid the actual cost incurred on condition that it is not higher than the lowest of three quotations of local firms doing drawing duplication in his locality. Such quotations must accompany his account.
- c) If the Service Provider does not undertake his own drawing duplication, he shall be paid the lowest of three quotations of local firms doing plan printing in his locality. Such quotations must accompany his account.
- d) Should there not be three firms doing drawing duplication in his locality, it must be mentioned on his account and the available quotation(s) must then accompany the account.

The cost of providing all polyester negative prints required to form part of the original set of drawings, as-built drawings including computer assisted drawing records for all facets/disciplines involved in the project are deemed to be included in the tendered fees and will not be reimbursed separately.

C2.1.4.8.4 Forwarding charges

- a) Only the charges in respect of the forwarding of parcels by courier or air freight on special request by the Department will be refunded, provided that such charges will not be refunded if the request had been made as a result of a delay caused by the Service Provider.  
xvi)
- b) The cost of postage, facsimile transmissions, telephone calls, e-mails, etc., are deemed to be included in Time and Cost Based Fees Services rates tendered.  
xvii)

**C2.1.4.9 Travelling and subsistence arrangements and tariffs of charges:**

Notwithstanding the ruling in C2.1.2.4 above (regarding disbursements and travelling expenses which will not be paid separately), when the Service Provider is requested in writing by or obtained prior approval in writing from the Employer to attend specific meetings at any of the

Employer's offices or any extraordinary meetings on site or elsewhere, he will be remunerated according to the provisions under C2.1.4.1 to C2.1.4.5 herein.

**C2.1.4.9.1 General:**

The most economical mode of transport is to be used taking into account the cost of transport, subsistence and time. Accounts not rendered in accordance herewith may be reduced to an amount determined by the Employer.

As the tariffs referred to hereunder are adjusted from time to time, accounts must be calculated at the tariff applicable at the time of the expenditure.

**IMPORTANT NOTE:** Where journeys and resultant travelling costs are in the PM's opinion related to a Service Provider's underperformance or failure in terms of the requirements of this Contract, namely to properly document and/or co-ordinate working arrangements, and/or to manage contract Specified Outcomes requirements diligently, claims for travelling time and cost(s) will not be considered for payment by the Department.

This item only applies to WO's instructed in writing by the PM, for Time and Cost Based Fees Services, which Services must be provided at properties owned by or identified for purchase/lease by the National Department of Public Works, anywhere in any of the dolomite affected provinces in the RSA. It is an implied term of this contract that such assignments must be promptly attended to with due diligence by the Service Provider.

WO's instructed by the PM involving Time and Cost Based Fees Services, which requires travelling by the Service Provider, are typically those instruction(s) whereby EEI's, GHI's or Additional Assignment Services (described in C2.1.4.5), are to be investigated/attended, which specifically makes reference for such Service(s) to be performed on a Time and Cost Based Fees terms.

**Note:** EEI events may be verbally instructed by the PM, which should be reduced to writing by the PM, subsequent to the event (though soon thereafter), all as described in C3.3.5.1 B).

**C2.1.4.9.2 Travelling time**

Fees for travelling time are as set out in Table 8 in the "Rates for Reimbursable Expenses".

Fees are payable for travelling time at the tariff, as set out in C2.1.3.5 Time charges for work done under a value based fee. Travelling time will be fully reimbursed.

**C2.1.4.9.3 Travelling costs**

Fees for travelling costs are as set out in Table 3 in the "Rates for Reimbursable Expenses".

Travelling costs will be refunded for the full distance covered per return trip measured from the office of the Service Provider appointed.

Compensation for the use of private motor transport will be in accordance with the Government tariff for the relevant engine swept volume, up to a maximum of 3000 cubic centimetres, prescribed from time to time and as set out in Table 3 in the "Rates for Reimbursable Expenses".

**C2.1.4.9.4 Hired vehicles**

In cases where use is made of hired vehicles, the most economical sized vehicle available is to be used but compensation shall nevertheless be restricted to the cost of a hired car not exceeding a capacity of 1300 cc. Where use of a special vehicle is essential (e.g. four track or minibus to accommodate more people), prior approval in writing must be obtained from the departmental project manager.

**C2.1.4.10 Subsistence Arrangements and Tariffs of Charges for Time and Cost Based Fees Services:**

The subsistence allowances are as set out in Tables 4 and 5 in the "Rates for Reimbursable Expenses".

Only actual costs are payable in respect of absence from office of less than 24 hours.

Should the daily tariff as set out in Table 4 be inadequate, substantiated actual costs plus a special daily allowance as shown in Table 5 for incidental expenses, may be claimed. It must be noted that claims may only be according to Table 4 or Table 5. Accommodation should be limited to the equivalent of a three star hotel and no alcoholic beverages or entertainment costs may be claimed for.

**C2.1.5**

**Set off**

The Employer reserves the right to set off against any amount payable to the Service Provider, any sum which is owing by the Service Provider to the Employer in respect of this or any other project.

## **C2.2 ACTIVITY SCHEDULE(S)**

### **C2.2.1 Activities**

C2.2.1.1 Services required are Outcome Based Services and Time and Cost Based Fees Services.

C2.2.1.2 Scope of Services required are specified in C3, which requirements must be read in conjunction with relevant/applicable payment provisions in C2.

C2.2.1.3 Tendering Service Provider's shall make provision for and tender all inclusive Rates for Services required and specified in C3 Scope of Services and priced in Bill #1 to Bill #5.

### **REFERENCE CLARIFICATION:**

**C2.2.2: OUTCOMES BASED SERVICES; BILL #1, BILL #2 AND BILL #3**

**C2.2.3: TIME AND COST BASED FEES SERVICES: BILL #4 AND BILL #5.**

**C2.2.2:      ACTIVITY SCHEDULE FOR OUTCOMES BASED  
SERVICES:**

**BILL #1, BILL #2, BILL #3.**

<b>C2.2.2: ACTIVITY SCHEDULE FOR BILL #1, BILL #2 AND BILL #3: OUTCOME BASED SERVICES:</b>						
<b>INSURANCE REQUIREMENTS:</b>						
<b>C2.2.2.1: SPECIAL HIGH RISK CONTRACT INSURANCE REQUIREMENTS:</b>						
<b>BILL #1 SERVICES:</b>						
ITEM REFERENCE	PRICING INSTRUCTIONS/SPECIFICATIONS REFERENCE	ACTIVITY DESCRIPTION	UNIT	QUANTITY	RATE / UNIT	AMOUNT
#1.1	C2.1, C2.1.2, C2.1.2.21.3 C2.1.3.2 A) C3.2.3, C3.3.3.3	Special High Risk Contract Insurance requirements:	All-inclusive item	1	Lump Sum	R.....
<b>Tenderer's Financial Offer for C2.2.2.1 for Bill #1 Services:</b>		<b>Amount Carried Over To Bill Cost Summary Table C2.2.2</b>	<b>Sub-total</b>			<b>R.....</b>

<b>C2.2.2: ACTIVITY SCHEDULE FOR BILL #1, BILL #2 AND BILL #3: OUTCOME BASED SERVICES:</b>						
<b>AD-HOC EMERGENCY DOLOMITE STABILITY INVESTIGATIONS AND WATER AUDITING INITIATIVE:</b>						
<b>C2.2.2.3: EMERGENCY DESIGN LEVEL DOLOMITE STABILITY INVESTIGATIONS (DSI), INCLUDING INHERENT HAZARD CHARACTERIZATION (IHC), LAND UTILIZATION APPRAISAL, DOLOMITE AREA DESIGNATION AND DOLOMITE RISK MANAGEMENT PLANS (DRMP), FOR SITES/PROPERTIES LOCATED ON DOLOMITE FORMATION:</b>						
<b>BILL 2: BILL #2.2 SERVICES:</b>						
ITEM REFERENCE	PRICING INSTRUCTIONS/SPECIFICATIONS REFERENCE	ACTIVITY DESCRIPTION	UNIT	QUANTITY	RATE/ UNIT	AMOUNT
#2.2	C2.1.2, C2.1.3, C2.3.1.2 A) & C) C3.2, C3.3, C3.3.2	<b>EMERGENCY AND AD-HOC DESIGN LEVEL DOLOMITE STABILITY INVESTIGATIONS (DSI), INCLUDING INHERENT HAZARD CHARACTERIZATION (IHC), LAND UTILIZATION APPRAISAL, DOLOMITE AREA DESIGNATION AND DOLOMITE RISK MANAGEMENT PLANS (DRMP), FOR SITES/PROPERTIES LOCATED ON DOLOMITE FORMATION:</b> Design level DSI's shall be performed in accordance with amongst other SANS 1936, part 2, Clause 4.3, read with cited PRICING INSTRUCTIONS AND SPECIFICATION reference requirements, with the minimum number of boreholes as per Clause 4.2.3, Table 1. The	-	-	-	-

<b>C2.2.2: ACTIVITY SCHEDULE FOR BILL #1, BILL #2 AND BILL #3: OUTCOME BASED SERVICES</b>						
<b>AD-HOC EMERGENCY DOLOMITE STABILITY INVESTIGATIONS AND WATER AUDITING INITIATIVE:</b>						
<b>C2.2.2.2: EMERGENCY DOLOMITE INCIDENCE DETERMINATION WITHIN THE 4 (FOUR) KILOMETER DOLOMITE BUFFER ZONE:</b>						
<b>BILL #2: BILL #2.1 SERVICES:</b>						
ITEM REFER- ENCE	PRICING INSTRUCTIONS/ SPECIFICATIONS REFERENCE	ACTIVITY DESCRIPTION	UNIT	QUAN- TITY	RATE/UNIT	AMOUNT
#2.1	C2.1.2, C2.1.3, C2.1.3.1, C2.1.3.2 C2.3.1.2 A) & B) C3.2, C3.3, C3.3.2	<b>Emergency Feasibility-level Dolomite Stability Investigations (DSI) to determine Dolomite Incidence:</b>  Determination of the incidence of dolomite on any instructed site/property within the 4,0 km dolomite buffer zone, in any of the dolomite affected provinces in SA. Feasibility-level DSI's shall be performed in accordance with amongst other SANS 1936, part 2, Clause 4.2, read with cited PRICING INSTRUCTIONS AND SPECIFICATIONS REFERENCE requirements, with 3 (three) boreholes per site. The requisite works/activities are as per Bill items listed hereunder:	-	-	-	-
#2.1a)	As above, C2.1.3.2 B), C3.2.3.1 &.2, C3.3.2.1	<b>Site-Specific Activity:</b> Undeveloped site: Land extent ≤ 2,0 ha; Complete site/property investigation, including close-out report and No Dolomite Status Certificate (NDSC) submitted to the PM;	Lump Sum/ Site	2	R.....	R.....
#2.1b)	As above, C2.1.2.21.2 C2.1.3.2 B), C3.2.3.3 C3.3.2.1 C)	<b>Site-Specific Activity:</b> Developed site: land extent ≤ 1,0 ha; Complete site investigation, including close-out report, with a No Dolomite Status Certificate (NDSC) submitted to PM;	Lump Sum/ Site	3	R.....	R.....
#2.1c)	As above, C.2.1.4.9 C3.3.2 C3.3.2 D) C3.3.2.1 A) & C)	<b>Site-Variable Activities:</b> Single item travelling expenses kilometer rate (cumulative summation) for Exploratory Drilling Service Entity, complete with its Operational and Supervisory personnel, inclusive of travelling distance, travelling and accommodation expenses, travelling time, disbursements, subsistence expenses, toll fees, etc., to reach, work at and return for each WO instructed site investigated.	km	8500	R .....	R.....
<b>Tenderer's Financial Offer for C2.2.2.2 for Bill #2.1 Services</b>		<b>Amount Carried Over To Bill Cost Summary Table C2.2.2</b>	<b>Sub-total</b>		<b>R .....</b>	
		requisite works/activities are as per Bill items listed hereunder:				
#2.2a)	As above, C3.3.2.2, C3.3.2.2 C)	<b>Site-Specific Activities:</b> Undeveloped site/property: Land extent ≤ 1,0 ha; Execute and deliver Specified Outcomes, incl. of peer review(s) on all reports/ documents referenced above.	Lump sum/site	2	R.....	R.....
#2.2b)	As above	Extra over #2.2 a): up to 2,0 ha in extent:	Lump sum/site	1	R.....	R.....
#2.2c)	As above	Extra over #2.2 a): up to 3,0 ha in extent:	Lump sum/site	1	R.....	R.....
#2.2d)	As above	Extra over #2.2 a): up to 4,0 ha in extent:	Lump sum/site	2	R.....	R.....

#2.2e)	As above	Extra over #2.2 a): up to 5,0 ha in extent:	Lump sum/site	1	R.....	R.....
#2.2 f)	As above	<b>Site-Specific Activities:</b> ++Developed site: Land extent ≤ 1,0 ha; Execute and deliver Specified Outcomes, incl. of peer reviews on all reports/ documents referenced above.	Lump sum/site	2	R.....	R.....
#2.2 g)	As above	Extra over #2.2f): up to 2,0 ha in extent:	Lump sum/site	1	R.....	R.....
#2.2 h)	As above	Extra over #2.2f): up to 3,0 ha in extent:	Lump sum/site	1	R.....	R.....
<b>Sub-total carried over to next page:</b>					<b>C/0</b>	<b>R .....</b>

**NOTE 1:** Should additional boreholes be required to be drilled when the drilling entity is on site, remuneration will be in accordance with relevant items under Bill #4.3 Services

**NOTE 2:** ++Developed site means computed land surface area from cadastral boundaries of the site investigated.



<b>C2.2.2: ACTIVITY SCHEDULE FOR BILL #1, BILL #2 AND BILL #3: OUTCOME BASED SERVICES:</b>						
EMERGENCY AND AD-HOC DOLOMITE STABILITY INVESTIGATIONS AND WATER AUDITING INITIATIVE:						
<b>C2.2.2.3: EMERGENCY DESIGN LEVEL DOLOMITE STABILITY INVESTIGATIONS (DSI), INCLUDING INHERENT HAZARD CHARACTERIZATION (IHC), LAND UTILIZATION APPRAISAL, DOLOMITE AREA DESIGNATION AND DOLOMITE RISK MANAGEMENT PLANS (DRMP), FOR SITES/ PROPERTIES LOCATED ON DOLOMITE FORMATION:</b>						
<b>BILL 2: BILL #2.2 SERVICES (CONTINUED):</b>						
ITEM REFER-ENCE	PRICING INSTRUCTIONS/ SPECIFICATIONS REFERENCE	ACTIVITY DESCRIPTION	UNIT	QUAN-TITY	RATE/ UNIT	AMOUNT
<b>Sub-total carried over from previous page:</b>					<b>C/0</b>	<b>R.....</b>
#2.2 i)	As above, C3.3.2 D) C3.3.2.2 C)	<b>Site-Variable Activities:</b> Single item travelling expenses kilometer rate (cumulative summation) for Exploratory Drilling Service Entity, complete with its Operational and Supervisory personnel, inclusive of travelling distance, travelling and accommodation expenses, travelling time, disbursements, subsistence expenses, toll fees, etc., to reach, work at and return for each WO instructed site investigated:	km	26 000	R.....	R.....
<b>Tenderer's Financial Offer for C2.2.2.3 for Bill #2.2 Services</b>		<b>Amount Carried Over To Bill Cost Summary Table C2.2.2</b>	<b>Sub-total</b>		<b>R .....</b>	

**NOTE 1:** Should additional boreholes be required to be drilled when the drilling entity is on site, remuneration will be in accordance with relevant items under Bill #4.3 Services

**NOTE 2:** ++Developed site means computed land surface area from cadastral boundaries of the site investigated.

<b>C2.2.2: ACTIVITY SCHEDULE FOR BILL #1, BILL #2 AND BILL #3: OUTCOME BASED SERVICES:</b>						
<b>AD-HOC EMERGENCY DOLOMITE STABILITY INVESTIGATIONS AND WATER AUDITING INITIATIVE:</b>						
<b>C2.2.2.4: EMERGENCY DOLOMITE FOOTPRINT STABILITY INVESTIGATIONS, CONFIRMATION OF INHERENT HAZARD CHARACTERIZATION (IHC) AND DOLOMITE RISK MANAGEMENT PLANS:</b>						
<b>BILL 2: BILL #2.3 SERVICES:</b>						
ITEM REFERENCE	PRICING INSTRUCTIONS/ SPECIFICATIONS REFERENCE	ACTIVITY DESCRIPTION	UNIT	QUANTITY	RATE/UNIT	AMOUNT
#2.3	C2.1.2, C2.1.3, C2.1.3.2 A) & D) C3.2.1, C3.2.2, C3.2, C3.3 C3.3.2	<b>EMERGENCY FOOTPRINT DOLOMITE STABILITY INVESTIGATIONS (FDSI), CONFIRMATION OF INHERENT HAZARD CLASS (IHC), DOLOMITE AREA DESIGNATION AND PREPARATION OF FORMAL DOLOMITE RISK MANAGEMENT PLANS (DRMP):</b> FDSI's shall be performed in accordance with amongst other SANS 1936, part 2, Clause 4.3, read with cited PRICING INSTRUCTIONS AND SPECIFICATION REFERENCE requirements, with the minimum number of boreholes as per Clause 4.2.3, Table 1. The requisite works/activities are as per Bill items listed hereunder:	-	-	-	-
#2.3a)	As above, C3.3.2.3 C)	<b>Site Specific Activities:</b> Construction Area measuring a development footprint** area in extent up to 2500 m <sup>2</sup> :	Lump sum/site	2	R.....	R.....
#2.3b)	As above	Extra over footprint*** area in #2.3a), up to max. of 5000 m <sup>2</sup> :	Lump sum/site	1	R.....	R.....
#2.3c)	As above	Extra over footprint*** area in #2.3a), up to max. of 1,0 ha:	Lump sum/site	1	R.....	R.....
#2.3d)	As above, C3.3.2.3 C) C3.3.2 D)	<b>Site-Variable Activities:</b> Single item travelling expenses kilometer rate (cumulative summation) for Exploratory Drilling Service Entity, complete with its Operational and Supervisory personnel, inclusive of travelling distance, travelling and accommodation expenses, travelling time, disbursements, subsistence expenses, toll fees, etc., to reach, work at and return for each WO instructed site investigated:	km	4500	R.....	R.....
<b>Tenderer's Financial Offer for C2.2.2.4 for Bill #2.3 Services</b>		<b>Amount Carried Over To Bill Cost Summary Table C2.2.2</b>	<b>Sub-total</b>		<b>R.....</b>	

**NOTE**+++: Development footprint area = area computed from building/ structure/facility footprint dimensions, plus 10m in any direction on plan.

**C2.2.2: ACTIVITY SCHEDULE FOR BILL #1, BILL #2 AND BILL #3: OUTCOME BASED SERVICES:**

**AD-HOC EMERGENCY DOLOMITE STABILITY INVESTIGATIONS AND WATER AUDITING INITIATIVE:**

**C2.2.2.5: WATER AUDITING INITIATIVE (WAI) IN SUPPORT OF DOLOMITE RISK MITIGATION RESEARCH.**

**BILL # 3 SERVICES:**

ITEM REFER- ENCE	PRICING INSTRUCTIONS/ SPECIFICATIONS REFERENCE	ACTIVITY DESCRIPTION	WAZ DEVELOPED FOOTPRINT AREA (ha)	WAZ NUMBER OF BUILDINGS (no.)	RATE/IDEN- TIFIED SITE	AMOUNT
#3	C3.3.3	Site Description:	-	-	-	-
#3WAZ.01	C3.3.3.8	NDPW Property(ies) RSA	50	1000	Lump sum	R .....
#3WAZ.add. Land	C3.3.3.8	WAZ Land Parcel Variance(s)	per 1,0 ha (+ or -)	-	R .....	R.....
#3WAZ.add. Buildings	C3.3.3.8	WAZ Additional Buildings/Structures	-	per group of 10 (+ or -)	R .....	R.....
<b>Tenderer's Financial Offer for C2.2.2.5 for Bill #3 Services</b>		<b>Amount Carried Over To Bill Cost Summary Table C2.2.2</b>		<b>Sub-total</b>		<b>R .....</b>

Note: All work performed under Bill #3 Services shall be subject to Project Principal's oversight and review, complete with sign-off for each of the WO instructed WAP.

**C2.2.2 ACTIVITY SCHEDULE SUMMARY TABLE: FINANCIAL OFFER BY TENDERER FOR ACTIVITIES INCLUDED IN BILL #1, BILL#2 AND BILL #3 SERVICES:**

ITEM	DESCRIPTION	AMOUNT
C2.2.2.1	TENDERER'S FINANCIAL OFFER FOR BILL #1 SERVICES	R .....
C2.2.2.2	TENDERER'S FINANCIAL OFFER FOR BILL #2.1 SERVICES	R .....
C2.2.2.3	TENDERER'S FINANCIAL OFFER FOR BILL #2.2 SERVICES	R .....
C2.2.2.4	TENDERER'S FINANCIAL OFFER FOR BILL #2.3 SERVICES	R .....
C2.2.2.5	TENDERER'S FINANCIAL OFFER FOR BILL #3 SERVICES	R .....
C2.2.2	<b>TOTAL FINANCIAL OFFER BY TENDERER FOR BILL #1 to # BILL #3 SERVICES:</b> (AMOUNT CARRIED OVER TO C2.2.4 "TOTAL FINANCIAL OFFER BY TENDERER: BILL ITEM SUMMARY TABLE C2.2.4"):	R .....

**IMPORTANT NOTES:**

- 1 Value Added Tax (VAT) applies to this contract. See C2.2.4
- 2 Total Financial Offer by Tenderer for C2.2.2, Bills #1 to #3 Services, must be carried over to C2.2.4.

**C2.2.3:      ACTIVITY SCHEDULE FOR TIME AND COST  
BASED FEES SERVICES:**

**BILL #4 AND BILL #5.**

**C2.2.3 ACTIVITY SCHEDULE FOR TIME AND COST BASED FEES SERVICES: BILL #4 AND BILL #5**

ADDITIONAL EMERGENCY AND AD-HOC GEO-SCIENTIFIC AND GEO-PHYSICAL DOLOMITE SITE INVESTIGATION SERVICES, INCLUSIVE OF TIME BASED SERVICES FOR KEY PERSONS AND PEER REVIEWS:

**C2.2.3.1: ADDITIONAL EMERGENCY DOLOMITE EXPLORATORY SERVICES IN SUPPORT OF DOLOMITE RISK MITIGATION INTERVENTIONS: GRAVITY AND MICRO GRAVITY SERVICES**

**BILL #4: BILL #4.1 & BILL #4.2:**

ITEM REFERENCE	PRICING INSTRUCTIONS/SPECIFICATIONS REFERENCE	ACTIVITY DESCRIPTION	UNIT	QUANTITY	RATE/UNIT	AMOUNT
#4.1	C2.1.2, C2.1.3, C2.1.4, C3.2, C3.3.4 C3.3.4.1	<b>Bill #4.1 Services*:</b> <b>Additional Emergency Gravity surveys:</b> General requirements/allowances:				
#4.1a)	As above, C3.4.4, C3.3.4.1 A) & B) C3.3.4.1 D)	<b>Site-Specific Activities:</b> Execution of on-site emergency additional gravity survey work (30mx30m grid) at developed sites/ properties, in accordance with cited specifications and Specified Outcomes:	Station	1000	R .....	R.....
#4.1b)	As above	Execution of on-site additional gravity survey work (30mx30m grid) at un-developed sites/ properties, in accordance with cited specifications and Specified Outcomes:	Station	1200	R.....	R.....
#4.1 c)	As above, C2.1.4.9, C3.3.2 D) C3.3.4.1 A), C) & D),	<b>Site-Variable Activities:</b> All inclusive Site-Variable kilometer rate for <b>Gravity survey entity travelling</b> , incl. travelling time of Geo-professional(s), disbursements, subsistence etc., inclusive of support personnel, (if required), per each WO instructed site investigation.	km	4000	R.....	R.....
#4.2	C2.1.2, C2.1.3, C2.1.4, C3.2, C3.3.4 C3.3.4.2	<b>Bill #4.2 Services*:</b> <b>Additional Emergency Micro Gravity Surveys:</b> General requirements/allowances:				
#4.2a)	As above, C3.3.4.2 A) & B) C3.3.4.2 D)	<b>Site-Specific Activities:</b> Execution of on-site additional micro gravity survey work (10mx10m grid), in densely populated developed areas, in accordance with cited specifications and Specified Outcomes:	stations	1600	R.....	R.....
#4.2b)	As above, C2.1.4.9 C3.3.2 D), C3.3.4.2 A), C) & D)	<b>Site-Variable Requirements:</b> All inclusive Site-Variable kilometer rate for <b>Micro-gravity service entity travelling</b> , including travelling time of Geo-professional(s), disbursements, subsistence etc., complete with its Operational, Supervisory and support personnel, per each WO instructed site investigation.	km	4000	R.....	R.....
<b>Tenderer's Financial Offer for C2.2.3.1 for Bill #4.1 and Bill #4.2 Services</b>		<b>Amount Carried Over To Bill Cost Summary Table C2.2.3</b>			<b>Sub-total</b>	<b>R .....</b>

**\*IMPORTANT NOTE:** Bill items #4.1a), b) and c) above will be the subject of a CASE 3 penalty, which will be applied when the designated sub-contracting entity takes more the 72 (seventy two) hours to reach and perform GHI or EEI instructed Bill #4 investigation Services. Reference is made to C3.2.2.4.4 C).

**C2.2.3: ACTIVITY SCHEDULE FOR TIME AND COST BASED FEES SERVICES: BILL #4 AND BILL #5**

ADDITIONAL EMERGENCY AND AD-HOC GEO-PROFESSIONAL AND GEO-PHYSICAL DOLOMITE INVESTIGATION SERVICES, INCLUSIVE OF TIME BASED SERVICES FOR KEY PERSONS AND PEER REVIEWS:

**C2.2.3.2: ADDITIONAL EMERGENCY EXPLORATORY SERVICES IN SUPPORT OF DOLOMITE RISK MITIGATION INTERVENTIONS: EXPLORATORY DRILLING SERVICES**

**BILL #4: BILL #4.3:**

ITEM REFERENCE	PRICING INSTRUCTIONS/SPECIFICATIONS REFERENCE	ACTIVITY DESCRIPTION	UNIT	QUANTITY	RATE/UNIT	AMOUNT
#4.3	C2.1.2, C2.1.3, C2.1.4, C3.2.2, C3.2.3, C3.3.4 C3.3.4.3	<b><u>Bill #4.3 Services*: Additional Emergency Geological Exploration work by means of Borehole drilling/ logging/ testing &amp; backfilling:</u></b>				
#4.3a)	As above, C3.3.4.3 A) & B) C3.3.4.3 D)	<b><u>Site-Specific requirements*:</u></b> On-the-site establishment and de-establishment from any WO instructed site, including setting up on any number of boreholes on the same site.	site	15	R .....	R .....
#4.3b)	As above, C3.3.4.3 A) & B) C3.3.4.3 D)	Drill through any material up to a maximum depth of 30 m, measured from ground surface, complete with backfilling of borehole	m	2500	R.....	R .....
#4.3c)	As above, C3.3.4.3 A) & B) C3.3.4.3 D)	Drill deeper through any material from a depth of 30m up to 60 m (measured from ground surface), complete with backfilling of borehole	m	1500	R.....	R .....
#4.3d)	As above, C3.3.4.3 A) & B) C3.3.4.3 D)	Drill deeper through any material from a depth of 60m up to 100 m (measured from ground surface), complete with backfilling of borehole	m	500	R.....	R .....
#4.3e)	As above, C3.3.4.3 A) & B) C3.3.4.3 D)	Install borehole casing if required; only by authorization of the Geologist or the Competent Person (dolomite land).	m	200	R.....	R .....
#4.3f)	As in #4.3 above, C3.3.4.3 C) C3.3.2 D)	<b><u>Site-Variable Activities*:</u></b> Single item travelling expenses kilometer rate (cumulative summation) for emergency additional <b>Exploratory Drilling Service Entity</b> , complete with its Operational and Supervisory personnel, inclusive of travelling distance, travelling and accommodation expenses, travelling time, disbursements, subsistence expenses, toll fees, etc., to reach, work at and return for each WO instructed site investigated:	km	7000	R.....	R .....
<b>Tenderer's Financial Offer for C2.2.3.2 for Bill #4.3 Services</b>		<b>Amount Carried Over To Bill Cost Summary Table C2.2.3</b>			<b>Sub-total</b>	<b>R .....</b>

**\*IMPORTANT NOTE:** Bill items #4.3a) to #4.3f) above will be the subject of a CASE 3 penalty, which will be applied when the designated sub-contracting entity takes more the 72 (seventy two) hours to reach and perform GHI or EEI instructed Bill #4 investigation Services. Reference is made to C3.2.2.4.4 C).

**C2.2.3: ACTIVITY SCHEDULE FOR TIME AND COST BASED FEES SERVICES: BILL #4 AND BILL #5**

ADDITIONAL EMERGENCY AND AD-HOC GEO-PROFESSIONAL AND GEO-PHYSICAL DOLOMITE INVESTIGATION SERVICES, INCLUSIVE OF TIME BASED SERVICES FOR KEY PERSONS AND PEER REVIEWS:

**C2.2.3.3: ADDITIONAL EMERGENCY EXPLORATORY SERVICES IN SUPPORT OF DOLOMITE RISK MITIGATION INTERVENTIONS: ADDITIONAL GEOLOGICAL EXPLORATION WORK BY MEANS OF TEST PITTING WITH TLB, DPSH AND LABORATORY TESTING:**

**BILL #4: BILL #4.4**

ITEM REFERENCE	PRICING INSTRUCTIONS/ SPECIFICATIONS REFERENCE	ACTIVITY DESCRIPTION	UNIT	QUANTITY	RATE/UNIT	AMOUNT
#4.4	C2.1.2, C2.1.3, C2.1.4, C3.2.2, C3.2.3, C3.3.4 C3.3.4.4	<b>Bill Item #4.4 Services: Additional Emergency Geological Exploration work by means of test pitting with TLB, DPSH and laboratory testing:</b> <b>Site-Specific requirements:</b> On-the-site establishment of TLB to and de-establishment from any WO instructed site.				
#4.4a)	C3.3.3.4 A) & B)		Site	12	R.....	R.....
#4.4b)	As above	<b>Site Specific Activity:</b> Excavation of test pits to refusal or maximum reach of TLB and backfilling after completion of soil profiling and sampling.	Day	20	R.....	R .....
#4.4c)	As above	<b>Site Specific Activity:</b> Onsite recovery and submission of soil samples to SANAS accredited soil testing facility to perform the following tests: (i) Foundation indicator (grading to 0,002mm and Atterberg Limits). (ii) Modified AASHTO maximum dry density and optimum moisture content (iii) CBR (Mod. AASHTO, NRB and Proctor compactive efforts) (iv) Oedometer xviii) xix) Note: Travelling related activities for the above actions/activities are recoverable under Bill item #5.2 a) b) or c), as relevant/appropriate to the cause. xx)	No No No No	40 30 30 10	R..... R..... R .....	R .....
#4.4d)	As above	<b>Site Specific Activity:</b> Establishment of DPSH equipment to and from WO instructed site, perform DPSH tests to refusal depth and record test data	Day	10	R .....	R .....
#4.4e)	As above, C3.3.2 D) C3.3.4.4 C) C3.3.4.4 D)	<b>Site-Variable Activities:</b> (i) Single item travelling expenses kilometre rate (cumulative summation) for <b>TLB Service Provider</b> , complete with operator and fuel supply, including travelling distance, accommodation expenses, travelling time, disbursements, subsistence expenses, toll fees, etc. to reach, work at and return for each WO instructed site investigated. xxi) (ii) Single item travelling expenses kilometre rate (cumulative summation) for <b>DPSH Service Provider</b> , complete with operational and supervisory personnel, inclusive of travelling distance, accommodation expenses, travelling time, disbursements, subsistence expenses, toll fees, etc. to reach, work at and return for each WO instructed site investigated.	km km	1500 2500	R .....	R .....



Tenderer's Financial Offer for C2.2.3.3 for Bill #4.4 Services	Amount Carried Over To Bill Cost Summary Table C2.2.2	Sub-total	R .....
<b>IMPORTANT NOTE:</b> Bill items #4.3a) to #4.3e) above will be the subject of a CASE 3 penalty, which will be applied when the designated sub-contracting entity takes more the 72 (seventy two) hours to reach and perform GHI or EEI instructed Bill #4 investigation Services. Reference is made to C3.2.2.4.4 C).			

### C2.2.3: ACTIVITY SCHEDULE FOR TIME AND COST BASED FEES SERVICES: BILL #4 AND BILL #5

ADDITIONAL EMERGENCY AND AD-HOC GEO-PROFESSIONAL AND GEO-PHYSICAL DOLOMITE INVESTIGATION SERVICES, INCLUSIVE OF TIME BASED SERVICES FOR KEY PERSONS AND PEER REVIEWS:

### C2.2.3.4: EMERGENCY EXPLORATORY GEOHYDROLOGICAL SERVICES FOR AUGMENTATION OF WATER SUPPLY

#### BILL #4: BILL #4.5

ITEM REFERENCE	PRICING INSTRUCTIONS/ SPECIFICATIONS REFERENCE	ACTIVITY DESCRIPTION	UNIT	QUANTITY	RATE/UNIT	AMOUNT
#4.5	C2.1.2, C2.1.3, C2.1.4, C3.2.2, C3.2.3, C3.3.4, C3.3.4.5	<b><u>Bill Item #4.5 Services: Emergency Exploratory Geohydrological Services for Augmentation of Water Supply</u></b>				
#4.5a)	C3.3.3.4 A) & B)	<p><b><u>Site-specific Activities:</u></b></p> <p><u>Geophysical Surveys:</u></p> <p>General requirements/allowances</p> <p>(i) Magnetic surveys: Execution of on-site magnetic surveys at any site, according to cited specifications and specified outcomes, including establishment and disestablishment of all equipment;</p> <p>(ii) Electro-magnetic vertical and horizontal loop surveys at any site according to cited specifications and outcomes, including establishment and disestablishment of all equipment;</p> <p>(iii) Electric resistivity surveys at any site according to cited specifications and outcomes, including establishment and disestablishment of all equipment.</p> <p>(vi) Geophysical Survey Report Prepare complete interpretive geophysical survey report with site layout drawings, survey traverses and proposed drill site locations indicated and properly motivated</p>	<p>m</p> <p>m</p> <p>m</p> <p>Site</p>	<p>600</p> <p>600</p> <p>600</p> <p>1</p>		
#4.5b)	As above	<p><b><u>Borehole Drilling:</u></b></p> <p>General requirements/allowances</p> <p>Establishment (i) On-the-site establishment and disestablishment of all equipment and personnel, including setting up on any number of boreholes on the same site.</p> <p>Drilling 215mm diameter (ii) Drill through any material up to a maximum depth of 60m measured from ground surface.</p> <p>(iii) Drill deeper through any material from a depth of 60m to 120m (measured from the ground surface).</p>	<p>Site</p> <p>m</p> <p>m</p>	<p>1</p> <p>720</p> <p>360</p>		

**C2.2.3: ACTIVITY SCHEDULE FOR TIME AND COST BASED FEES SERVICES: BILL #4 AND BILL #5**

ADDITIONAL EMERGENCY AND AD-HOC GEO-PROFESSIONAL AND GEO-PHYSICAL DOLOMITE INVESTIGATION SERVICES, INCLUSIVE OF TIME BASED SERVICES FOR KEY PERSONS AND PEER REVIEWS:

**C2.2.3.4: EMERGENCY EXPLORATORY GEOHYDROLOGICAL SERVICES FOR AUGMENTATION OF WATER SUPPLY**

**BILL #4: BILL #4.5 (CONTINUED)**

ITEM REFERENCE	PRICING INSTRUCTIONS/SPECIFICATIONS REFERENCE	ACTIVITY DESCRIPTION	UNIT	QUANTITY	RATE/UNIT	AMOUNT
		(iv) Install steel slotted/perforated casing, complete with gravel pack into successful holes.  (v) Install steel solid casing, complete with proper sanitary seal into successful holes.  (iv) On completion of drilling of successful holes, develop the holes to flush the hole clean for a duration of at least 1hr and determine the blow yield. (vii) Backfill unsuccessful holes and seal with concrete cap.  (viii) Fit successful holes with a steel standpipe and lockable cap.	m  m  No  No	90  450  6  6		
#4.5c)	As above	<u>Pumping Tests:</u> Establishment (i) On-the-site establishment and disestablishment of all equipment and personnel.  Stepped discharge test (ii) Perform the stepped drawdown test in accordance with SANS 10299-4: 2003  (iii) Constant discharge test: 48 hours Perform the constant discharge test for 48 hours in accordance with SANS 10299-4: 2003.  (vi) Constant discharge Test: 72 hours Perform the constant discharge test for 72 hours in accordance with SANS 10299-4: 2003.  (vii) Recovery Test Perform water level recovery measurements in accordance with SANS 10299-4: 2003	Sum  No  No  No  hr.	6  6  6  6  144		
#4.5d)	As above	<u>Water Quality Tests:</u> Take water samples from boreholes in approved water containers, transport and submit water samples to SANAS accredited laboratory for drinking water standard analysis in accordance with SANS 241:2015.	No	6		

**C2.2.3: ACTIVITY SCHEDULE FOR TIME AND COST BASED FEES SERVICES: BILL #4 AND BILL #5**

ADDITIONAL EMERGENCY AND AD-HOC GEO-PROFESSIONAL AND GEO-PHYSICAL DOLOMITE INVESTIGATION SERVICES, INCLUSIVE OF TIME BASED SERVICES FOR KEY PERSONS AND PEER REVIEWS:

**C2.2.3.4: EMERGENCY EXPLORATORY GEOHYDROLOGICAL SERVICES FOR AUGMENTATION OF WATER SUPPLY:**

**BILL #4: BILL #4.5 (CONTINUED)**

ITEM REFERENCE	PRICING INSTRUCTIONS/SPECIFICATIONS REFERENCE	ACTIVITY DESCRIPTION	UNIT	QUANTITY	RATE/UNIT	AMOUNT
#4.5e)	As above	<u>Pumping Test Analysis Report:</u> Complete report on the pumping test analysis by an approved groundwater test data analyst to interpret the pumping test data, determine sustainable yields, duty cycles and installation guidelines for each tested borehole, including comparison of water quality test results with SANS 241 standards for drinking water.	Site	1		
#4.5f)	As above	<u>Site-Variable Activities</u>  (i) All inclusive single item travelling expenses kilometre rate for geophysical survey entity for Geohydrology Services, complete with operational and supervisory personnel, inclusive of travelling distance, accommodation expenses, travelling time, disbursements, subsistence expenses, toll fees, etc. to reach, work at and return to base for each WO instructed site investigated.  (ii) All inclusive single item travelling expenses kilometre rate for water borehole drilling entity, complete with operational and supervisory personnel, inclusive of travelling distance, accommodation expenses, travelling time, disbursements, subsistence expenses, toll fees, etc. to reach, work at and return to base for each WO instructed site investigated.  (iii) All inclusive single item travelling expenses kilometer rate for pumptesting entity for Geohydrology Services, complete with operational and supervisory personnel, inclusive of travelling distance, accommodation expenses, travelling time, disbursements, subsistence expenses, toll fees, etc. to reach, work at and return to base for each WO instructed site investigated.	km  km  km	1600  1600  1600		
<b>Tenderer's Financial Offer for C2.2.3.3 for Bill #4.5 Services</b>		<b>Amount Carried Over To Bill Cost Summary Table C2.2.2</b>	<b>Sub-total</b>		<b>R .....</b>	

**IMPORTANT NOTE:** Bill items #4.5a) to #4.5f) above will be the subject of a CASE 3 penalty, which will be applied when the designated sub-contracting entity takes more than 72 (seventy two) hours to reach and perform GHI or EEI instructed Bill #4 investigation Services. Reference is made to C3.2.2.4.4C).

**C2.2.3: ACTIVITY SCHEDULE FOR TIME AND COST BASED FEES SERVICES: BILL #4 AND BILL #5**

ADDITIONAL EMERGENCY AND AD-HOC GEO-PROFESSIONAL AND GEO-PHYSICAL DOLOMITE INVESTIGATION SERVICES, INCLUSIVE OF TIME BASED SERVICES FOR KEY PERSONS AND PEER REVIEWS:

**C2.2.3.5: ADDITIONAL TIME AND COST BASED FEES SERVICES FOR KEY PERSONS ATTENDING TO EMERGENCY EVENT INCIDENTS (EEI), DOLOMITE HAZARD INCIDENTS (DHI) AND ANY ADDITIONAL WO ASSIGNMENTS, SUBSISTENCE AND SUNDRY ALLOWANCES:**

**BILL #5:**

ITEM REFERENCE	PRICING INSTRUCTIONS/ SPECIFICATIONS REFERENCE	CATEGORY	ACTIVITY DESCRIPTION	UNIT	QUANTITY	RATE/UNIT	AMOUNT
#5.1	C2.1.2, C2.1.3, C2.1.4, C3.3.2, C3.3.4.1, C3.3.4.2, C3.3.4.3, C3.3.3.4, C3.3.5, C3.3.5.1		<b>Bill #5.1</b> <b>Emergency Time and Cost Based Fees Services performed by Key Persons:</b> (hourly basis): Time and Cost Based Fees Services performed by the Service Provider upon the issue of a WO by the PM(refer to clause 4.4 (2) of 2016 NDPW - Scope of Engineering Services and Tariff of fees): <b>Note:</b> Bill #5.Services only applies to the investigation of and reporting about dolomite related GHI, EEI cases and Additional Services				
#5.1a)	As above, C3.3.5.1 A), B), C3.3.5.1 C), C3.3.5.1 E)	B	a)Project Principal (as defined in this contract)	hr.	1000	R.....	R.....
#5.1b)		C	b)Competent Person (civil engineering)	hr.	800	R.....	R.....
#5.1c)		C	c)Competent Person (dolomite land)	hr.	2000	R.....	R.....
#5.1d)		C	d)Competent Person (structural engineering)	hr.	300	R.....	R.....
#5.1e)		C	e)Registered Geologist (Pr. Sci.)	hr.	2000	R.....	R.....
#5.1f)		D	f) Civil Engineering Field Technician (Pr. Techni.)	hr.	1000	R.....	R.....
Sub-total c/o to next page						C/0	R.....

**Note:** In terms of C2.1.2.4, time spent on travelling, as well as any other travel related expenses (such as travelling costs and subsistence allowances) will not be remunerated – except as provided for in C2.1.7.

**C2.2.3: ACTIVITY SCHEDULE FOR TIME AND COST BASED FEES SERVICES: BILL #4 AND BILL #5**

ADDITIONAL EMERGENCY AND AD-HOC GEO-PROFESSIONAL AND GEO-PHYSICAL DOLOMITE INVESTIGATION SERVICES, INCLUSIVE OF TIME BASED SERVICES FOR KEY PERSONS AND PEER REVIEWS:

**C2.2.3.5: ADDITIONAL SERVICES ATTENDING TO EMERGENCY EVENT INCIDENTS (EEI), DOLOMITE HAZARD INCIDENTS (DHI) AND ANY ADDITIONAL WO ASSIGNMENTS, INCLUSIVE OF TRAVELLING, SUBSISTENCE AND SUNDRY ALLOWANCES:**

**BILL #5: (CONTINUED):**

ITEM REFERENCE	PRICING INSTRUCTIONS/SPECIFICATIONS REFERENCE	ACTIVITY DESCRIPTION	UNIT	QUANTITY	RATE/UNIT	AMOUNT
Sub-total C/O from previous page					C/O	R.....
#5.3	C2.1.4	<b>Provisional Cost Sum :</b>				
#5.3a)	C2.1.2.20 C3.3.5.1E)	Provisional Cost Sum for authorized subsistence recoverable costs:	PC Sum	-	-	R 100,000.00
#5.3b)	C2.1.2.20	Mark-up on above item #5.3a) (max 7.5%)	Percent	..... %	-	R.....
#5.4	C2.1.4	<b>Provisional Cost Sum :</b>				
#5.4a)	C2.1.4.8	Provisional Cost Sum for Authorized recoverable charges for printing & sundry items): <b>Note: Gazetted rates apply, with zero mark-up</b>	PC Sum	-	-	R 100,000.00
#5.5	C2.1.4.	<b>Provisional Cost Sum :</b>				
#5.5a)	C2.1.2.20 C2.1.4.5 C3.3.5.1E)	Dolomite monitoring and risk related mitigation requirements (such as externally acquired equipment, systems, materials etc.), excl. Key Persons input (e.g. time, or travelling), obtained on quotation basis.	PC Sum	-	-	R 800,000.00
#5.5b)	C2.1.2.20	Profit on above item #5.5a) (max 7.5%)	Percent	..... %	-	R.....
Tenderer's Financial Offer for C2.2.3.4 for Bill #5 Services		Amount Carried Over To Bill Cost Summary Table C2.2.2	Sub-total			R .....

**C2.2.3: ACTIVITY SCHEDULE SUMMARY TABLE:  
FINANCIAL OFFER BY TENDERER FOR BILL #4 AND BILL #5 SERVICES:**

ITEM REFERENCE	ACTIVITY DESCRIPTION	AMOUNT
C2.2.3.1:	<b>BILL #4.1 AND BILL #4.2: ADDITIONAL DOLOMITE EXPLORATORY SERVICES IN SUPPORT OF DOLOMITE RISK MITIGATION INTERVENTIONS: GRAVITY AND MICRO GRAVITY SERVICES:</b>	R .....
C2.2.3.2:	<b>BILL #4.3: ADDITIONAL EXPLORATORY SERVICES IN SUPPORT OF DOLOMITE RISK MITIGATION INTERVENTIONS: EXPLORATORY DRILLING SERVICES:</b>	R .....
C2.2.3.3	<b>BILL #4.4: ADDITIONAL EXPLORATORY SERVICES IN SUPPORT OF DOLOMITE RISK MITIGATION INTERVENTIONS: ADDITIONAL GEOLOGICAL EXPLORATION WORK BY MEANS OF TESTPITTING WITH TLB, DPSH AND LABORATORY TESTING:</b>	R .....

<b>C2.2.3.4</b>	<b>BILL #4.5: EMERGENCY EXPLORATORY GEOHYDROLOGICAL SERVICES FOR AUGMENTATION OF WATER SUPPLY</b>	<b>R .....</b>
<b>C2.2.3.5</b>	<b>BILL #5: ADDITIONAL TIME AND COST BASED FEES SERVICES FOR ATTENDING TO EMERGENCY EVENT INCIDENTS (EEI), DOLOMITE HAZARD INCIDENTS (DHI) AND ANY ADDITIONAL WO ASSIGNMENTS, INCLUSIVE OF TRAVELLING, SUBSISTENCE AND SUNDRY ALLOWANCES:</b>	<b>R .....</b>
<b>C2.2.3</b>	<b>TOTAL FINANCIAL OFFER BY TENDERER FOR BILL #4 AND BILL #5 (AMOUNT CARRIED OVER TO C2.2.4 (TOTAL FINANCIAL OFFER BY TENDERER: BILL ITEM SUMMARY TABLE C2.2.4")):</b>	<b>R .....</b>

### **IMPORTANT NOTES:**

- 1 Value Added Tax (VAT) applies to this contract.
2. Total Financial Offer by Tenderer for C2.2.3, Bill #4 and Bill #5 Services, must be carried over to C2.2.4.

**C2.2.3: TOTAL FINANCIAL OFFER BY TENDERER FOR BILL #1 TO BILL #5 SERVICES (BILL COST SUMMARY TABLE):  
FINANCIAL OFFER BY TENDERER FOR BILL #4 AND BILL #5 SERVICES:**

ACTIVITY SCHEDULE ITEM :	ACTIVITY DESCRIPTION :	TENDERER'S FINANCIAL OFFER:
C2.2.2	BILL #1, BILL #2 AND BILL#3: OUTCOME BASED SERVICES:	R.....
C2.2.3	BILL #4 AND BILL #5: TIME AND COST BASED FEES SERVICES:	R .....
	TENDER SUB-TOTAL:	<u>R.....</u>
VALUE ADDED TAX:	AT STANDARD RATE (= 15 %)	R.....
TOTAL FINANCIAL OFFER BY TENDERER: AMOUNT CARRIED OVER TO C1.1 FORM OF OFFER AND ACCEPTANCE		<u>R.....</u>

**NOTES:**

- A. "Total Financial Offer by Tenderer" must be carried over to C1.1 Form of Offer and Acceptance: Failure to carry this amount over will render the tender non-responsive.
- B. Value Added Tax (VAT) 15% is applicable to this contract and shall only be added to the appropriate line item above.



### **C3: SCOPE OF SERVICES**

#### **C3.1 Department's objectives:**

This tender is for:

A Service Provider performing specialist Civil Engineering and Geo-Professional services for the project:

**DRMS PHASE IVA: EMERGENCY INVESTIGATIONS IN SUPPORT OF THE DOLOMITE RISK MANAGEMENT STRATEGY (DRMS) FOR THE NATIONAL DEPARTMENT OF PUBLIC WORKS.**

#### **C3.2 Description of the Services**

##### **C3.2.1 SERVICES:**

This contract is for the execution of a project with the title: **DRMS PHASE IVA: EMERGENCY INVESTIGATIONS IN SUPPORT OF THE DOLOMITE RISK MANAGEMENT STRATEGY (DRMS) FOR THE NATIONAL DEPARTMENT OF PUBLIC WORKS**, which comprises the primary and secondary objectives described hereunder.

The **primary objective** of this contract is to perform/execute, upon the WO instruction issued by the PM, any of the following work(s) and/or activities:

- i) Investigate Ground Hazard Incidents (GHI), some of which may be tagged as Emergency Event Incidents (EEI).
- ii) Perform various types/classes of Emergency Dolomite Stability Investigations (DSI's).
- iii) Undertake/execute specialist Dolomite Risk aversion/mitigation assignments
- iv) Provide professional and additional support services by assisting the Department's Dolomite Risk Manager (DRM), as, when and where required.

Any of the above items i) to iv) may occur at or apply to any of the Department's owned, leased or prospective, i.e. yet to be acquired, sites/properties, which is underlain by dolomite formation, anywhere in the Republic of South Africa.

Unstable ground conditions associated with dolomitic land typically result in the formation of sinkhole(s) or ground subsidence(s). For the purpose of this contract, when the aforementioned phenomena manifests/occur, such incidents are referred to as Ground Hazard Incident(s) (GHI). Such events are typically reported by the PM to the Service Provider, and once reported, a quick response time is required from the Service Provider, to first and foremost ensure the safety of people at the locality of the incident, and to secondly, recommend practical mitigating measures aimed at the prevention of damage to fixed assets such as buildings, facilities and water borne underground services/infrastructure. Whenever the PM refers to a reported GHI incident as an "EMERGENCY EVENT INCIDENT" (EEI), all actions following thereafter shall be performed on the basis of immediate attendance, where "TIME IS OF THE ESSENCE".

The **secondary objective** of this contract is to systematically record, both electronically and by hard copy, all gathered information, data and reports, to industry acceptable standards/norms, to enhance and further populate the Department's Dolomite GIS database.

##### **C3.2.2 PROJECT DESCRIPTION**

###### **C3.2.2.1 Scope**

In general, Services required are indicated as either **OUTCOME BASED SERVICES** or **TIME AND COST BASED FEES SERVICES**, which comprises Specified Outcomes, in accordance with specifications/ requirements set out in C3.

**C3.2.2.1 A) OUTCOMES BASED SERVICES:**

A1) The Department's PM may, at any time during this contract, instruct the Service Provider by WO to undertake unplanned Emergency Dolomite Stability Investigation(s) of any site/property owned or identified for lease or purchase by the Department, as and when the need is identified, all to specifications/requirements detailed in this contract.

A2) Dolomite Stability Investigation(s) and Water Auditing Initiative Services typically requires various activities and travelling to have the identified dolomite site(s)/property(ies) appropriately investigated, anywhere in the dolomite affected provinces of the Republic of South Africa, the size/extent of land and distance to such locality being unknown at the time of tender. Due to such unknown particulars pertaining to the yet-to-be-identified sites/properties, remuneration for required investigation and reporting Services, such as travelling costs, travelling time, disbursements, sundry costs, etc., are required to be tendered at all inclusive rates in C2.2.2 (Bill #1, Bill #2 and Bill #3) Services, in accordance with specified requirements/principles set out in C2.1, read in conjunction with C3.

A3) For the purpose of this contract, all work/activities required for Site-Specific Dolomite Stability Investigations shall be regarded to be foreseeable/predictable, as "run-of-the-mill" type work, which infers over-all responsibility upon the Service Provider to take control of and demand over planning/execution activities, by ultimately rendering Specified Outcomes, at all inclusive tendered rates.

**Important:** All Dolomite Stability Investigations shall be reviewed by a solicited and retained independent external experienced Senior Peer reviewer (Dolomite land), the costs of which shall be deemed all inclusive in the Service Provider's tendered rates in C 2.2.3 ( Bill#2, Bill#4 and Bill #5)

**C3.2.2.1 B) TIME AND COST BASED FEES SERVICES:**

B1) For the duration of this contract, the PM may at any time (24/7/365) instruct the Service Provider by WO to investigate and report on Ground Hazard Incidents (GHI) and Emergency Event Incidents (EEI). Such EEI's and/or GHI's instructed to be investigated, shall be performed upon receipt of a written Works Order (WO), which work/travelling costs will be remunerated at all inclusive tendered Time and Cost Based Fees rate(s). Due to such unknown particulars pertaining to the yet-to-be-identified sites/properties, remuneration for travelling costs, travelling time, disbursements, sundry expenses, etc., requires of the tendering Service Provider to tender all inclusive rates in C2.2.3 (Bill #3, Bill #4 and Bill #5) for such as required Services, which shall be performed in accordance with Specified Outcomes requirements/principles set out in C2.1 and read in conjunction with C3.

B2) Additional Time and Fees Based Cost Services may be instructed by the PM by WO to the Service Provider, the detail of which is described and measured separately.

**Important:** All types of Dolomite Stability Investigations shall be reviewed by a retained independent experienced Senior Peer reviewer (Dolomite land), the costs of which shall be deemed all inclusive in the Service Provider's tendered rates in C 2.2.3 ( Bill#2, Bill#4 and Bill #5)

**C3.2.2.1 C) GENERAL REQUIREMENTS IN RESPECT OF SPECIFIED OUTCOMES CONCERNING ANY TYPE/CLASS OF DOLOMITE STABILITY INVESTIGATION:**

**C1)** WO's issued by the PM to the Service Provider shall generally be performed as either Outcomes Based Services or Time and Cost Based Fees Services, the Specified Outcomes of which shall in principle conform to the basic requirements contained the Department's standard Dolomite reference manual titled: "PW 344/2017: APPROPRIATE DEVELOPMENT OF INFRASTRUCTURE ON DOLOMITE: MANUAL FOR CONSULTANTS, a copy of which is available as referenced in ANNEXURE 1 (at the back of this tender document), which must be read in conjunction with SANS 1936 (2012) parts 1 to 4.

**C2)** The final "product" required to be prepared/submitted by the Service Provider, representing the Specified Outcome of instructed WO's, albeit performed under Outcomes Based Services

or Time and Cost Based Fees Services, shall amongst others culminate in stand-alone formal tangible reports, to a standard acceptable to the PM. This includes, where required and/or instructed, an assessment of the Inherent Hazard Characterization of the investigated site/property, the Land Utilization report, the Dolomite Area Designation, the DSC or FDSI and the Dolomite the Risk Management Plan (DRMP).

In the case of work done when investigating EE's or GHI's, such reports must, in sufficient detail, describe and display by means of photographs and diagrams, all pertinent features/detail about the case investigated, complete with recommendations, cost estimate, actions required to be attended, etc.

**C3)** Tendering Service Providers shall take note of the fact that the Department currently utilizes the "ARC"-suite of GIS computer software programmes and it is a **compulsory** requirement of this contract that all information presented to the Department must be 100% compatible with the Department's currently utilized computer software programs

**C4)** IMPORTANT: DOCUMENTATION PRECEDENCE: Should there be any discrepancies between this Tender Document and the aforementioned DPW dolomite manual (PW 344/2017), the former shall take precedence. Should there be any deviations/discrepancies between the DPW dolomite manual (PW 344/2017) and SANS 1936, the latter takes precedence.

#### C3.2.2.2 Location of the Project

The location of this project is at any of the yet to be identified sites owned, leased or considered to be procured by the National Department of Public Works, in any of the dolomite affected provinces in the Republic of South Africa.

The dolomite affected provinces are Gauteng, Mpumalanga, Limpopo, North West, Northern Cape and a small fragment within the Free State.

Sites/properties/facilities due to be investigated/attended includes for a wide variety of different types/uses by different client Departments of the National Department of Public Works, such as, but not limited thereto, the South African Police Services (SAPS), the Department of Defence (DOD), the Department of Correctional Services (DCS), Border Control Centres (BCOCC), Department of Justice (DOJ), etc. .

A list of municipalities and magisterial districts, where dolomite feature, are identified and contained in PW 344/2017.

#### C3.2.2.3 Project Cost Estimate

The project cost estimate will not be disclosed.

#### C3.2.2.4 Project Programme:

##### C3.2.2.4.1 Contract Period:

The contract period is 3 (three) years, effective from the date of formal contract award.

##### C3.2.2.4.2 Time of the Essence:

It is a particular contract requirement that when a WO is issued to the Service Provider, that it be treated on the basis of "Time is of the Essence", whether the WO is about to be performed as Outcomes Based Services or Time and Cost Based Fees Services.

The Service Provider's performance (i.e. execution time(s)) under this contract, are required to be performed in "least time possible" to deliver upon project milestone events/dates. See Items C3.2.2.4.3 A), B), C) and D) hereunder, which must be read with C1.2.2, clause 3.15.

##### C3.2.2.4.3 Project Milestone Target Dates:

**A) General Requirements: Determination of “Generic” Program Target Dates for Pre-defined Milestone Activities:**

A1) The Service Provider and the PM shall engage, on a fair, reasonable and mutual consensus basis, within 10 working days of notification of contract award, come to an agreement about generic program milestone target dates for pre-defined milestone events/activities associated with the type/class and complexity of work required to be performed under this contract. See also C1.2.2, clause 3.15.

A2) Generic WO milestone target dates, such as are to be agreed upon by consensus between the PM and the Project Principal, shall become contractually binding & enforceable, with penalties to be applied for late completion of WO's, albeit for Outcomes Based Services or Time and Cost Based Fees Services. See C3.2.2.4.4 for details.

A3) WO's shall be performed by the persons listed as Key Persons and persons under their supervision and further executed as described in the Programme according to clause 3.15 of the Contract Data (C1.2.2) and the approved final PEP, in accordance with said clause.

A4) PEP's must be prepared and formally submitted by the Service Provider and such must give a clear indication of when and which Key Persons (listed in the schedule) are to be engaged/deployed against issued WO's involving either Outcomes Based Services or Time and Cost Based Fees Services as the basis for remuneration.

A5) The Service Provider's final approved PEP must provide a separate detailed generic methodology, complete with milestone events (critical path activities), should there be a valid and motivated reason for deviating from milestone event/dates specified for:

- a) GHI investigations
- b) EEI investigations
- c) Various types of Emergency Dolomite Stability Investigations
- d) Water Auditing Initiative investigations
- e) Additional Services
- f) Review of WO's by Independent Peer reviewer.

**B) Time and Cost Based Fees Services: Investigation of GHI's:**

**B1)** GHI's shall be attended by the Service Provider, upon having received an instruction from the PM (albeit verbal or in writing), by mobilizing and reaching the site of the incident within 72 (seventy two) hours.

**B2)** The Service Provider's designated Key Person shall attend to all necessary and required site related actions/activities/evacuation order etc., at the site of the WO instructed GHI.

**B3)** Reference shall be made to C2.1.2.21.4 and C3.3.2 (GHI Services enabling requirements) and C3.3.5 (GHI Services particular requirements), when instructed by the PM by WO to attend GHI events

**B4)** The Service Provider shall prepare/submit a GHI report to the PM, complete with a record of actions taken/instructed to safeguard the lives of people and/or protecting fixed assets. Such written report must reach the PM within 72 (seventy two) hours of the date of the WO instruction/notification.

**B5)** Late completion of any WO instructed GHI shall attract penalties per C3.2.2.4.4 A) – Case 1.

**C) Time and Cost Based Fees Services: Investigation of EEI's:**

**C1)** EEI's shall be attended by the Service Provider with due diligence and expedience upon having received an instruction from the PM (albeit verbal or in writing), by mobilizing and reaching the site of the incident within 24 (twenty four) hours.

**C2)** The Service Provider's designated Key Person shall attend to all necessary and required site related actions/ activities/evacuation order etc., at the site of the WO instructed EEI.

**C3)** The Service Provider shall prepare/submit an EEI report to the PM, complete with a record of actions taken/instructed to safeguard the lives of people and/or protecting fixed assets. Such written report must reach the PM within 72 (seventy two) hours of the date of the WO instruction/notification.

**C4)** Reference shall be made to C2.1.2.21.4 and C3.3.2 (EEI Services enabling requirements) and C3.3.5 (EEI services particular requirements) when instructed by the PM by WO to attend EEI events.

**C5)** Late completion of any WO instructed EEI shall attract penalties per C3.2.2.4.4 A) – Case 1.

**D) Outcome Based Services: Emergency Dolomite Site/Property Investigations:**

D1) The Service Provider shall attend WO instructions issued by the PM to perform Outcomes Based Services for Emergency Dolomite Stability Investigations in accordance with C3.3.2, C3.3.2.1, C3.3.2.2, C3.3.2.3, measured under Bill #2.1, #2.2 and #2.3 Services.

D2) The Service Provider shall attend to and render complete all activities, per each WO instructed, complete with sign off by the external Peer reviewer, within 7 (seven) to 10 (ten) weeks of the date of the formal instruction (depending on the size and scope of work described in the WO specific PEP).

D3) All requisite Specified Outcomes shall be submitted complete, within the time frame recorded, to reporting standards specified. See also requirements per C3.2.3.

D4) Failure to comply with the requirements/provisions (delayed or lateness) for Outcomes Based Services (Bill #2.1, Bill #2.2 or Bill #2.3 Services) shall attract penalties as detailed in C3.2.2.4.4 B) - CASE 2

**E) Outcomes Based Services: Water Auditing Initiative:**

E1) The Service Provider shall attend WO instructions issued by the PM to perform Outcomes Based Services by attending one or more identified WAI site/property.

E2) Reference shall be made to specifications/requirements in C 3.3.3, measured under Bill #3 Services.

E3) Water Auditing Properties (WAP) instructed by WO to be investigated/attended by the Service Provider, shall be performed as instructed by the PM.

E4) The Service Provider shall perform WO instructed Outcome Based Services with due diligence, according to agreed pre-determined Specified Outcomes, within time frame allowances mutually and formally agreed to in writing between the PM and the Project Principal. The Service Provider shall make available Key Persons relevant to the scope of the assignment, complete with requisite resources, to meet and deliver upon the Specified Outcome(s), which must be formalized/approved by the PM, within 5 (five) working days of referral.

E5) Failure by the Service Provider to timeously perform requisite activities (see C3.3.3.6) and render WAI Outcome Based Services, shall attract penalties detailed in C3.2.2.4.4 C), CASE 3.

**F) Additional Time Based Fees Services:**

**F1)** The Service Provider shall attend WO instructions issued by the PM which requires additional Time Based Services by Key Persons described in see C2.1.4.5, undertaken in accordance requirements specified in C3.2.3.9 B).

**F2)** The Service Provider shall diligently prepare and submit a WO specific PEP for such Time Based Fees Services, which must include program particulars and costing in accordance with rates tendered in Bill #5 Services.

**F3)** The additional Time Based Fees Service WO specific PEP shall be submitted by the Service Provider within 10 (ten) working days of the date of the WO instruction issued by the PM.

**F4)** Failure by the Service Provider to timeously perform and render Time Based Fees Services instructed by the PM shall attract penalties detailed in C3.2.2.4.4 C), CASE 3 such additional Services, in accordance with tendered rates in Bill#5. Said information shall be included in the PEP submitted by the Service Provider to the PM for consideration and approval. Lateness by the Service Provider in rendering such services shall attract as per C3.2.2.4.4 C) – CASE 3.

#### **C3.2.2.4.4 Penalties for Late Completion of Target Milestone Dates:**

Should any of the Specified Outcomes required from either Outcome Based Services or any Time Based Fees Services referred to in C3.2.2.4.3 be submitted late, the Department shall apply penalties for non-compliance as follows:

##### **A) CASE 1: Target Milestone Dates for Performing EEI's and GHI's:**

The Service Provider shall attend to WO instructed Emergency Event Incidents (EEI) and/or Ground Hazard Incidents (GHI) on dolomite land, anywhere in South Africa. See C3.2.2.4.3 B) and C)

The penalty applicable for not meeting Case 1: Target Milestone Dates for EEI and GHI events shall be R3000,00 per calendar day beyond the respective specified times (e.g. 24 hours for EEI's and 72 hours for GHI's).

Note 1: The PM is obliged to specify at the onset whether an instructed WO case shall be attended to as an EEI or a GHI. The Service Provider is required to diligently attend the WO specific incident.

Note 2: The date on which specified requirements are met, constitutes fulfilment of the Service Provider's obligations.

Note 3: It is an implied obligation under this contract for the Service Provider to facilitate and ensure that Bill #4 work is timely performed for WO's instructed to be undertaken by Key Persons (i.e. Bill #5 Time and Cost Based Fees Services). Failure to deliver Outcome Based Services within specified target milestone times, will attract CASE 3 penalties as per in C2.2.4.4 C), sub-item C2) hereunder.

##### **B) CASE 2: Target Milestone Dates for Performing Emergency Dolomite Stability site/property Investigations:**

Unsatisfactory and/or late submission of Emergency Dolomite Stability Investigation (DSI) report(s) (i.e. to Specified Outcomes requirements, complete with signoff by peer reviewer), beyond the Generic Time Frame period established and reflected upon in C3.2.2.4.3 D), unless circumstances differ substantially from a typical DSI, in which case the time frame period submitted/agreed upon between the PM and the Project Principal in a sub-level PEP shall apply. The penalty for late delivery shall be R1000,00 per working day, for any WO instructed Site/Property investigation.

##### **C) CASE 3: Target Milestone Dates for Performing WAI Services and/or Additional Time Based Fees Services:**

C1) Unsatisfactory reporting and/or late performance concerning WAI Services instructed by WO, with milestone target dates (formalized in negotiated consensus between PM and Project Principal), will attract penalties (which may be recurrent on a monthly basis), as readings must be taken and reported monthly. See C3.3.3.6 for penalty particulars.

C2) Unsatisfactory reporting and/or late performance of WO instructed Additional Time Based Fees Services (with the time frame formalized in negotiated consensus between PM and Project Principal per the approved relevant PEP), will attract a penalty of R2000,00 per working day, up to a maximum of R15,000 per instructed WO.

**D) Penalty rules:**

- i) Penalties become due as and when applicable, and shall be deducted from Certified interim Service Provider payment certificate accounts.
- ii) A penalty applied does attract VAT.
- iii) Applied penalties by the Department will be deemed to be final.

**Note:** Working days, in the determination of penalties referred to above, specifically exclude Saturdays, Sundays and Public holidays.

**C3.2.2.5. Information Available from the Department of Public Works:**

Various sample reports will be on display, at the compulsory tender clarification meeting, for study/review by Tendering Service Providers. These documents in principle set the minimum standard/format/content, to which WO Specified Outcomes, albeit Outcomes Based Services or Time and Cost Based Fees Services must be produced. See C5.3 for examples of Specified Outcomes.

The successful Service Provider will, upon award of the contract, be permitted restricted\*\* access to property specific records/reports of previously completed investigations/ assignments, such having been executed during previous DRMS phases I, II and IIIA contracts.

Discretion in the aforementioned access vests with the PM, namely to either avail or not to avail relevant available information from its GIS database to the Service Provider.

**Note\*\*:** Unrestricted access by the Service Provider to the Department's GIS database will under no circumstances be allowed, whether for viewing/copying/duplicating reasons.

**C3.2.2.6. Other Contracts and/or Disturbances on State Owned Dolomite Affected Properties/Sites:**

The Service Provider must acquaint himself with and plan for any and all site specific conditions before setting out to perform site related activity/works. The list of activities noted hereunder amongst others records some activities which may influence/jeopardize planned activities, albeit for sites scheduled for new investigation(s), follow-on investigation(s), Emergency Event(s) Incident (EEI) investigations or Ground Hazard Incident (GHI) investigations.

The Service Provider is alerted to the fact that no monetary claims will be entertained by the Department for whatever reason of delay/disruption, as it is required of the Service Provider to have made his own pro-active prior arrangements with official(s) in charge and/or responsible for management at the specific site or facility/property, which is due for investigation, covering amongst others the following:

- Security and/or accessibility problems/delays
- Standing time (which may be the result of or caused by unforeseen events/ circumstances)
- Execution of other (contract) works on site, whether performed by the Department or "own works" initiated by the user-client
- Adverse weather conditions
- Site specific operational commitments (for example shooting/combating arrangements)
- Restrictive movement protocols (related to people/equipment), imposed by the relevant client user Department, such as at air fields
- Fruitless expense(s) incurred by the Service Provider, irrespective of cause/nature

### C3.2.3 Compliance Requirements Performing WO Instructions:

#### C3.2.3.1 Emergency Dolomite Incident Investigations:

##### A) Generic Investigation and Reporting Requirements:

A1) The following applies to all WO instructed Emergency Dolomite Incident Investigations, albeit for Outcomes Based Services (e.g. various types/class of Dolomite Stability Investigations) or Time and Cost Based Fees Services (e.g. GHI's or EEI's).

A2) The Service Provider shall render Specified Outcomes for various types of Emergency Dolomite Stability Investigation(s), requirements of which particular type/class shall be instructed by the PM in the relevant WO. The Specified Outcome shall culminate in the preparation and submission of standalone reports in accordance with specified requirements.

A3) Percussion boreholes shall be drilled and a driller's log prepared in accordance with SANS 633. Logging shall be carried out in accordance with SANS 633 by a competent person.

A4) Whenever the independent external senior Competent Person (Dolomite land) (i.e. the Peer Reviewer), recommends additional geophysical and/or exploratory percussion boreholes are required, on any site, such further work must be appropriately coordinated with other work of the Service Provider to minimize the impact of additional cost(s). Additional requirements of the peer reviewer must be reduced to writing and such must be formalized for the attention of the PM for consideration/approval. Upon approval, the PM will issue an additional WO instruction to the Service Provider. Such additional work instructed by the PM will be compensated at tendered all inclusive Time and Cost Based Fees Services rates.

**A5) Should the supervising on-site Geologist deem it appropriate and necessary to have additional borehole(s) drilled, while the drilling team is on a particular site, such drilling may be done on condition that such request be verbally motivated by the Project Principal to the PM (or his delegated representative), which verbal acceptance by the PM must be reduced to writing to reach the PM not later than 10 working days after the request was submitted/granted. Payment for such work will be permitted on the basis as an extension of on-site works, at all inclusive Time and Cost Based Fees Services Rates.**

A6) All dolomite exploratory boreholes drilled in execution of any written instructed WO, albeit for Outcomes Based Services or Time and Cost Based Fees Services, shall be attended to and backfilled for the full depth (bottom to top) depth of the borehole, to specified particular requirements/specifications contained in **ANNEXURE 2: ENGINEERING GEOLOGICAL SERVICE: EXPLORATORY GEOTECHNICAL DRILLING "PARTICULAR SPECIFICATION (PS): EXPLORATORY DRILLING FOR ENGINEERING GEOLOGICAL INVESTIGATION.**

Important: Specified requirements noted herein are deemed included in tendered rates for drilling of boreholes.

##### B) Particular Reporting Requirements:

B1) Tendering Service Providers will be afforded an opportunity, at the compulsory tender clarification meeting, to study sample documents/reports (i.e. work previously performed under the DRMS II, IIIB and IV contracts), depicting **an acceptable standard** to DPW with regards to quality, format, content and layout pertaining to Emergency Dolomite Stability Investigations performed at site(s)/property(ies) and/or Emergency Dolomite instability incidents investigated. Type reports/drawings/documentation shall be prepared for each WO, as required/applicable, including amongst others, at least the following aspects deemed relevant to the cause:

- Peer reviewed Dolomite Stability Investigation (DSI) report, complete with Dolomite Status Certificate (DSC), (when required);
- Dolomite Hazard Rating of the site/property investigated
- Determination of Dolomite Area Designation(s)
- Land Use Recommendations
- Detailed site layout (drawing)
- Dolomite Risk Management Plan (DRMP)
- Emergency Event Incident (EEI) report



- Dolomite Hazard Incident (GHI) report

B2) Examples of available best practice reports, depicting the norm of qualifying as an **acceptable standard** to the Department, are listed in Annexure C5.3. These are to be made available for review by prospective Tenderers' during the compulsory tender clarification meeting.

B3) First time sample document(s) (reports/drawings, etc.) must be submitted by the Service Provider to the PM, for comment/acceptance/approval, the outcome of which is intended to set and agree upon an acceptable standard for this contract (with reference to format/content /substance), to which further WO Specified Outcomes, as a minimum requirement, must comply.

B4) Sub-standard work will not be accepted by the Department. Such work will be rejected/returned and will not be certified for payment.

B5) The abovementioned requirement(s) does not alleviate the Service Provider from his/her professional liability for work submitted to the Department.

**C) Measurement and Payment:**

Tendered rates, to enable the Service Provider to meet and comply with Specified Outcomes requirements, both for Outcomes Based Services and Time and Cost Based Fees Services shall be deemed to be inclusive of meticulously attending to all specified requirements referenced in C3.2.3.1 A) and B) above and shall be deemed included in tendered Rates..

**C3.2.3.2 Service Provider to make Provision for own Reputable/Auditable Quality Assurance System/ Program:**

**A) Generic Quality Assurance Compliance Requirements:**

**A 1)** Tendering Service Providers are to price for an all-inclusive contract requirement, namely to allow and include for a two pronged approach to achieve Quality Control (QC) objectives.

**A 2)** The first QC objective/program is the establishment of a disciplined auditable system of "internal self-control", which purpose it shall be to track, via a formal paper trail, the Service Provider's own (internal) work(s)/activities. The QC objective intended shall at least resemble basic minimum requirements specified for a SABS ISO 9001 (SANS 9001) program.

**A 3)** The second QC objective/program requires of the Service Provider to source/engage/retain a suitably qualified seasoned and well experienced senior external independent Competent Person (Dolomite land), to conduct peer reviews on all WO's involving geological / geotechnical / geophysical and geo-hydrological input/outcomes, which must be attended to under this contract, albeit for work done on instructed Outcomes Based Services or Time and Cost Based Fees Services.

**A 4)** It is a particular and explicit requirement of this contract, that no Specified Outcome (read report(s)) shall be presented to the Department, which has not been peer reviewed and visibly signed off (to indicate compliance to this requirement) by the designated/appointed Peer Reviewer, complete with the date and his/her name legibly noted and signed off.

**C3.2.3.2 B1) Internal Quality Assurance Program**

**B1.1** The Service Provider shall be responsible to design and implement a reputable/auditable Quality Assurance system/program, which must amongst others, be the subject of internal specialist professional scrutiny, before presenting same to the Department for review/comment/acceptance.

Note 1: The abovementioned requirement does not replace the external peer review mechanism and it will be advantageous should the Tendering Service Provider already have SABS ISO 9001 (SANS 9001) accreditation. See also C2.1.2.21.2.

Note 2: Details about the Internal QA Program must be submitted with the final PEP to the PM for consideration/approval.

**B1.2** The Internal Quality Assurance Program shall have all information generated during the contract period, in whatever format, whether it be used for analysis and/or interpretation, laboratory testing and/or drilling result(s), site investigation(s) findings and/or judgement(s) to be made or based thereon, to be available for verification, if required, by an independent external auditable Quality Control Service Provider. The Internal Quality Assurance Program of the Service Provider shall clearly record the methodology and due processes followed.

**B1.3** It is a particular condition of this Contract that all interpreted, gathered and/or judgement related information, due for submission to the Department (in whatever format), shall be provided with a 95% statistical level of confidence.

**B1.4 Measurement and Payment for Internal QA program:**

Tendering Service Providers shall take note that **no separate payment item** applies to the above Internal Quality Assurance Program requirement and that rates tendered, albeit for Outcomes Based Services or Time and Cost Based Fees Services, shall be deemed inclusive in tendered rates to guarantee implementation and diligent upkeep of the quality assurance service(s) required for the contract duration. The Service Provider shall note that should signs of collapse of the Internal QA Program become evident (as assessed/judged by the PM), and/or non-performance by the Service Provider in delivering to the requirements specified above, a formal process of termination of the Contract may be considered. See C2.1.2.21 in general, C2.1.2.21.2 in particular, read with T2.1 clause 5.

**C3.2.3.2 B2) External Quality Assurance Program Requirements: Peer Review Function Performed by an Experienced Independent External Senior Competent Person (Dolomite land):**

**B2.1** Reference shall be made to T2.1, sub-item 5 and C2.1.2.21.2, the intent of which represents a **compulsory requirement of this contract**, for the particular attention of Prospective Tenderers, that comprehensive CV's of the proposed external senior Competent Person (Dolomite land) peer reviewers be included in the prelim PEP, as part of the Service Provider's Tender submission.

**B2.2** It is a compulsory requirement of this contract for the Service Provider to identify an appropriate external independent experienced Senior Competent Person (Dolomite land) to perform the work of specialist Peer reviewer, firstly to meet with the "general expectations" of the Service Provider and secondly, for such person being acceptable to the Department. This Peer reviewer must be a senior level industry recognized dolomite specialist, who must be a Competent Person (Dolomite land), with no less than 15 (fifteen) years extensive dolomite development experience, and must have been performing peer reviews, of a similar nature as is required by this contract, for no less than three consecutive years and/or at least five significant independent dolomite development projects.

**Important:** The name(s) and comprehensive CV's of at least 2 (two) competent and available Peer reviewers must be submitted with the prelim PEP to enable selection at a later stage, in collaboration with the Service Provider.

**B2.3** The Service Provider shall have all Specified Outcomes (read requisite reports) produced by and resulting from all WO's issued by the PM, albeit Outcomes Based Services or Time and Cost Based Fees Services, to be subjected to critical, holistic peer review(s), by the external experienced Senior Competent Person (Dolomite land), whose services must be retained by the Service Provider for the duration of this contract.

**B2.4** Should the Department at any time record any objection/reservation against the proposed Peer reviewer nominee (for example insufficient experience or inappropriate review progress), the Service Provider shall be notified and forthwith obliged to find an acceptable alternative to meet specified requirements, at no additional cost to the Contract. Notwithstanding the aforementioned, the Tendering Service Provider is advised that the Department retains the right, at any time during this Contract, to instruct the Service Provider to replace the independent Peer reviewer with another independent acceptable Peer reviewer, with such professional meeting the above specified requirements. The Service Provider shall forthwith (if required), render their full support and co-operation to enable/facilitate the successful completion this Contract, meeting specified peer review requirements.

**B2.5 Measurement and Payment for External Quality Assurance (Peer Review) Services:**

Tendering Service Providers shall take note that **no separate payment item** applies to the above external peer review function requirement and that rates tendered, albeit for Outcomes Based Services or Time and Cost Based Fees Services, shall be deemed inclusive in tendered rates to guarantee implementation and diligent upkeep of the peer reviewer service(s) required for the contract duration. See also C2.1.2.21.2

### **C3.2.3.3 Generic Printing, Copying and Duplicating Requirements:**

#### **A) General**

A1) The Service Provider shall supply and deliver bound hard copy reports and digital electronic copies, to standard, type & format, and in quantities specified, for all WO's issued, albeit for Outcomes Based Services or Time and Cost Based Fees Services.

A2) All provisional reports completed for WO instructed Dolomite Stability Investigation(s) (of whatever type or origin), but not yet peer reviewed, shall be forwarded to the PM herein specified: Dolomite Stability Investigation reports must be systematically compiled, sequentially numbered, indexed, bound and delivered in 1 (one) hard copy colour format, plus (1) editable electronic formatted CD/DVD version (containing the complete contents of such provisional reports). Such reports shall typically include, amongst others, written text (comprising the body of written text in the report), layout drawings, maps, colour gravity survey maps, borehole log sheets, digital colour photographs (4,0Mb minimum resolution), and any other relevant supporting documentation, which in principle constitutes meeting Specified Outcomes, for each WO issued.

A3) Over and above the abovementioned, a further 3 (three) full colour hard copy sets and 2 (two) electronic titled/formatted versions (CD/DVD) of final reports must be prepared/delivered, upon completion of the peer review process, or whenever called upon for delivery of same. Referencing and numbering of reports must take into account the Department's unique numbering system requirements, by grouping/indexing such per property/site or ground movement incident(s) investigated, per client Department.

B) It is a particular requirement of this contract that all hard copy final reports, substantively containing Specified Outcomes requirements as per C3.3.2, C3.3.3, C3.3.4 and C3.3.5, be sequentially numbered on the cover page, per each WO, complete with a separate register of numbered copies, which should allow formal registry and issue of report copies to client Departments. All copies thus submitted shall have the words "RESTRICTED FOR USE OF THE DEPARTMENT OF PUBLIC WORKS", printed in BOLD LETTERS on the designed/approved (generic) cover page.

#### **C) Measurement and Payment**

C1) WO Services instructed by the PM to be performed on a Time and Cost Based Fees basis, do not include for printing, copying and duplicating requirements referred to above. Such expenses will be compensated at reimbursable rates. See C2.1.4.8, which will be payable under Bill #5, Bill item #5.4 a).

C2) Important: Services Performed as Outcome Based Services:

All printing, copying and duplicating requirements as specified hereinbefore, specifically for Outcome Based Services, namely Bill #2.1, Bill #2.2 and Bill #2.3 and Bill #3, shall be deemed included in tendered rates.

### **C3.2.3.4 Site Layout Drawing(s) Required Separately**

**A)** All relevant site/property information, boundaries, coordinates (to WGS 84 reference system), outline(s) of existing buildings, borehole positions (GPS accuracy = 1,0m), and a general overview/description of the site (general site arrangement plan), inclusive of geological features, topography etc., per each site instructed by WO to be investigated, shall, in addition to the above printing/copying requirements, be prepared and submitted in single hard copy colour format, and an electronic version, to current best practice drawing standard(s). The size of such drawings shall be commensurate with the land extent (read hectares) of the site, to a scale of at least 1:500. The Department requires formal delivery of such hard copy and e-copy, with the submission of specified reports, before full payment will be considered for any WO.

**B)** One fully indexed and referenced editable and one non-editable electronic copy (in CD/DVD format) of the above referenced Site Layouts shall be submitted for each site/property investigated.

**C) Measurement and Payment:**

Tendered rates shall be deemed to be inclusive in meeting all specified requirements of items C3.2.3.5 A) and B) above.

**C3.2.3.5 Use of Reasonable Skill, Care and Required Reference Resources:**

**A) General:**

**A1)** It is an implied term of this contract for the Service Provider to apply reasonable skill(s) and due diligence/care in discharging all duties/tasks/assignments instructed by WO, in a competent professional manner.

**A2)** Although the Service Provider's documents are scheduled to be reviewed by the Department, it shall in no way relieve the Service Provider of its professional responsibility for the proper and prompt execution of WO instructed work. The Department retains and reserves the right to have submitted reports/documentation reviewed by an external professional specialist entity. In the event of observed underperformance, default or negligence by the Service Provider during this contract, the Department acknowledges that there will be an obligation to serve notice on the Service Provider of such under-performance and/or shortcomings. Unless attended to expeditiously/diligently by the Service Provider, the Department retains the right to rectify such default at the Service Provider 's cost and the Department may claim compensation/damages and set such off against any amount(s) payable in terms of this contract.

**B) Specialist Geo-Professional Service Provider's Minimum Enabling Requirements, but not limited thereto, to Deliver upon Specified Outcomes Services and/or Time and Cost Based Fees Services:**

**B1)** Studying, assimilating and understanding the Department's currently used DRMS systems program, processes and procedures, all as described in the Department's Dolomite reference manual titled: "PW 344/2017: APPROPRIATE DEVELOPMENT OF INFRASTRUCTURE ON DOLOMITE: MANUAL FOR CONSULTANTS, a copy of which is available as referenced in ANNEXURE 1 (at the back of this tender document).

**B2)** Source, obtain and study all relevant site/property ground water information/studies on dolomitic areas in South Africa, which should include extensive detailed knowledge about ground water compartments in Dolomite areas.

**B3)** Sourcing and verification of geodetic, cadastral and basic property information/data, for State owned properties, intended and due for investigation under this contract.

**B4)** The Service Provider will be allowed restricted access to selective reports/gathered data from the Department's GIS system, which will enable same to access/study/assess the desired standard of quality, norms and formatting of various specified reports, thereby permitting the Service Provider a thorough understanding of the Department's patented software programs used.

**B5)** Service Provider prepared/submitted Specified Outcomes, such as reports, maps drawings etc., must be fully compatible and integrated with the Department's currently used computing system(s) ("Arc"- software platform/ programmes) and methods utilized.

**B6)** The preparation and submission of a PEP for GHI's/EEL's will only be required should it be foreseen that it will deviate from the norm set and agreed upon between the Service Provider and the PM, as per C1.2 Clause 3.15. Should follow-on Services be required to be performed, such as planning, establishment, detailed gravity surveys, deep geological exploratory borehole drilling, near surface geotechnical sampling/investigations, reporting, etc., then a PEP must compiled by the Service Provider and submitted to the PM for consideration and approval. Remuneration for the preparation of the said PEP will be at Time Based Fees Rates.

**B7)** Basic information which must be included in the relevant report(s), shall be a detailed description of the site/property, its current use, brief outline of buildings, services and its *status quo* condition, enlightening/detail photographs (as required) and other site specific geographical, geological and topographic features.

**B8)** The PM's WO's will generally, though briefly, define the scope of work for each identified site/property to be investigated, but such shall not limit or waiver the general contextual obligations of the Service Provider intended by this contract.

**B9)** The Service Provider shall have all WO's instructed to be performed under Bill #2 and Bill #5 Services (as may be relevant and appropriate) to be subject to the compulsory external peer review process(s), all as specified in C3.2.3.2. B2).

**B10)** The Service Provider shall be responsible to define a (Department) compatible country wide unique property/buildings referencing system, which must be formalized soon after award of this contract, and such must be compatible with the current reference system in use by the Department. Attendance to this requirement shall be deemed included in tendered Outcomes Based Services and Time and Cost Based Fees Services rates.

#### **C) Measurement and Payment**

Rates tendered shall be deemed inclusive of the requirements of C3.2.3.5 A) and B) above.

#### **C3.2.3.6 Co-operation with other Services Providers:**

##### **A) Other Service Providers:**

The Services required under this contract will be under the control and management of the designated Departmental PM who, at the time of requesting the Service Provider to perform professional services, will be the person mentioned in T1.1.6. The Department reserves the right to replace the mentioned Departmental PM, with another member of its staff or any individual/firm from the private sector should it be deemed necessary, at any stage during execution of the Project.

##### **B) Other Role Players:**

Local, provincial and national authorities, statutory bodies, governmental Departments, Others, as may be required from time to time, including the client Department/end user(s).

##### **C) Measurement and Payment**

Rates tendered shall be deemed inclusive of the requirements of Items A) and B) above.

#### **C3.2.3.7 Compliance with the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993) Additional Services (Other):**

##### **A) General:**

**A1)** It is a compulsory requirement of this contract, that in planning, executing and supervising work due to be performed (*inter alia* applicable to all WO's instructed), that such be done by strictly observing any and all applicable requirements/ regulations of the OHS Act (Act 85 of 1993), including relevant built environment regulations and codes of practice.

**A2)** Prospective Tenderer's and their respective yet-to-be employed sub-contractors are cautioned/alerted to the fact that works on dolomite land differ substantially from works on stable ground conditions, where no dolomite is present, particularly from a health and safety point of view. It requires team work between the Service Provider's own personnel, his assigned Safety Agent/Officer and his appointed sub-contractors. The collaborative identification of health and safety risks, together with recommendations on appropriate mitigation measures, the continuous monitoring of safety aspects on WO instructed sites/properties, are all regarded essential

components that must be ensured/implemented as part of the Health and Safety Management Plan (HSMP) of the Service Provider.

**A3)** In addition to the above, the Service Provider shall be wholly responsible for ensuring compliance of his operation(s), equipment used, staff and persons deployed, whether it be under his direct or indirect control/supervision, albeit by invitation, instruction or otherwise, regardless of capacity, purpose and relationship of any such persons to the contract, to meet with all requirements and applicable regulations under the OH&SA, (Act 85 of 1993) and Section 5.5 of the Construction Regulations 2014, on behalf of the Department of Public Works.

**A4)** The Service Provider accepts full and complete responsibility (both contractually and/or in delict) regarding compliance with the Occupational Health and Safety Act, 1993 (Act 85 of 1993) and Section 5.5 of the Construction Regulations 2014, for his acts and omissions as well as those of his employees and indemnifies the Department against any legal action in this regard.

**A5)** The Service Provider undertakes to ensure that the requirements of the Occupational Health and Safety Act, 1993 (Act 85 of 1993) and Section 5.5 of the Construction Regulations 2014, will similarly apply to his agreement with any sub-contractors, inclusive of indemnifying the Department against any legal action regarding the actions and/or omissions by them.

**A6)** The Service Provider shall prepare and submit a HSMP to the PM within one month after award of the contract. Should the PM record any reservations on the HSMP, such must be attended to and amended without delay. See also C2.1.2.21.1

**A7)** The designated and appointed Safety Agent/Officer shall timely record identified health and safety risk mitigation measures, provide appropriate guidance in connection with safe site investigation measures, processes and practices and to inspect the works on a basis set and agreed upon with the PM in writing. HSMP reports shall be submitted to PM at least on a quarterly basis.

**B)** Measurement and Payment:

Rates tendered by the Service Provider shall be deemed inclusive of the above requirement(s), as referenced in C3.2.3.7 A) above.

#### **C3.2.3.8 Final disposal of documents:**

**A)** Upon approval and finalisation of the final account pertaining to this contract, it is a particular security requirement/obligation placed on the Service Provider, to return to the Department, all WO Services documentation (albeit electronic or hard copies). The PM shall receive such documentation, with formal sign-off, for safeguarding/archiving.

**B)** Measurement and Payment:

Rates tendered by the Service Provider shall be deemed inclusive of specified requirement(s) noted in A) above.

#### **C3.2.3.9 Applicable Legislation and Standards**

**A1)** This section applies to applicable national and provincial government legislation as well as that of any local authorities in whose area of jurisdiction the subject of the appointment falls and which has a bearing on the activities and facilities under this appointment.

**A2)** All the applicable legislation, which does not specifically allow discretion in respect of compliance by the State, shall be followed exactly as intended by such legislation regardless of any instructions, verbal or in writing, to the contrary. (Refer *inter alia* to Section 41 of the Occupational Health and Safety Act, 1993 (Act 85 of 1993)).

**A3)** Should any applicable legislation allow discretion in respect of compliance by the State, it shall be followed exactly as intended by the relevant legislation as if no discretion is allowed until such time as specific instructions in writing are issued to the appointed professional team by the PM.

**A4)** The Service Provider undertakes to ensure that his actions and outcome thereof including, but not limited to, the facilities to be attended by the Service Provider, shall be in accordance with all relevant legislation and upon delivery, will function as required by said relevant legislation. The Service Provider's actions and the outcome thereof shall in no way be detrimental to the health and safety of the occupants or persons present therein or in the vicinity thereof. Similarly it must not be detrimental to any aspects of the environment in its structure or operation if operated and utilized as specified in operation manual(s). The relevant legislation meant herein, as amended, consists of *inter alia* the following, but is not limited to:

- Atmospheric Pollution Prevention Act, 1965 (Act 45 of 1965);
- Construction Industry Development Board Act, 2000 (Act 38 of 2000);
- Council for the Built Environment Act, 2000 (Act 43 of 2000);
- Electricity Act, 1987 (Act 41 of 1987);
- Engineering Profession Act, 2000 (Act 46 of 2000);
- Environmental Conservation Act, 1998 (Act 107 of 1998);
- Fire Brigade Services Act, 2000 (Act 14 of 2000);
- Local Government Municipal Systems Act, 2000 (Act 32 of 2000), municipal by-laws and any special requirements of the local service supply authority;
- National Building Regulations and Building Standards Act, 1977 (Act 103 of 1977);
- National Environmental Management Act, 1998 (Act 107 of 1998);
- National Heritage Resources Act, 1999 (Act 25 of 1999);
- National Water Act, 1998 (Act 36 of 1998);
- Occupational Health and Safety Act, 1993 (Act 85 of 1993);
- Telecommunications Act, 1996 (Act 103 of 1996);
- Water Services Act, 1997 (Act 108 of 1997) and general authorizations;
- the latest issue of SANS 10142: "Code of Practice for the Wiring of Premises";
- the Regulations of the local Gas Board, where applicable and
- all regulations promulgated under the above Acts.
- SANS 1936 Parts 1 to 4 (compulsory standards applicable to development on Dolomite Land.

This will be a continuous process throughout the appointment, which will manifest itself during the following phases:

- development of plans and documentation;
- supervision and oversight of all the Service Provider's appointed sub-contractors and/or persons under his control/appointment;
- ensuring compliance of the end product;
- compiling and issuing of Instruction/Operational Manuals indicating *inter alia* what the legal and safety requirements entail for the user(s)/operator(s) of the facilities;
- providing instruction to the intended users/operators.
- Develop and issue DRMP's as, where and when relevant/required

**A5)** The Service Provider accepts full and complete responsibility (both contractually and/or in delict) regarding compliance with the Occupational Health and Safety Act, 1993 (Act 85 of 1993) for his acts and omissions as well as those of his employees and indemnifies the Department against any legal action in this regard.

**A6)** The Service Provider undertakes to ensure that the requirements of the Occupational Health and Safety Act, 1993, read with Section 5.5 of the Construction Regulations 2014, will similarly apply to the agreement with any appointed sub-contractors of the Service Provider, inclusive of indemnifying the Department against any legal action regarding the actions and/or omissions by them.

#### **B) Measurement and Payment:**

Rates tendered by the Service Provider shall be deemed inclusive of requirements set out in C3.2.3.9 above.

**C3.2.3.10 Access to land/buildings/sites:**

Access to the land/buildings/sites shall be arranged/negotiated in consultation with the PM and the particular client facility/property manager, as and when required. See also C3.2.2.6.

**Measurement and Payment:**

Rates tendered shall be deemed inclusive of the above requirement(s).

**C3.2.3.11 Software Application(s) and Programming:**

The Service Provider must avail himself of software to be used in the preparation of project documentation for compatibility with the Department's currently used patented/registered software programmes in the "ARC"-suite. Specific requirements for layering and compatibility are specified in the DPW Dolomite Manual, with reference PW 344/2017. See also C3.2.3.5 B5), and refer to "GIS" definition for clarity.

**Measurement and Payment:**

Rates tendered shall be deemed inclusive of the above requirement(s).

**C3.2.3.12 Security Clearance(s):**

It is an explicit condition of this agreement that partners, directors and/or the members of staff who will have an insight into the planning of projects requiring a security clearance, be kept to a minimum and that such persons will not object to being submitted to a security clearance, if the Department so requires.

If the latter is applicable, the necessary forms will accompany this tender or be provided to the Service Provider at any stage thereafter. These forms must be completed, if attached, and returned with the tender. It is important to furnish information which is complete in every respect.

In case the authority responsible for the clearance is, for security reasons, not satisfied with the classification obtained by any of the staff members of the Service Provider, it will be a further condition of this appointment that none of such staff members be involved with any aspect of the Project.

All documents pertaining to these projects must be stored in a safe place when not in use so as to ensure that the level of security of the projects is maintained.

**Measurement and Payment:**

Rates tendered shall be deemed inclusive of the above requirement(s)

**C3.2.3.13 Finger Prints (except Defence projects):**

Persons for which security clearance is required can obtain a finger print form SAP 91(a) from any Police station. The Service Provider must ensure that the police official responsible for taking the finger prints certifies the form since absence of the certification will result in the form being unacceptable

**Measurement and Payment:**

Rates tendered shall be deemed inclusive of the above requirement(s).

**C3.2.3.14 Condition to accept unregistered person with suitable built environment qualifications on secondment**

It is an express term of the contract that the Service Provider, after award of tender, accept unregistered, suitably qualified (built environment) person(s) in their office for the purpose of training and exposing the latter to the full extent of professional work, or as may be required according to specific circumstances, in order to gain experience which can be presented to the



relevant council for consideration towards professional registration. The secondment of such unregistered person(s) will be negotiated with the Service Provider in terms of numbers, periods of secondment will be the subject of a separate Memorandum of Understanding with the service provider which will serve as an annexure hereto. Any secondment arrangements will cease upon professional registration of the seconded person(s) or as agreed on and so included in the aforementioned Memorandum of Understanding. The responsibility for salaries of seconded person(s) will remain with the employer, but responsibility for operational expenses, necessary for the execution of work, will vest with the Service Provider, all of which will be addressed in the Memorandum of Understanding.

**Note:** The unregistered person(s) will be contracted/employed by the Department of Public Works, and the required training and exposure is not limited to the scope of this contract.

### **C3.3 EXTENT OF SERVICES:**

#### **C3.3.1 BILL # 1: SPECIFIED OUTCOMES SERVICES: SPECIAL HIGH RISK INSURANCE REQUIREMENTS:**

##### **C3.3.1.1 Special High Risk Contract Insurance Requirements:**

###### **A) General:**

###### **A1) Cautionary Notice:**

Tendering Service Providers are forewarned that all sites/properties about to be attended/investigated under this contract shall be treated as HIGH RISK DOLOMITE LAND.

**A2)** High Risk Dolomite Land could subject investigative teams, staff and equipment to geological conditions of highly unstable subsurface conditions, which may result in catastrophic ground movement(s), evident by sinkhole(s) and/or subsidence(s).

**A3)** Resulting from and consequent to the above, the Service Provider shall procure, maintain and keep in force appropriate comprehensive insurance policies noted hereunder, which are necessary but not limited thereto, for the full duration of this Contract, albeit for WO's involving Outcomes Based Services or Time and Cost Based Fees Services.

**A4)** The Department's specific insurance indemnity requirements for this contract shall *inter alia* render the Department, the particular Client Department resident on the investigated WO site/property, the public at large, and any Government employee resident at or working on any of the designated site(s)/property(ies), harmless against any claim(s) of whatever cause/nature.

**A5)** The Service Provider shall, as a minimum requirement of this contract, arrange for appropriate comprehensive insurance cover against identified liabilities/risks listed hereunder, which may result from or be incidental to the Service Provider's works/activities on any of the WO instructed sites/property(ies).

###### **B) Procure Appropriate High Risk Insurance Cover:**

**B1)** It is the responsibility of the Service Provider to acquire appropriate insurance to cover for his own and his sub-contractors' risks/liabilities hereunder listed. Without limiting the Service Provider's obligations, the Service Provider shall, within 15 (fifteen) working days of the award of this Contract, but before commencement of any work performed and/or instructed under this contract, submit to the Department formal proof of such insurance policies being in force, if requested to do so.

**B2)** The minimum requirements for insurance cover for this contract shall include for but not be limited to the following:

- Damage to the Works
- Injury to persons or loss of or damage to properties
- Professional indemnity insurance cover
- Service Provider's Contractor's All Risks (CAR) insurance
- Public liability insurance
- Service Provider entity insurance (company and employees)

###### **C) Damage to the Works**

The Service Provider shall, for the full duration of the contract period, arrange for and bear the cost of appropriate insurance cover, to carry the full risk of all works/activities, such that it indemnifies and hold harmless the Department against any incident, which may result in damage to and/or destruction of built infrastructure consequent upon a catastrophic ground movement event as mentioned above. The Service Provider shall take such precautions and security/safety measures deemed necessary for the protection of the Works as it may deem necessary.

###### **D) Injury to Persons or Loss of or damage to Properties**

**D1)** The Service Provider shall be liable for and hereby indemnifies and holds harmless the Department against any liability, loss, claim or proceeding arising at any time during the Contract period, whether arising in common law or by statute, consequent upon personal injuries to or the death of any person whomsoever resulting from, arising out of or caused by a catastrophic ground instability event, which specifically relates to work performed under a formal WO instruction under this contract.

**D2)** The Service Provider shall be liable for and hereby indemnifies the Department against any and all liability, loss, claim or proceeding consequent upon loss of or damage to any moveable, or immovable or personal property or property contiguous to the WO site, whether belonging to or under the control of the Department or any other body or person whomsoever, arising out of or caused by a catastrophic ground movement, as mentioned above, which may occur during the Contract period.

**D3)** The Department shall be entitled to recover any and all losses and/or damages of whatever nature suffered or incurred consequent upon the Service Provider's default of his obligations as set out herein- before. Such losses or damages may be recovered from the Service Provider or by deducting the same from any amounts still due under this Contract or under any other contract presently or hereafter existing between the Department and the Service Provider and for this purpose all these contracts shall be considered one indivisible whole.

**E) Professional Indemnity Insurance Cover:**

It is a compulsory requirement of this Contract for the Service Provider to arrange and maintain, for the duration of this Contract, minimum professional insurance cover of R1,5 million, with the first amount payable not exceeding 5% of the value of indemnity, and/or personal liability – all as more comprehensively described in C1.2.3, clause 5.4.1: Data provided by the Service Provider and in respect of which the Service Provider must provide data as required.

**F) Service Provider's / Contractor's All Risks (CAR) Insurance:**

It is a compulsory requirement of this Contract for the Service Provider to arrange and maintain, for the duration of this Contract, sufficient Service Provider (and Sub-contractor's), Contractor's All Risks (CAR) insurance, for all WO works/activities undertaken by or about to be performed under this Contract.

**G) Public Liability Insurance:**

It is a compulsory requirement of this Contract for the Service Provider to arrange and maintain, for the duration of this Contract, adequate/appropriate cover for Public liability insurance cover (as amongst others affected by high risk dolomite land), for all works/activities contemplated to be executed under this contract on any WO instructed site/property.

**H) Service Provider Entity Insurance:**

The Service Provider shall be wholly responsible to arrange, maintain and pay for his own particular works/performance insurance requirements against any accident, loss of life, loss of property, incident, injury etc., for the duration of this contract, covering amongst others, the Service Provider's own interest and that of his employees, all his sub-contractors interests and their employees performing works/activities on any specified WO site, any all equipment/machinery used to perform requisite contract works, loss of production and/or any other eventuality, which may, or may not have been foreseen.

Note: The Service Provider's paid-up policy/insurance documentation shall at all times be available (especially prior to accessing any site/property) when called upon by either the PM and/or the User-Client's authorized representative(s)).

**I) Measurement and Payment for Insurance Requirements:**

Tendering Service Providers shall tender an all-inclusive lump sum price for Special High Risk Contract Insurance Requirements described in C3.3.1.3 above (read with C2.1.2.21.3). Said

insurance shall cover and include for all WO instructed work undertaken or yet to be performed by the Service Provider, or his Sub-contractors, for Billed Services listed in C2.2.2 and C2.2.3.

The Tenderer's Financial Offer shall include for procuring, implementation and maintenance of all insurance requirements for the duration of the Contract. For pricing, reference is made to Bill #01, item #1.3. See example below:

**BILL ITEM #1.3: MEASUREMENT AND PAYMENT EXAMPLE:**

ITEM REFER- ENCE	PRICING INSTRUCTIONS/ SPECIFICATIONS REFERENCE	ACTIVITY DESCRIPTION	UNIT	QUAN- TITY	RATE / UNIT	AMOUNT
#1.1	C2.1, C2.1.2, C2.1.2.21.3 C2.1.3.2 A) C3.2.3, C3.3.3.3	Special High Risk Contract Insurance requirements:	All-inclusive item	1	Lump Sum	R.....

### **C3.3.2 PARTICULAR CONTRACT SERVICES REQUIREMENTS:**

#### **C3.3.2 A) General:**

A1) Tendering Service Providers shall tender all inclusive rates to perform Bill #1 to Bill #5 Services, to Specified Outcome(s), which requirements are given in detail either as Outcomes Based Services or Time and Cost Based Services. This, amongst others, requires of the Project Principal to make available dedicated time to obtain a desktop perspective of the Department's Dolomite Risk Management Strategy (DRMS) program, by amongst others assimilating relevant data/information pertaining to the Department's GIS database and the Department's Dolomite Manual with reference PW344/2017. Due allowance should be afforded to engage/consult the PM soon after contract award, to clarify and be briefed about any matter/issues of uncertainty.

A2) Bill #2 and Bill #5 Services infers a particular emergency obligation on the Service Provider, upon being issued with a WO by the PM, to verify/authenticate the targeted WO dolomite site/property<sup>2</sup> information (i.e. such as is unknown at the time of tender), which may be in any of the dolomite affected provinces in the Republic of South Africa.

A3) A general principle applicable to Bill #2 and Bill #5 Services is for the Service Provider to deliver/report upon Specified Outcomes Based requirements, which work/activities are typically performed at the physical WO instructed identified site/property.

A4) Bill #2, Bill #4 and Bill #5 Services generally constitutes two discrete pricing components. The first is for **"Site-Specific Activities"** and the second for **"Site-Variable Activities"**, requirements of which are specified elsewhere, under either Outcomes Based Services or Time and Cost Based Fees Services.

A5) The Department's Dolomite Manual PW 344/2017 and SANS 1936 (2010) Parts 1, 2 and 4, shall in general guide Dolomite Stability Investigations. In the event of ambiguity, the latter takes precedence.

A6) Bill #3 Services makes provision for the Department's Water Auditing Initiative (WAI).

#### **C3.3.2 B) Specialist Geo-Professional Service Providers Enabling Requirements (but not limited thereto) to Perform Bill #2 to Bill #5 Services:**

Reference shall be made to C2.1.2.21.4, which amongst other defines the Service Provider's minimum enabling requirements.

#### **C3.3.2 C) "Site-Specific Activities":**

**C1).** The term "Site-Specific Activities" is made up of, amongst others, various "known-to-the-Specialist-Service-Provider" generic activities, tasks, duties, requirements/obligations etc., which detailed elements/outputs form a particular implied term of this contract, which shall collectively be delivered upon when performing WO instructed Services, albeit Outcomes Based Services or Time and Cost Based Fees Services. Since requirements for the "Site-Specific Component" of a scheduled geo-professional site/property investigation, are at best regarded to be within the Service Provider's own field of specialization, that there be no ambiguity in pricing tender Rates for such Services, that it includes everything, in the broadest possible intent/meaning of the term, to deliver and achieve the Specified Outcome required.

The Specified Outcomes defined under the description of the term "Site-Specific Component", is, as a consequence, deliverable (or output) driven, by performing Services to best practice standards in compliance with SANS 1936 (2012) parts 1 and 2. The Service Provider shall deliver Specified Outcome(s), within specified time frame allowance(s), as per each defined class/type of Outcomes Based Service(s) or Time and Cost Based Fees Services. Reference shall be made to listed programmed milestones, as per the final approved PEP.

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<sup>2</sup>This information\* is obtainable from the Department of Land Affairs and/or the Deeds Office;

Services required shall be performed to achieve Specified Outcomes in C3, measured and payable per the relevant scheduled Bill items. This should include for, but not be limited thereto, hard copies of various type report(s), comprising the site specific Dolomite Status Certificate (DSC), the Inherent Hazard Classification, Land Use Zoning and the Dolomite Risk Management Plan (DRMP), complete with sign-off by the senior external independent experienced Competent Person (Dolomite land) peer review specialist.

**C2).** The absolute minimum number of boreholes to be drilled per site/property, for any DSI, shall never number less than 3 (three). Should the defined surface area of the site/property measure more than 1,0 ha, the number of boreholes shall be determined in accordance with specifications contained in SANS 1936 part 2: Clause 4.2.3 - Table 1, unless specifically instructed otherwise in writing, by the PM.

**C3).** The Service Provider shall thoroughly acquaint himself with the intent/meaning of the term "Site-Specific Activities", linked to each type/class of Service instructed, which infers everything needed to be done on the WO instructed site/property, to enable delivering precisely to specifications and in accordance with requirements of Specified Outcomes for Outcomes Based Service(s), as instructed by the PM.

**C4).** For clarification of intent, tendering Service Providers are cautioned to take note that the term "Site-Specific Activities (referred to above) and the term "Site-Variable Activities" (noted hereunder), are each described with the intent to leave no ambiguity as to what the specific activities, provisions and inclusions shall be associated with each. The term Site-Variable Activities basically covers all requirements/expenses associated with travelling arrangements of the Service Provider's sub-contracting entities, plus all equipment/staff, establishing and de-establishing from the WO instructed site/property to be investigated. The term "Site-Specific Activities" on the contrary, means all which is not covered by the former term, in order to have site works undertaken and to deliver upon particular Specified Outcomes (generally reports), prepared and submitted to specified standards/requirements, having duly attended a particular WO-specific instruction issued by the PM.

**C5).** All works/activities necessary and associated with the term "Site-Specific Activities" shall be deemed included in tendered rates. Tendering Service Providers shall take due cognizance of the abovementioned requirements when pricing all inclusive Rates for Site-Specific Activities.

**C6). Measurement and Payment: Site-Specific Activities:**

Measurement and payment for Site-Specific Activities shall incorporate and be read with C3.3.2 A) to C) above and tendered rates shall be deemed all-inclusive thereof.

Note: Examples of Measurement and Payment for Site-Specific Activities are separately given per each type/class of Service listed. See C3.3.2.1, C3.3.2.2, C3.3.2.3, C3.3.4 and C3.3.5.

**C3.3.2 D) "Site-Variable Activities"**

**D1).** The term "Site-Variable Activities" is associated with all travelling requirements/expenses of the Service Provider's Sub-contractors, to enable work to be performed at the locality of PM instructed WO site/property, for Bill #2, Bill #4 and Bill #5 Services. At the fundamental core of Site-Variable Activities are an all-inclusive tendered Rate for travelling towards and returning from a WO instructed site/property, which includes for travelling time/expenses of the designated supporting Sub-contracting entities personnel, equipment and machinery. To enable the Service Provider to produce Specified Outcomes in accordance with a WO instruction on a designated site/property, may require, amongst others, site inspections/arrangements for the contemplated work. These include, but are not limited to physically and materially investigating/exploring site conditions, borehole drilling works access/inspections, transportation of materials for testing/logging and evaluation etc., all of which components/elements contribute towards delivering upon Specified Outcomes.

**D2).** For the purpose of this contract, the Site-Variable Activities component includes, in the broadest possible meaning of the term, such items as can be related to travelling, which, amongst others, deal with the travelling entities travelling time, travelling expenses/costs, inclusive of any and all subsistence and sundry disbursements expenses/costs deemed necessary/required, as

from the date/time of departure from its Home Base to reach the WO specified site/property and the date/time of the return trip back to Home Base.

**D3).** The remuneration dispensation structure used for this contract is based on a combined, all-inclusive travelling distance rate, per kilometer, travelling undertaken by the different Services (production) entities. Such rates as are tendered must reflect the cumulative sum total of recoverable expense(s) of the various service rendering entities' distances travelled, based on a "once-off-only" site/property attendance investigation, irrespective of whether different Services entities/Key Persons are required to visit the site more than once. All work necessary and required to be performed/conducted on the specified WO site, must be attended/performed during such instructed/authorized trip(s), unless otherwise timeously/formally requested by the Service Provider, from the PM, who would not unreasonably withhold approval for such permission.

**D4).** At the time of Tender, travelling distance(s) of as yet un-identified sites/properties, are not known. Tendering Service Providers shall, as a result of such information lacking, tender all inclusive travelling rates. Tendered rates for Site-Variable Activities shall cover each travelling entities combined (all inclusive) total costs/expenses, based on similar principles described in C2.1.4.9, at a commensurate all inclusive tendered rate per kilometer travelled.

**D5). Price Adjustment to Tendered Rates:** Refer to C2.1.2.22

**D6). On-site Travelling:** On site travelling will not be compensated separately and tendered rates for Site-Variable activities are deemed included in tendered rates.

**D7). Measurement and Payment: Site-Variable Activities:**

Measurement and payment for Site-Variable Activities shall incorporate the above requirements and tendered Rates shall be deemed to be all-inclusive of meeting the requirements of C3.2.2 A) and C3.2.2 D1) to D4).

Note: Measurement example(s) applicable to Site-Specific Activities related to Bill #2.1, Bill #2.2, Bill #2.3, Bill #4 and Bill #5 are respectively detailed under the different Services required to be performed under this contract.

**C3.3.2.1 BILL #2.1: OUTCOME BASED SERVICES:**

**SPECIFIED OUTCOMES FOR EMERGENCY DOLOMITE INCIDENCE DETERMINATION WITHIN THE 4 (FOUR) KM BUFFER ZONE:**

SCOPE OF WORK: Bill Item #2.1 Service(s) applies to sites/properties where the incidence of dolomite presence shall be established. These sites/properties are generally located within a designated strip width, defined as the dolomite buffer zone.

**C3.3.2.1 A) General:**

A1) The PM will instruct the Service Provider by WO to determine whether a site/property is located on Dolomite. Typically, these instructions will be required to be performed within the 0,0 km to 4,0 km dolomite buffer zone, which is between 0,0 km to 4,0 km from the identified dolomite "boundary" (refer to the dolomitic map of SA), in any dolomite affected province, anywhere in the RSA.

A2) Tendering Service Providers shall tender all inclusive Bill Services rates, for all necessary tasks/duties/functions/activities required, to investigate (via WO) and deliver Specified Outcomes complete, for each site/property identified by the PM.

A3) Sites/properties instructed to be investigated may either be located on developed or undeveloped terrain. Developed sites are typically those where a property has been developed with infrastructure such as buildings, roads, wet services etc., the consequence of which may affect geological/geophysical investigation work(s). Undeveloped sites/properties typically represent a situation where no infrastructure development has taken place, generally referred to as a "green field" site, with virtually no obstruction(s) (except for fencing, trees, scrubs and other natural aspects/features), which may affect activities of the investigation team during their determination of whether the site is located on dolomite formation or not.

**C3.3.2.1 B) "Site-Specific Activities" for Exploratory Dolomite Incidence Investigations:**

B1) The Service Provider shall have the site geo-physically assessed by an experienced Competent Person (dolomite land), who must use his specialist knowledge/experience and skills to locate and set out 3 (three) only positions, where 100m deep boreholes are to be drilled on the WO specified site/property. The determination of where the boreholes are to be drilled will be irrespective of the property surface area to be investigated; such sites/properties will generally be between 1 ha and 2 ha in extent.

B2) The Competent Person (Dolomite land) shall, both for developed and undeveloped sites/properties, determine, locate and peg 3 (three) borehole positions, and accurately record same with a sub-meter accuracy GPS unit ( $\pm 1,0$  m). This information must be reflected on the drillers log sheet, the relevant site map/layout drawing, and the distance of the drilled boreholes in relation to the cadastral site boundary(ies) or the site/property coordinates.

B3) All exploratory drilling work required to be performed by the Service Providers sub-contractor drilling entity shall, amongst other, but not limited thereto, include for best practice specialized on-site dolomite exploratory drilling work(s), as directed by the Competent person (dolomite land). Upon completion of the driller's works/activities, backfilling of the borehole shall be competently done in accordance with the specified requirements contained in ANNEXURE 2: "ENGINEERING GEOLOGICAL SERVICE: EXPLORATORY GEOTECHNICAL DRILLING: PARTICULAR SPECIFICATION (PS): EXPLORATORY DRILLING FOR ENGINEERING GEOLOGICAL INVESTIGATION". The surrounding area close to and around drilled boreholes shall be cleared of excess drilling debris and the area must be generally tidied to resemble the condition it was found in before drilling commenced.

B4) As a general rule and principle, drilling shall be performed until such depth as where dolomite is struck, plus 6 m (if less than 100 m deep), or otherwise to a depth of 100m.

B5) For all Site-Specific Activities travelling by the drilling entity, its supporting functions/activities, Key Persons and geo-professionals, required to perform their work/activities on-site, should be priced under this item and such costs shall be deemed to be included in tendered rates.



**Important:** Tendering Service Providers shall make due allowance for and include such costs applicable to the “Site-Specific Activities” travelling (associated specifically with Bill #2.1 work), for any personnel/staff departing from and returning to the site, should requisite site work(s) not be completed on the same day(s) and/or should local stay-over(s) be required.

B6) Should any indications and/or positive elements or trace(s) of identifiable dolomite constituent materials be found/intercepted during on-site drilling activities, i.e. before the depth of 100 meter has been reached, in any of the three boreholes, then such “discovery” shall confirm the site as being a dolomite site, the consequence of which will reflect upon the need for a fully-fledged DSI (detailed elsewhere). The drilling rig and others involved may then de-establish, but not before site-finishing works have been attended to.

B7) It is a particular Specified Outcome(s) requirement for instructed WO’s for Bill #2.1 Services, for the Service Provider to prepare and submit a formal “Close-Out” report for each site/property investigated, which must be formally signed off by the peer reviewer, before payment will be certified - see also C2.1.3.2 B). The Close-out report must clearly contain a statement that, amongst others, the site investigation has confirmed no evidence of dolomite. Said report shall contain a site specific comprehensive record of the boreholes drilled, log sheets, site information, coordinates of the position(s) where the boreholes were drilled, salient features of the site etc. It is a compulsory requirement of this contract for the Service Provider to issue a No-Dolomite Status Certificate (NDSC), indicating the dolomite status of the site/property, in terms of the Department’s Dolomite Risk Management Strategy requirements.

B8) Ground water levels for each and every borehole drilled shall be recorded, no less than 48 hours after drilling a particular borehole, where after backfilling of the borehole shall commence in accordance with the specifications noted in C3.3.2.1 B3) above. Boreholes shall be backfilled for the full depth of the borehole (see B3) above), however, only to be done after the specified water level resting period (48 hours) has expired and the ground water level measured.

IMPORTANT: The Service Provider is responsible to certify that the drilling entity has undertaken this work to his satisfaction.

B9) See C2.1.2.21.2 and C3.2.3.3 for Quality Assurance requirements.

B10) Dolomite Incidence reports shall be in accordance with standards commensurate with SANS 1936 Part 2, Clause 4, which reports must be peer reviewed.

### **C3.3.2.1 C) Measurement and Payment for Bill #2.1 Services:**

C1) Investigation(s) to determine whether a site/property is underlain by dolomite, within the 0,0 km to 4,0 km dolomite buffer zone, shall be performed as described in item C3.3.2.1 A) & B) above:

C2) The method and certifiable portion payable towards realization of Specified Outcomes of Bill #2.1 Services, shall amongst others, be in accordance with requirements set out in C1) above.

C3) In addition to general instructions/information regarding Site-Specific work referred to in items C1) above, reference shall also be made to C3.3.2 C)

C4) See C3.3.2 D) above for requirements pertaining to Site-Variable activities related to travelling for all entities.

C5) See C2.1.3.2 B) for particulars regarding proportional remuneration schedule details.

C6) Payment for drilling under Bill #2.1 Services shall be for a depth of 100m for each of the three boreholes required to be drilled (whether drilling was performed to a lesser depth than 100m or not (i.e. if dolomite presence was confirmed before 100m depth).

C7) Payment certification will be permitted upon submission of the requisite Outcomes Based close-out report of the site/property investigated, containing all relevant information to certify a specific site investigated as “non-dolomitic”, complete with the NDSC supplied.

C8) Price Adjustment to Tendered Rates. Refer to C2.1.2.22.

**BILL #2.1: MEASUREMENT AND PAYMENT EXAMPLE**

ITEM REFERENCE	PRICING INSTRUCTIONS/ SPECIFICATIONS REFERENCE	ACTIVITY DESCRIPTION	UNIT	QUANTITY	RATE/UNIT	AMOUNT
#2.1	C2.1.2, C2.1.3, C2.1.3.1, C2.1.3.2 C2.3.1.2 A) & B) C3.2, C3.3, C3.3.2	<b>Emergency Feasibility-level Dolomite Stability Investigations (DSI) to determine Dolomite Incidence:</b>  Determination of the incidence of dolomite on any instructed site/property within the 4,0 km dolomite buffer zone, in any of the dolomite affected provinces in SA. Feasibility-level DSI's shall be performed in accordance with amongst other SANS 1936, part 2, Clause 4.2, read with cited PRICING INSTRUCTIONS AND SPECIFICATIONS REFERENCE requirements, with 3 (three) boreholes per site. The requisite works/activities are as per Bill items listed hereunder:	-	-	-	-
#2.1a)	As above, C2.1.3.2 B), C3.2.3.1 & 2, C3.3.2.1	<b>Site-Specific Activity:</b> Undeveloped site: Land extent ≤ 2,0 ha; Complete site/property investigation, including close-out report and No Dolomite Status Certificate (NDSC) submitted to the PM;	Lump Sum/ Site	2	R.....	R.....
#2.1b)	As above, C2.1.2.21.2 C2.1.3.2 B), C3.2.3.3 C3.3.2.1 C)	<b>Site-Specific Activity:</b> Developed site: land extent ≤ 1,0 ha; Complete site investigation, including close-out report, with a No Dolomite Status Certificate (NDSC) submitted to PM;	Lump Sum/ Site	3	R.....	R.....
#2.1c)	As above, C.2.1.4.9 C3.3.2 C3.3.2 D) C3.3.2.1 A) & C)	<b>Site-Variable Activities:</b> Single item travelling expenses kilometer rate (cumulative summation) for Exploratory Drilling Service Entity, complete with its Operational and Supervisory personnel, inclusive of travelling distance, travelling and accommodation expenses, travelling time, disbursements, subsistence expenses, toll fees, etc., to reach, work at and return for each WO instructed site investigated:	km	3500	R .....	R.....

**C3.3.2.2 BILL #2.2: OUTCOME BASED SERVICES:**

**SPECIFIED OUTCOMES FOR EMERGENCY DESIGN LEVEL DOLOMITE STABILITY INVESTIGATIONS (DSI) ON DOLOMITE LAND.**

**SCOPE OF WORK:** Bill #2.2 Service(s) requires of the Service Provider to perform design level Emergency Dolomite Stability Investigations (DSI's) on sites/properties located on Dolomite land, in any dolomite affected province of South Africa. This Service includes for the physical condition assessment of the WO instructed land parcel by means of geophysical exploration techniques (typically gravity surveys – albeit normal or micro gravity surveys), specialist deep borehole drilling exploration work, ground water regime studies, etc., all of which is required to determine the Inherent Hazard Characterization (IHC) of the site/property, to pronounce upon the Dolomite Area Designation, the development of a Dolomite Risk Management Plan (DRMP), complete with recommendations about development potential/restrictions to direct/guide orderly sustainable future development.

**C3.3.2.2 A) General:**

A1) See C3.3.2 for general specifications/requirements.

A2) The PM may at any time instruct the Service Provider by WO to perform specialist Design Level DSI's on sites/properties identified to be located on dolomite formation.

A3) The Service Provider shall tender all inclusive rates to deliver upon Specified Outcome's, which must be performed in accordance with requirements referenced in C3.3.2.2 B) hereunder.

A4) Sites/properties instructed to be investigated may either be located on developed or undeveloped terrain. Developed sites are typically those where a property has been developed with infrastructure such as buildings, roads, wet services etc., and the consequence of which presence may affect geological/geophysical investigation work(s). Undeveloped sites/properties typically represent a situation where no infrastructure development has taken place, generally referred to as a "green field" site, with virtually no obstruction(s) (except for fencing, trees, scrubs and any natural aspects/features), which may affect activities of the investigation team, during their works/activities on a particular site.

A5) Emergency design level DSI reporting shall, as a minimum requirement, meet with specified requirements of SANS 1936 Part 2, Clause 4.

**C3.3.2.2 B) Specified Outcomes required for "Site-Specific" Dolomite Exploratory Activities:**

B1) The Service Provider shall have the site physically assessed by an experienced Competent Person (dolomite land), who must direct the specialist geophysicist in planning the requisite investigation work(s) deemed necessary.

B2) The Service Provider shall plan and perform a Design Level DSI in accordance with the basic requirements of the Department's Dolomite Manual: PW 344/2017, read with the above referenced SANS 1936 specification.

Note: Tendering Service Providers are to note that sites/properties to be investigated are generally less than 1 (one) ha in extent.

B3) The Service Provider shall tender all inclusive lump sum rates for investigations on either developed or undeveloped sites/properties, all as detailed per relevant Activity Schedule items.

B4) Whenever an instructed site/property investigation measures smaller than 1,0 ha in extent, payment will be certified for a site size of 1,0 ha, thereby recognizing the Service Provider's all inclusive common cost items/elements necessary to undertake/complete such required work.

B5) No less than 3 (three) boreholes shall be drilled on any site/property measuring less than 1,0 ha, at positions determined from the results of the conducted gravity survey.

B6) The number of boreholes to be drilled on sites larger than 1 (one) ha, shall be determined from SANS 1936 (2012), Part 2, Clause 4.2.3, Table 1.

B7) Since the locality of sites/properties to be investigated are, at the time of tender, unknown, the Service Provider shall tender all inclusive Specified Outcomes Services rates for travelling, subsistence, disbursements, sundry expenses etc., as are deemed relevant and necessary/appropriate to the cause.

B8) The distance travelled by the Service Provider's drilling entity and/or any other authorized supporting functions, will be remunerated at all inclusive tendered Specified Outcomes Service rates, on the basis of the shortest distance from Pretoria (the Home Base), to the WO instructed site/property, as determined from any reputable computerized "route planner" program.

B9) For sites measuring larger than 1,0 ha in extent, extra over costs shall be tendered at Specified Outcomes Services rates and such rates must reflect upon the basic premise that all required physical items/equipment/staff/Key Persons etc., have already "established" on-site, to perform requisite work on the identified site/property. The latter statement should, as a result, require of the Service Provider to only tender Specified Outcomes Services rates for such additional time/work to be performed on-the-site (as site establishment has been accounted for elsewhere).

B10) Specialized drilling work shall, as a general principle, be performed until such depth\* as where dolomite is encountered, plus 6 m (only if the borehole drilling depth is less than 100 m deep), or otherwise to a depth of 100m. The Service Provider shall, as an integral part of this activity, be responsible to "locate" boreholes drilled with a sub-meter accuracy GPS unit. This information must be reflected on a General Arrangement drawing/map, complete with site boundaries and coordinates to WGS 84 reference.

Important note\*: For developed sites, the 100m criteria above will *per se* apply; for undeveloped sites, the 60m criteria applies.

B11) All exploratory drilling work required to be performed by the Service Providers sub-contractor drilling entity shall, amongst other, but not limited thereto, include for best practice specialized on-site dolomite exploratory drilling work(s), as directed by the Competent person (dolomite land). Upon completion of the driller's works/activities, backfilling of the borehole shall be competently (bottom to top) done in accordance with the specified requirements contained in ANNEXURE 2: "ENGINEERING GEOLOGICAL SERVICE: EXPLORATORY GEOTECHNICAL DRILLING: PARTICULAR SPECIFICATION (PS): EXPLORATORY DRILLING FOR ENGINEERING GEOLOGICAL INVESTIGATION". The surrounding area close to and around drilled boreholes shall be cleared of excess drilling debris and the area must be generally tidied to resemble the condition it was found in before drilling commenced.

B12) The Service Provider shall perform each WO instructed Emergency Design Level DSI, in accordance with and satisfying all requirements contained in the DPW Dolomite Manual PW 344/2017, read with SANS 1936 Part 2, Clause 4. This includes amongst others, but not limited thereto, the following:

- Gravity survey to specification (30mx 30m grid);
- Specialized borehole drilling, logging, recording and mapping;
- Borehole backfilling (see ANNEXURE 2);
- Determine the Inherent Hazard Characterization (IHC) of the site/property (SANS 1936 (2012) Part 2, Clause 4.5.1;
- Provide recommendations on development potential of the site/property;
- DSI report, in accordance with requirements specified in SANS 1936 (2012) Part 2, Clause 4.3.3;
- Prepare and submit a separate site/property Dolomite Risk Management Plan (DRMP) in accordance with specified requirements of SANS 1936 (2012) Part 4, Clause 4.3;
- Issue Dolomite Status Certificate (DSC);
- Determine Dolomite Area Designation
- Peer review of all DSI documentation (referred to above);

B13) Attend to and make Site/property development recommendations which will guide orderly and sustainable future development.

B14) Each site/property investigated, must be formally signed off by the peer reviewer, before full payment will be certified by the PM - see also C2.1.2.21.2. For Bill Item #2.2 Services, it is a compulsory requirement for the Service Provider to issue a DSC, indicating the dolomite hazard rating and Dolomite Area Designation of the site/property in terms of SANS 1936-1 Table 1 and the Department's Dolomite Risk Management Strategy requirements.

B15) The format, contents and general standard of workmanship of the abovementioned reports/documents shall at least comply with the minimum requirements of the "sample documents", copies of which will be available and displayed at the compulsory tender clarification meeting.

B16) See C2.1.2.21.2 and C3.2.3.3 for Quality Assurance requirements.

### **C3.3.2.2 C) Measurement and Payment for Bill #2.2 Services**

C1) The Service Provider shall perform Bill #2.2 Services at all inclusive Tendered Rates for Items C3.3.2.2 A) and B) above.

C2) The Service Provider shall attend to general requirements regarding Site-Specific work as per C3.3.2.2 B1) to B16 above; See also C3.3.2 items A) to C), as appropriate.

C3) See also C3.3.2 D) for general specifications applicable to Specified Outcomes Based Services applicable to Site-Variable Activities related to travelling.

C4) Full payment will apply for boreholes drilled to specified depths as required in SANS 1936 part 2. See also C2.1.3.2 C) for allowable proportional percentage interim payments.

C5) Final payment(s) against Bill #2.2 Services will not be considered until such time as requisite report(s) are submitted, complete with written sign-off by senior external Peer Reviewer.

C6) Price Adjustment to Tendered Rates. Refer to C2.1.2.22.

### **BILL #2.2: MEASUREMENT AND PAYMENT EXAMPLE:**

ITEM REFERENCE	PRICING INSTRUCTIONS/ SPECIFICATIONS REFERENCE	ACTIVITY DESCRIPTION	UNIT	QUANTITY	RATE/ UNIT	AMOUNT
#2.2	C2.1.2, C2.1.3, C2.3.1. 2 A) & C) C3.2, C3.3, C3.3.2	<b>EMERGENCY AND AD-HOC DESIGN LEVEL DOLOMITE STABILITY INVESTIGATIONS (DSI), INCLUDING INHERENT HAZARD CHARACTERIZATION (IHC), LAND UTILIZATION APPRAISAL, DOLOMITE AREA DESIGNATION AND DOLOMITE RISK MANAGEMENT PLANS (DRMP), FOR SITES/PROPERTIES LOCATED ON DOLOMITE FORMATION:</b> Emergency design level DSI's shall be performed in accordance with amongst other SANS 1936, part 2, Clause 4.3, read with cited PRICING INSTRUCTIONS AND SPECIFICATION reference requirements, with the minimum number of boreholes as per Clause 4.2.3, Table 1. The requisite works/activities are as per Bill items listed hereunder:	-	-	-	-
#2.2a)	As above, C3.3.2.2, C3.3.2.2 C)	<b>Site-Specific Activities:</b> Undeveloped site/property: Land extent ≤ 1,0 ha; Execute and deliver Specified Outcomes, incl. of peer reviews on all reports/ documents referenced above.	Lump sum/site	2	R.....	R.....
#2.2b)	As above	Extra over #2.2 a): up to 2,0 ha in extent:	Lump sum/site	1	R.....	R.....
#2.2c)	As above	Extra over #2.2 a): up to 3,0 ha in extent:	Lump sum/site	1	R.....	R.....

#2.2d)	As above	Extra over #2.2 a): up to 4,0 ha in extent:	Lump sum/site	2	R.....	R.....
#2.2e)	As above	Extra over #2.2 a): up to 5,0 ha in extent:	Lump sum/site	1	R.....	R.....
#2.2 f)	As above	<b>Site-Specific Activities:</b> ++Developed site: Land extent ≤ 1,0 ha; Execute and deliver Specified Outcomes, incl. of peer reviews on all reports/ documents referenced above.	Lump sum/site	2	R.....	R.....
#2.2 g)	As above	Extra over #2.2f): up to 2,0 ha in extent:	Lump sum/site	1	R.....	R.....
#2.2 h)	As above	Extra over #2.2f): up to 3,0 ha in extent:	Lump sum/site	1	R.....	R.....
#2.2 i)	As above, C3.3.2 D) C3.3.2.2 C)	<b>Site-Variable Activities:</b> Single item travelling expenses kilometer rate (cumulative summation) for Exploratory Drilling Service entity, complete with its operational and supervisory personnel, inclusive of travelling distance, travelling and accommodation expenses, travelling time, disbursements, subsistence expenses, toll fees, etc., to reach, work at and return for each WO instructed site investigated:	km	10 000	R.....	R.....

**NOTE 1:** Should additional boreholes be required to be drilled when the drilling entity is on site, remuneration will be in accordance with relevant items under Bill #4.3 Services

**NOTE 2:** ++Developed site means computed land surface area from cadastral boundaries of the site investigated.

**C3.3.2.3 BILL #2.3: OUTCOME BASED SERVICES:**

**SPECIFIED OUTCOMES FOR EMERGENCY FOOTPRINT DOLOMITE STABILITY INVESTIGATIONS (FDSI) ON DOLOMITE LAND:**

**SCOPE OF WORK:** Bill #2.3 Service(s) requires of the Service Provider to perform a “follow-on” emergency Footprint Dolomite Stability Investigation (FDSI), such typically undertaken after a Bill #2.2 Service had been undertaken and reported on. This Service includes amongst others for the execution of geophysical exploration work by specialist techniques (typically gravity surveys – albeit normal or micro gravity surveys), specialist deep borehole drilling exploration work on the footprint area(s) of planned buildings/structures, ground water regime studies, etc., all of which is required to confirm the Inherent Hazard Characterization (IHC) of the envisaged development site/property, pronounce upon the final determined Dolomite Area Designation. This Service includes for the review of and recommendations about building foundation options, interpreted with and taking into account the results of near surface geotechnical report information. The development of a Dolomite Risk Management Plan (DRMP) shall be an integral part of this Service.

**C3.3.2.3 A) General:**

A1) See C3.3.2 A) to D) for general information and certain particular requirements.

A2) Sites/properties instructed by the PM to be investigated by WO as Bill Item #2.3 Services, involves a detailed specialist dolomite study/investigation of an area of lesser magnitude, generally representing the cumulative planned building(s) footprint+++ area, upon which site/property a development project is intended for construction. This Service is typically executed as a follow-on study on sites/properties previously investigated as Bill Item #2.2 Services. All relevant/applicable DSI report(s), which are at the disposal of the Department, will be made be available to the Service Provider to assist in planning for such FDSI WO.

NOTE+++ : Development footprint area = area computed from building/ structure/facility footprint dimensions, plus 10m in any direction on plan.

A3) As and when the PM instructs the Service Provider by WO to perform additional micro-gravity surveys and/or extended exploratory drilling work, such must be performed at the subject site/property, to refine/enhance results from previous studies.

A4) Tendering Service Providers are to note that the relevant Activity Schedule items do not distinguish (this point is only valid and applicable to Bill Sub-Item #2.3 Services) between a Developed site/property or whether it is a green field site; The development footprint area(s) will generally be clear of obstructions for new buildings/facilities planned for the site in question.

**C3.3.2.3 B) Site-Specific Dolomite Related Exploratory Requirements for Footprint Dolomite Stability Investigations (FDSI):**

B1). The Service Provider is required to make a dedicated effort to obtain appropriate dolomite related property information and Design Level report(s) when planning for follow-up phase(s) 2 and 3 investigations.

B2). Planning for FDSI work shall be performed by an experienced Competent Person (Dolomite land), who should, in collaboration with the specialist geophysicist, determine such requirements as are regarded necessary.

B3). The Service Provider shall plan and have detailed Emergency FDSI work performed in compliance with the requirements of SANS 1936 (2012) Part 2, Clause 4.3.

B4). Tendering Service Providers are to note that the total extent of sites/properties designated to be investigated by WO instruction, are generally undeveloped and less than 1,0 ha in extent. Due allowance shall be made to include for all required common cost items/elements necessary to undertake/complete such required FDSI on-site works.

B5). The number of boreholes to be drilled shall be determined by the Competent Person (Dolomite land), taking cognizance of derived or deduced (new) input obtained from the specialist dolomite geo-physicist. The number of boreholes to be drilled during phase 2 and 3 investigation work shall be determined by Competent Person (Dolomite land). Should more than 5 (five) exploratory boreholes be required for any FDSI on a designated site/property, those that are in excess of the aforementioned number will be compensated at tendered Rates in Bill #4. Authorization by the PM (if required) needs to be obtained prior to undertaking such work, but definitely before site establishment.

B6). For sites/properties measuring in excess of 2500 m<sup>2</sup> land area, the extra over Bill #2.3 items shall be priced at tendered Rates, based upon the basic premise that the borehole drilling entity, its supporting materials/equipment, specialized equipment, Key Persons etc., have already established on the designated site/property and that such additional physical work necessary, shall be attended to as specified elsewhere.

B7). Where the total land surface area measures less than 2500m<sup>2</sup>, no less than 5 (five) exploratory boreholes shall be drilled per each WO instructed FDSI.

B8). The number of boreholes to be drilled for a WO instructed FDSI, for a site/property land surface area measuring more than 2500 m<sup>2</sup> but less than 5000 m<sup>2</sup>, shall be determined by the by the Competent Person (Dolomite land), supported by information obtained from the micro gravity survey conducted by the geo-physics. Should more 5 (five) boreholes be required to be drilled, the Service Provider shall motivate/submit such additional requirement to the PM for his approval prior to commencing drilling operations. Remuneration for drilling in excess of 5 (five) boreholes, will be remunerated at tendered Rates for Bill #4.3 Services, item C2.2.3.2. Tendering Service Providers shall take note that the locality of sites/properties, which are to be investigated are at the time of tender unknown. Reference shall be made to relevant Site-Variable Bill item(s) for travelling aspects and items pertaining thereto.

B9). For sites measuring larger than 0,5 ha in extent, rates shall be tendered for Bill #2.3 Service(s), upon the basic premise that all requisite physical items/equipment/ staff/Key Persons etc., have already been catered for in Bill items. Tendering Service Providers shall tender commensurate rates for such additional time/work/Services required to be performed on-the-site (as establishment has already been accounted for).

B10). Borehole drilling work shall as a general principle be performed until such depth as where dolomite is encountered, plus 6 m (if less than 60 m deep), or otherwise to a depth of 60m.

Note: Should the need arise and drilling needs to be done to greater depth, then such must be referred to the PM to authorize. Remuneration will be at tendered fees for Bill #4.3 Services.

B11). The Service Provider shall, as an integral part of this activity, be responsible to "locate" boreholes drilled with a sub-meter accuracy GPS unit ( $\pm 1,0$ m accuracy). Said information must, amongst others, be reflected on the General Arrangement Plan of the site, complete with site boundaries and coordinates to WGS 84 reference system.

B12). Work required to be performed by the Service Provider's drilling entity shall amongst others, but not limited thereto, include for performing all necessary on-site exploratory drilling work/backfilling activities, in accordance with specified requirements contained in ANNEXURE 2: "ENGINEERING GEOLOGICAL SERVICE: EXPLORATORY GEOTECHNICAL DRILLING: PARTICULAR SPECIFICATION (PS): EXPLORATORY DRILLING FOR ENGINEERING GEOLOGICAL INVESTIGATION".

B13). The Service Provider shall prepare and submit a formal FDSI report in accordance with specified requirements of SANS 1936 (2012) Part 2, Clause 4.3.3.

B14). See C2.1.2.21.2 and C3.2.3.3 for Quality Assurance requirements.

B15). Each site/property investigated, must be formally checked/reviewed and signed off by the senior external competent person (Dolomite land) peer reviewer, before full payment will be permitted - see C2.1.2.21.2. Remuneration for the peer reviewer shall be as per Bill #6. See C.3.3.6.



B16). It is a compulsory requirement for the Service Provider performing Services as instructed by WO for Bill Item #2.3 Services, to issue a FDSC, indicating amongst others, the Inherent Hazard Characterization and the Dolomite Area Designation of the site/property in terms of SANS 1936-1 Table 1 and the Department's Dolomite Risk Management Strategy requirements.

B17). It is a compulsory requirement for the Service Provider performing Services as instructed by WO for Bill sub-items #2.3 services, to compile and submit a DRMP for site(s) investigated, for which compensation will not be made separately.

**Note:** The general format, contents and workmanship required for the abovementioned reports/DSC documentation, shall, as a minimum requirement, be comparable in standard to that of the sample documents, copies of which will be available and displayed during the compulsory tender clarification meeting to tendering Service Providers. See C5.3.

### C3.3.2.3 C) Measurement and Payment:

The Service Provider shall perform Bill Item #2.3 Services at all inclusive tendered Rates as follows:

C1) Attend to the general requirements regarding Site-Specific work noted above as per C3.3.2.3 A1) to A4) and C3.3.2.3 B1) to B17) above; See also C3.3.2 items A) to C), as appropriate.

C2) See also C3.3.2 D) for general specifications applicable to Specified Outcomes Services applicable to Site-Variable activities related to travelling.

C3) See C2.1.3.2 C) for particulars regarding proportional remuneration applicable to Specified Outcomes Based Services for Site-Variable Activities (travelling related).

C4) Full payment will apply for boreholes drilled to specified depths. Refer to C2.1.3.2 D) for permissible interim percentage stage payments.

C5) Final payment(s) against Bill #2.3 Services will not be considered until such time as requisite report(s) are submitted, complete with written sign-off by senior external Peer Reviewer.

C6) Price Adjustment to Tendered Rates. Refer to C2.1.2.22.

### BILL #2.3: MEASUREMENT AND PAYMENT EXAMPLE:

ITEM REFERENCE	PRICING INSTRUCTIONS/SPECIFICATIONS REFERENCE	ACTIVITY DESCRIPTION	UNIT	QUANTITY	RATE/UNIT	AMOUNT
#2.3	C2.1.2, C2.1.3, C2.1.3.2 A) & D) C3.2.1, C3.2.2, C3.2, C3.3 C3.3.2	<b>EMERGENCY FOOTPRINT DOLOMITE STABILITY INVESTIGATIONS (FDSI), CONFIRMATION OF INHERENT HAZARD CLASS (IHC), DOLOMITE AREA DESIGNATION AND PREPARATION OF FORMAL DOLOMITE RISK MANAGEMENT PLANS (DRMP):</b> FDSI's shall be performed in accordance with amongst other SANS 1936, part 2, Clause 4.3, read with cited PRICING INSTRUCTIONS AND SPECIFICATION REFERENCE requirements, with the minimum number of boreholes as per Clause 4.2.3, Table 1. The requisite works/activities are as per scheduled Bill items listed hereunder:	-	-	-	-
#2.3a)	As above, C3.3.2.3 C)	<b>Site Specific Activities:</b> Construction Area measuring a development footprint <sup>++</sup> area in extent up to 2500 m <sup>2</sup> :	Lump sum/site	2	R.....	R.....
#2.3b)	As above	Extra over footprint <sup>+++</sup> area in #2.3a), up to max. of 5000 m <sup>2</sup> :	Lump sum/site	1	R.....	R.....
#2.3c)	As above	Extra over footprint <sup>+++</sup> area in #2.3a), up to max. of 1,0 ha:	Lump sum/site	1	R.....	R.....

ITEM REFER- ENCE	PRICING INSTRUCTIONS/ SPECIFICATIONS REFERENCE	ACTIVITY DESCRIPTION	UNIT	QUANTITY	RATE/UNIT	AMOUNT
#2.3d)	As above, C3.3.2 D), C3.3.2.3 C)	<b>Site-Variable Activities:</b> Single item travelling expenses kilometer rate (cumulative summation) for Exploratory Drilling Service Entity, complete with its Operational and Supervisory personnel, inclusive of travelling distance, travelling and accommodation expenses, travelling time, disbursements, subsistence expenses, toll fees, etc., to reach, work at and return for each WO instructed site investigated:	km	1500	R.....	R.....

**NOTE 1:** Should additional boreholes be instructed to be drilled when the drilling entity is on site, remuneration will be in accordance with Bill #4.3 Services

**NOTE 2<sup>++</sup>:** Development footprint area = area computed from building/ structure/facility dimensions, plus 10m in any direction, on plan.

**C3.3.3 BILL #3: OUTCOME BASED SERVICES:**

**SPECIFIED OUTCOMES FOR THE WATER AUDITING INITIATIVE (WAI):**

**C3.3.3.1 Scope Of Work:**

A). General

A1). The Department identified the Water Auditing Initiative (WAI) as one of the prime elements of determining distress/malfunctioning in water networks, which has the potential of serving the purpose of an early warning pointer in identifying dolomite risk location(s) in water system networks. This will also have the added benefit of saving fruitless utility expenditure on water losses associated with dolomitic sites, owned by the Department.

A2). Due to the complexity/variety of different sites/property types and uses, such sites as are deemed relevant to the WAI study variables, are identified by name/unique reference, its particular use(s), the number of persons populating the site/use in relation to the number/locality of auditable water meters per site. Layout drawings of each of the identified sites/properties, complete with referenced information noted hereinbefore, are to be obtained/ prepared.

A3). The auditing data and the site-specific demand analysis must provide data and information to such level to reflect upon Specified Outcomes expectations, which substance is summarized hereunder (but not limited thereto):

- The Service Provider shall prepare a detailed sub-level PEP for a comprehensive Water Auditing Initiative (WAI), which must describe the scope and programmatic and systematic detail of the Specified Outcome. This sub-level PEP must be submitted to the PM for consideration/comment/approval, within 2 (two) weeks after contract award.
- Calculation of estimated water demand per Water Auditing Property (WAP), per Water Auditing Zone(s) (WAZ), utilizing appropriate design parameters from relevant codes of practice, which must include for setting/assigning different functional zones within said larger WAP, with the aim of providing scientific proof/validation of results against actual metered water readings.
- Preparation and submission of water supply services layout drawings, per each of the identified WAP's WAZ sub-sites/facilities, complete with cadastral boundaries, locality and accurate coordinates of fit for purpose water meter logging devices. All relevant design parameters/data must be presented in tabulated format on (supporting) water services drawings, per each land parcel representing a WAP.
- The WAI scientific study must utilize statistical analysis methods in support of the proof of success/failure, as appropriate, of Bill #3 Services.
- This assignment must be treated with meticulous scientific/statistical accuracy and must reflect same in the final Outcome (read report).
- The expected Outcome Based result of Bill #3 Services shall be to receive/analyse information about the pilot Water Auditing Initiative for listed WAP's WAZ's, which aim it is to pro-actively detect water leaks and to timeously react appropriate to the cause, with the additional secondary benefit of significantly curbing water system losses. The latter must be quantified in monetary terms as part of Specified Outcomes required.
- The final close-out report must reflect upon all aspects of the study, good or bad, complete with successes and/or failures.
- The Service Provider shall prepare a dedicated PEP, which must amongst others deliberate upon fulfilling requirements for computing statistical analysis on the WAI programme as a whole, the final outcome of which must reflect upon recommendations for and formulate conclusions about the success/ess and cost saving(s) achieved, with the latter aspect reflecting upon water utility wastage costs.

**C3.3.3.2 Particular Outcomes Based Requirements:**

A1). The primary focus and purpose of Bill #3 Services is to evaluate factors and determine variables resulting from ageing water pipe systems deemed to be beyond their serviceable lifespan, which are located at various rated inherent dolomite hazard zones, within specified WAP's. The final close-out report must reflect upon a scientific/statistical analysis of the findings/

determinations derived from research/analysis undertaken.

A2). The Service Provider must amongst others structure Bill #3 Services such that it gives expression to and supports the following basic requirements:

- Undertake punctual monthly recording(s) of pre-determined WAP's collective metered water use, inclusive of reading/recording various WAZ meters on such WAP's, to enable the development of a statistical water use model.
- Perform appropriate design(s) and relevant calculations to determine predicted water use, on a monthly theoretical basis, comprising the various elements/components of different water use(s) within specified WAZ's on each WAP.
- Perform scientific/statistical analysis of designed water demand versus actual metered use. Variation in occupation numbers applicable to different water users/uses, within WAZ's, must form an integral part of these (monthly) projections/determinations.
- Identify, predict, and regularly report on locality of potential water leakages and its estimated quantum. This aspect includes for "as-the-need-arises" written responses by the Service Provider to the PM, to invoke appropriate actions to initiate necessary preventative interventions by others.
- Assessment of and accounting for water system losses, within each specified WAP's WAZ's.
- Investigation of and reporting about potential water abuse by client users, where and whenever observed.
- Reconcile actual metered water use, per each specified WAP, with tabulated site specific records of actual monthly payments to Water Utility Service Providers.
- Identify/determine the potential risk of distressed water networks in relation to dolomite risks for each identified WAP.
- Prioritise upgrading of water services networks, based on risk versus accounted for and/or un-accounted water losses.
- Develop statistical models for and predictions about water consumption for different development types and related occupation levels instructed WAP's.
- The Service Provider shall report its findings/results at quarterly progress meetings about the above aspects, as appropriate. Minutes of such meetings shall be compiled by the Service Provider and presented for consideration and sign-off within two weeks after the meeting by the PM.

#### BRIEF OUTLINE OF PHASING SPECIFIC OUTCOMES:

PHASE	PRIMARY DUTIES:
1	Initiation phase: Specified WAP's desktop study
2	Production Phase:
2A	Record WAP's actual metered water use: Immediate commencement and thereafter a continuous monthly punctual duty.
2B	Compilation of working drawings, comprising buildings, facilities & water services network layouts, for all specified WAP's.
2C	Determination of theoretical design water demand in accordance with standard South African practice (CSIR's RED Book), for different water uses within all specified WAP's, including defining various development "types" (including seasonal effects), with agreement about and sign-off by the client user, the PM and the Service Provider.
2D	Setting/defining basic design parameters. This includes for formal sign-off by PM.
2E	Water network hydraulic analysis (using existing as built drawings) with recognized computer aided Civil engineering design package, representing the theoretical projection of water demand for the various areas/classes of water consumption at all WAP's. This must include for various levels of occupational use within WAZ's.

2F	Statistical comparison of measured consumption versus theoretical water demand, inclusive of dealing with monetary evaluation/comparison aspect(s)
2G	Determine and report results on water usage reduction after upgrading pressurized water networks, which have been installed in accordance with PW 344/2017 standards.
2H	Metering statistics and statistical anomalies analysis
2J	Prioritization of water services upgrading projects
3	Close-out stage: Reports, conclusions and recommendations

### C3.3.3.3 WORK BREAKDOWN STRUCTURE:

The primary identified Services required for the Water Auditing Initiative (WAI) are outlined in the Work Breakdown Structure (WBS) table hereunder.

Item	Verifiable Specified Outcome Milestone Event per each WAZ property:
a)	Monthly Water Audit: Readings taken at identified WAZ property: Note: Interim payments shall be made at quarterly intervals over the contract period
b)	Water demand (consumption) analysis versus theoretical
c)	Site water use assessment and analysis:
d)	Water distribution network analysis:
e)	Statistical anomalies/reporting
	Total:

Note: Interim payment percentages are referenced in C2.1.3.2 E).

### C3.3.3.4 Specified Outcomes Required for Specified Water Auditing Properties (WAP's):

A1). Bill #3 Services typically applies as follows:

WAP Property Description	WAP Developed Buildings Footprint area* (ha)	WAP number of buildings (no)
DOD: SAAF: Swartkops Special Forces (MASOP*)	50	1000

**Note:** Developed Footprint Buildings Area\* means, within the context of Bill #4, the parcel of land served by potable and/or irrigated water services, under pressure, within the identified WAP, which dimensions measures across the length and breadth of the developed footprint of such property, enveloping infrastructure developments such as buildings/facilities/structures, plus 20m in any direction, however always within the cadastral boundaries of a particular identified property.

A2). Water meter readings shall be taken on a fixed date on a monthly basis. The shortest distance travelling route shall be pre-planned/configured, with the aid of a route planner program, to capture all 7 (seven) WAZ properties water readings, if practical, on one specific day of the month.

A3). The “developed footprint” area of a property generally measures less than the (property) land parcel extent.

A4). The land parcel extent of identified WAP's noted above, covers “*developed footprint*” areas, which includes for institutional, commercial, residential, roads, recreational (sport fields) and other constructed development(s) & facilities, but specifically excludes non-used and non-developed areas, such as uncultivated grasslands next to airport runways.

A5). For small sites less than 1 (one) ha, the full property land parcel extent (measured in ha) applies for measurement and payment purposes.

A6). All work performed under Bill #3 Services shall be subject to peer reviews, complete with sign-off by the Project Principal, on each of the above listed WAP's.

#### **C3.3.3.5 Bill #3 Services: Milestone Dates**

A) Bill #3 Service's milestone dates shall be detailed in the Service Provider's WAI PEP. See guideline schedule of milestone dates in the table hereunder.

B) Should mutual consensus not be reached between the PM and the Service Provider in agreeing milestone dates, such dates shall be negotiated in good faith by the PM and the Project Principal.

C) The final PEP must be formally approved by the PM, which contents will comprise an integral contractual element of Bill #3 Services.

DESCRIPTION OF MILESTONE	TARGET DATE
Submission of Sub-level PEP for consideration & comment by the PM	Within 2 (two) weeks of contract award
Design Level (see C3.3.3.3 b) above)): Initiation Phase: Desktop study of WAP's	Within 6 (six) weeks of contract award
Phase 2A: Water audit measurement commencement:	Within 6 (six) weeks of contract award
Phase 2B: Prepare and submit working drawings of all WAZ's in relation to WAP's, reflecting upon site layout and water services routes under pressure	Within 12 weeks of contract award.
Phases 2C, 2D and 2E: Finalize all designs for water demand and update working drawings with relevant information	Within 20 (twenty) weeks of contract award
Phases 2F, 2G and 2H: Regular and on-going reporting	Quarterly reporting
Phase 2J: Recommendations and prioritization:	Quarterly reporting
Phase 3: Final close-out report:	Three months before tender expiry

#### **C3.3.3.6 Penalties for Late Completion:**

##### **A1) Formalizing Milestone Dates:**

The Service Provider and the PM shall engage, on a fair, reasonable and mutual consensus basis, within 10 (ten) working days after submission of the WAI PEP (two weeks after contract award), to formalize/fix milestone activities/dates.

**A2)** Upon final approval of the sub-level PEP by the PM, the Service Provider shall strictly adhere to and timeously submit Specified Outcomes on milestone dates contained therein.

##### **A3) Penalty Application:**

Late submission of Specified Outcomes on milestone dates will attract the application of penalties as specified hereunder:

Unsatisfactory and/or late delivery of any Specified Outcome on milestone dates contained in the approved final WAI PEP, shall attract a Penalty as listed in C3.2.2.4.3 E)<sub>1</sub> up to a maximum penalty of R 10 000,00, per milestone event.

#### **C3.3.3.7 Travelling Requirements/Arrangements:**

A1). The Service Provider shall prepare and submit a proposed travelling schedule visiting all WAP's on a monthly basis, for consideration/approval to the PM, which must account for an

effective, least kilometre distance travelled, "Round-Robin-Trip" basis.

A2). Travelling time

Fees for travelling time are as set out in Table 8 in the "Rates for Reimbursable Expenses".

Fees are payable for travelling time at the tariff, as set out in C2.1.3.5 Time charges for work done under a value based fee. Travelling time will be fully reimbursed.

A3). Travelling costs

Fees for travelling costs are as set out in Table 3 in the "Rates for Reimbursable Expenses".

Travelling costs will be refunded for the full distance covered per return trip measured from the office of the Service Provider appointed.

Compensation for the use of private motor transport will be in accordance with the Government tariff for the relevant engine swept volume, up to a maximum of 3000 cubic centimetres, prescribed from time to time and as set out in Table 3 in the "Rates for Reimbursable Expenses".

A4). Hired vehicles

In cases where use is made of hired vehicles, the most economical sized vehicle available is to be used but compensation shall nevertheless be restricted to the cost of a hired car not exceeding a capacity of 1300 cc. Where use of a special vehicle is essential (e.g. four track or minibus to accommodate more people), prior approval in writing must be obtained from the departmental project manager.

A5). Subsistence allowance

The subsistence allowances are as set out in Tables 4 and 5 in the "Rates for Reimbursable Expenses".

Only actual costs are payable in respect of absence from office of less than 24 hours.

Should the daily tariff as set out in Table 4 be inadequate, substantiated actual costs plus a special daily allowance as shown in Table 5 for incidental expenses, may be claimed. It must be noted that claims may only be according to Table 4 or Table 5. Accommodation should be limited to the equivalent of a three star hotel and no alcoholic beverages or entertainment costs may be claimed for.

**Measurement and Payment for Bill #3 Services:**

A1) The Service Provider shall tender all inclusive rates to meet and deliver upon Specified Outcomes referenced in items C3.3.3.1 to C3.3.3.7 above.

A2) The method and certifiable interim payment proportion towards Specified Outcomes elements, contained in the Work Breakdown Structure (WBS) of Bill #3 Services, must be tendered as a Lump Sum per each WAP. See C2.1.3.2 E).

A3) The WAP/WAZ Developed Building Footprint Area\*, measured in hectares (ha), as quantified in the relevant column of Bill #3 items, is shown as provisional quantities. Variances in quantum, either upwards or downwards, shall be quantified/remunerated according to tendered all inclusive Rates, against item "#WAZ.add Land"

A4) The WAZ Number of Buildings (no) represents an estimated count of buildings/structures counted on a specified site/property. Only buildings with a footprint area measuring in excess of 200m<sup>2</sup> shall be counted in this determination. A count of buildings/structures, either upwards or downwards, shall be the basis of remuneration at all inclusive tendered Rates.

**BILL #3: MEASUREMENT AND PAYMENT EXAMPLE**

ITEM REFER- ENCE	PRICING INSTRUCTIONS/ SPECIFICATIONS REFERENCE	ACTIVITY DESCRIPTION	WAZ DEVELOPED FOOTPRINT AREA (ha)	WAZ NUMBER OF BUILDINGS (no.)	RATE/IDEN- TIFIED SITE	AMOUNT
#3	C3.3.3	Site Description:	-	-	-	-
#3WAZ.01	C3.3.3.8	DOD: Swartkop Park: Special Forces (MASOP*)	50	1000	Lump sum	R .....
#3WAZ.add. Land	C3.3.3.8	WAZ Land Parcel Variance(s)	per 1,0 ha (+ or -)	-	R .....	R.....
#3WAZ.add. Buildings	C3.3.3.8	WAZ Additional Buildings/Structures	-	per group of 10 (+ or -)	R .....	R.....
#3.	Item	Travelling Component:	-	Distance	Rate/km	
#3WAZ.Trav	C3.3.3.7	<p>All inclusive rate for travelling to reach and return from identified 7 (seven) WAZ Properties: Note 1: Shortest distance travelling route shall be configured to capture all 7 WAZ properties listed above, inclusive of time, travelling costs and all sundry expenses</p> <p>Note*: Provisional re-measurable travel distance to sites authorized by the PM (per instructed WO):</p>		7,000*km	R.....	R .....

Note: All work performed under Bill #3 Services shall be subject to Project Principal's oversight and review, complete with sign-off for each of the WO instructed WAP's.



**C3.3.4 BILL #4 SERVICES: TIME AND COST BASED FEES SERVICES:**

**SPECIFIED OUTCOMES FOR ADDITIONAL EXPLORATORY SERVICES IN SUPPORT OF DOLOMITE RISK MITIGATION INTERVENTIONS:**

**C3.3.4 General:**

A1) The PM may instruct WO's for any additional required work, such as gravity surveys, micro gravity surveys, test pitting by TLB, DPSH testing, additional drilling and Laboratory tests to be performed under Bill #4 Services.

A2) The Service Provider must at all times have on call, at short notice, emanating from EEI or GHI WO instructions issued by the PM, access to and be able to provide such Specialist Services as described herein. Such called for Services should be available on a 7/24/365 basis, whenever instructed by the PM, typically via cell phone communication, with subsequent confirmation with a formal WO by the PM.

A3) Due to the random, unpredictable extent and unknown locality of ground instability events/incidents, which may occur at any time during the contract period, the PM will, after review and discussion with the Service Provider Project Principal, of a particular incident, promptly issue instructions (albeit formal or informal), about the most appropriate means/method/type and speed with which an investigation incident requires to be conducted. As a consequence, as and when the PM instructs such work by WO to the Service Provider, the dedicated time of the Project Principal must, without delay, be availed to coordinate the necessary actions/activities, to attend to and facilitate the physical Site-specific investigation/ drilling/testing/exploration means required.

A4) Bill #4 Services allows for and requires specific support functions/facilities/equipment (with supporting staff), which are required to be available, on short notice, to perform the actual site investigation work required. Such work/activities will be instructed via WO, by the PM, which may include (but not be limited thereto), gravity surveys, exploratory borehole drilling, TLB work, DPSH and geotechnical laboratory testing, which would support and enable the Service Provider professional(s) and external peer reviewer, to derive/deduct conclusions and make recommendations about the safety of people and the preservation (read safety) of fixed assets.

A5) Tendering Service Providers are to note that the time of Key Persons required to provide support Services activities for WO's implicating Bill #04 Services, are dealt with and accounted for separately, under Time Based Fees for Bill #5 Services.

A6) Site-Specific Services required to be performed by the Tendering Service Provider sub-contractor's (Bill #4 Services), shall be tendered for on an all-inclusive basis for travelling and sundry expenses, to enable same to reach/return and perform work to render Specified Outcomes for a particular issued WO.

A6) See C2.1.4.9 and C3.3.2 D) for principles applicable to Site-Variable Activities (travelling aspects) applicable to Bill #4 Services.

**C3.3.4.1 BILL #4.1: SPECIFIED OUTCOMES: ADDITIONAL EMERGENCY GRAVITY SURVEYS:**

**C3.3.4.1 A) General:**

A1) Additional emergency Gravity Survey Services investigations shall conform to and be reported about as per specified best practice standards/requirements, which shall meet with the minimum requirements specified in SANS 1936 (2012) Part 2, Clause 4.2.2: Geophysical survey.

A2) All Gravity survey work shall be performed with appropriate best practice fit for purpose specialized equipment. The Geophysicist shall utilize a grid spacing of 30m x 30m, and gravity surveys should generally reach beyond physical site boundaries, all as deemed relevant/appropriate to the cause.

A3) Upon preparing and rendering Gravity Services, Specified Outcomes shall be formally recorded and handed over in a format acceptable to the Service Provider geo-professional(s). The aforementioned information shall also be put in possession of the PM, in hard copy and e-format, before payment will be considered for such Services rendered.

A4) See C3.3.4.2 A) for special circumstances involving additional micro gravity surveys wherein the Service Provider may perform work without a written WO instruction of the PM. The Service Provider shall however, in circumstances referred to hereinbefore, record such work subsequent to performing additional micro gravity work, complete with substantiated motivation, soon after execution of such Services.

**C3.3.4.1 B) Site-Specific Activities:**

B1) Whenever the PM instructs by WO additional emergency gravity survey work to be performed, tendered Rates shall make provision for all costs associated with executing the additional gravity survey work, per site/property, per station, inclusive of the interpretation thereof and capturing same in an acceptable hard copy and electronic format, which must be compatible with the Department's and the Tendering Service Provider's criteria/requirements.

B2) The Service Provider shall take note that the criteria applicable to B1) above, applies to all information exchange requirements, such as the electronic database, maps, reports, etc., which must be in a format acceptable to the Service Provider's requirements. Printing, duplicating, e-copy requirements etc., for reproducing the aforementioned, shall be as per C3.2.3.3, and all such expenses/costs/disbursements shall be deemed included in the rate tendered per station.

B3) Reference shall be made to C2.1.4 regarding tendered Time and Cost Based Fees Services for Key Personnel (excl. professional time of the Geo-physicist and his/her support staff performing work associated with additional gravity survey work, which time cost and expenses are deemed included in tendered Rates as stated in B1) and B2) above).

**C3.3.4.1 C) Site-Variable Activities:**

C1) The "Site-Variable" Activities associated with Bill #4.1 Services, has at its core a travelling substance, which is deemed necessary by the gravity surveying entity, to produce Specified Outcomes.

C2) The Site-Variable component includes, in the broadest possible meaning of the term, all such costs/expenses related items, associated with the travelling action/activity of the Gravity Surveyor entity and his support staff, which should include for, amongst others (but not limited thereto), travelling time, travelling costs/expenses, subsistence costs, sundry disbursement costs, accommodation costs, toll fees, etc., as from the time of departure from the sub-contracting gravity surveying entities' work place, to reach the specified Site/property, and the subsequent return trip back to same. Details of planned travelling by the sub-contracting gravity surveying entity shall be reflected upon in the Service Provider's PEP for each instructed WO. See 3.3.2 D).

C3) The Department shall remunerate the gravity surveying entity for work required on a "once-off-only" site visit basis (travelling distance measured in km for a return trip), and all work necessary to be performed/concluded on the specified WO site, must be attended to during such authorized trip, unless otherwise agreed to and timeously/formally requested by the Service Provider and

thereafter formally authorized in writing by the PM. The Gravity surveying entities' staff shall physically attend to the instructed WO Site/property, during which it shall inspect, conduct and conclude all work/activities necessary to finalize required/specified site specific work.

C4) Travelling will be remunerated at an all-inclusive kilometer Rate, for the return trip distance travelled, for each instructed WO where emergency gravity survey work is required. Since distance(s) and destination detail(s) shall be regarded as unknown at tender stage (by virtue of the unknown locality/distance to reach and return from the specified Site/property), the Service Provider shall tender all inclusive travelling Rates for Specified Outcomes required, for additional emergency gravity survey services per Bill #4.1, based on the principles described in C2.1.4.9, at a commensurate unit rate per kilometre travelled.

C5) Price Adjustment to Tendered Rates. Refer to C2.1.2.22.

#### C3.3.4.1 D) Measurement and Payment

D1) All Site-Specific requirements (see C3.3.4.1 A) and C3.3.4.1 B) above) associated with additional emergency gravity survey work, shall be priced at all inclusive tendered Rates. Payment against this item will be based on the number of gravity stations (30mx30m) set out and utilised, for either developed or un-developed sites, to render results acceptable to the Tendering Service Provider for interpretation, and if required, to receive further instructions.

D2) Compensation will be against a standard grid pattern of 30mx30m. Payment will be per station, as instructed by in writing by the Service Provider, which must be authorized by the PM upon receipt of the WO specific PEP. Results, maps, e-format information, exchange interface requirements etc., shall be to the specified criteria recorded above, a copy of which must be delivered to the PM (to signify receipt/acceptance), before payment will be certified by the PM. All data must be compatible with the Department's currently used GIS database system.

D3) Site-Variable travelling requirements shall be tendered at all inclusive travelled kilometre Rates, to specifications referenced in C3.3.4.1 C) above.

#### BILL #4.1: MEASUREMENT AND PAYMENT EXAMPLE:

ITEM REFERENCE	PRICING INSTRUCTIONS/SPECIFICATIONS REFERENCE	ACTIVITY DESCRIPTION	UNIT	QUANTITY	RATE/UNIT	AMOUNT
#4.1	C2.1.2, C2.1.3, C2.1.4, C3.2, C3.3.4 C3.3.4.1	<b>Bill #4.1 Services*:</b> <b><u>Additional Emergency Gravity surveys:</u></b> General requirements/allowances:				
#4.1a)	As above, C3.4.4, C3.3.4.1 A) & B) C3.3.4.1 D)	<b><u>Site-Specific Activities:</u></b> Execution of on-site additional emergency gravity survey work (30mx30m grid) at developed sites/ properties, in accordance with cited specifications and Specified Outcomes:	Station	1000	R .....	R.....
#4.1b)	As above	Execution of on-site additional gravity survey work (30mx30m grid) at un-developed sites/ properties, in accordance with cited specifications and Specified Outcomes:	Station	1200	R.....	R.....
#4.1 c)	C3.3.2 D) C3.3.4, C3.3.4.1 A), C) & D),	<b><u>Site-Variable Activities:</u></b> All inclusive Site-Variable kilometer rate for Gravity survey entity travelling, incl. travelling time of Geo-professional(s), disbursements, subsistence etc., inclusive of support personnel, (if required), per each WO instructed site investigation.	km	4000	R.....	R.....

**\*IMPORTANT NOTE:** Bill items #4.1a), b) and c) above will be the subject of a CASE 3 penalty, which will be applied when the designated sub-contracting entity takes more the 72 (seventy two) hours to reach and perform GHI or EEI instructed Bill #4 investigation Services. Reference is made to C3.2.2.4.4 C).

**C3.3.4.2 BILL #4.2: SPECIFIED OUTCOMES: ADDITIONAL EMERGENCY MICRO GRAVITY SURVEYS:**

**C3.3.4.2 A) General:**

A 1) The Service Provider shall tender all inclusive Specified Outcomes Services rates for additional emergency on-site micro gravity survey work based on a 10mx10m grid pattern. Such work would typically be required in areas which are densely developed or where circumstances of merit dictate. The Service Provider and/or the specialist geophysicist will be required to motivate to PM in writing the need for additional micro gravity survey work, if this is recommended for any particular Site/property. The Department will only certify payment for micro gravity survey work when a formal WO has been issued by the PM.

A 2) In cases where the Gravity survey entity has already established on a particular Site/property being gravity surveyed (i.e. 30mx30m grid pattern), and it becomes convincingly clear that a specific portion of land will imminently require micro gravity survey work, then such may be executed without prior written permission of the PM, however, on the proviso that the survey area in question measures less than 1000 m<sup>2</sup>, and that remuneration will be at tendered rate(s) for stations about to be set up. When the area proposed to be micro gravity surveyed measures in excess of 1000 m<sup>2</sup>, a WO instruction from of the PM must be obtained prior to executing such work.

A 3) Additional emergency micro gravity survey Services investigations shall conform to and be reported about as per specified best practice standards/requirements, which shall meet with the minimum requirements specified in SANS 1936 (2012) Part 2, Clause 4.2.2: Geophysical survey.

A 4) Upon preparing and rendering emergency Micro-Gravity survey Services, Specified Outcomes shall apply and such shall be formally recorded and handed over in a format acceptable to the Service Provider's geo-professionals. The aforementioned information shall also be submitted to the PM, in hard copy and e-format, before payment will be processed for such work.

**C3.3.4.2 B) Site-Specific Activities applicable to Emergency Micro-Gravity Survey Services:**

B 1) Whenever the PM instructs additional emergency Micro-Gravity survey Services by WO, the Rate tendered per station shall make provision for all Site-Specific costs associated with executing the additional emergency Micro-Gravity survey Services on the Site/property identified, including the interpretation thereof and capturing same in a format compatible with the Department's and the Service Provider's criteria/requirements.

B 2) The Service Provider shall take note that item B1) above applies to all information exchange requirements such as the electronic database, maps, reports, etc., which must be in a format acceptable to the Service Provider professional(s) and the Department. Printing, duplicating, e-copy requirements etc., shall be as per C3.2.3.3, and all such expenses shall be deemed to be included in the tendered Rate per station.

B 3) Reference shall be made to C2.1.4 regarding tendered Time and Cost Based Fees Services by Key Personnel (excl. professional time of the Geo-physicist and his/her support staff, which are required to perform such additional micro-gravity survey Services, which time/cost/expenses are deemed included in tendered Rates in C3.3.4.2 B1) and B2) above).

B 4) Specified Outcomes, such as maps, e-format information exchange interface requirements etc., shall be to the specified criteria/format required by the Service Provider Competent Person (Dolomite land), a copy of which must be delivered to the Department (thereby signifying formal receipt/acceptance), before payment will be certified by the PM.

B 5) All data and drawing(s) prepared/submitted by the Micro-Gravity services entity shall be in a format compatible with the Department's currently used GIS database system.

**C3.3.4.2 C) Site-Variable Activities applicable to Emergency Micro-Gravity Survey Services:**

C1) The scheduled "Site-Variable Activities" associated with Bill #4.2 Services, have at its core a travelling substance, which would be required from the Micro-Gravity surveyor entity, to produce WO instructed emergency Micro-Gravity survey Services Specified Outcomes:

C2) Site-Variable component includes, in the broadest possible meaning of the term, all such costs/expenses related items, associated with the travelling action/activity of the Micro-Gravity surveyor entity and his support staff, which should include for, amongst others (but not limited thereto), travelling time, travelling costs/expenses, subsistence costs, sundry disbursement costs, accommodation costs, toll fees, etc., as from the time of departure from the sub-contracting Micro-Gravity surveying entities' work place, to reach the specified Site/property, and the subsequent return trip back to same. Details of planned travelling by the sub-contracting micro-gravity surveying entity shall be reflected upon in the Service Provider's PEP for each instructed WO. See 3.3.2 D).

C3) The Department shall remunerate the Micro-Gravity surveying entity for Services on a "once-off-only" site visit basis (return trip travelling distance measured in km), and all work necessary to be performed/concluded on the specified WO site, must be attended to during such authorized trip, unless otherwise agreed to and timeously/formally requested by the Service Provider, and thereafter formally authorized in writing by the PM. The Micro Gravity surveying entities' staff shall physically attend the identified WO site/property, during which it shall inspect, conduct and conclude all work/activities necessary to finalize/conclude required/specified site specific work.

C4) Travelling will be remunerated at an all-inclusive kilometer Rate, for the return trip distance travelled, for each instructed WO where emergency Micro-Gravity survey work is required. Since distance(s) and destination detail(s) shall be regarded as unknown at tender stage (by virtue of the unknown locality/distance to reach and return from the specified site/property), the Service Provider shall tender all inclusive travelling Rates for Specified Outcomes required, for additional emergency Micro-Gravity survey services per Bill #4.2, based on the principles described in C2.1.4.9, at a commensurate unit rate per kilometre travelled.

C5) Price Adjustment to Tendered Rates. Refer to C2.1.2.22.

**C3.3.4.2 D) Measurement and Payment:**

D1) Remuneration for Services rendered will be compensated at all inclusive tendered Rates for a grid pattern of 10mx10m, to requirements specified above.

D2) Attendance to and delivering upon specific requirements as per Items C3.3.4.2 A) to C3.3.4.2 C) above, shall be deemed included in tendered Rates.

D3) Payment will be per station, as per the written instructed requirements of the Service Provider's Competent Person (dolomite land).

..... continued on next page

**Bill #4.2: MEASUREMENT AND PAYMENT EXAMPLE:**

ITEM REFER- ENCE	PRICING INSTRUCTIONS/ SPECIFICATIONS REFERENCE	ACTIVITY DESCRIPTION	UNIT	QUANTITY	RATE/ UNIT	AMOUNT
#4.2	C2.1.2, C2.1.3, C2.1.4, C3.2, C3.3.4 C3.3.4.2	<b><u>Bill #4.2 Services*:</u></b> <b><u>Additional Emergency Micro Gravity</u></b> <b><u>Surveys:</u></b> General requirements/allowances:				
#4.2a)	As above, C3.3.4.2 A) & B) C3.3.4.2 D)	<b><u>Site-Specific Activities:</u></b> Execution of on-site additional micro gravity survey work (10mx10m grid), in densely populated developed areas, in accordance with cited specifications and Specified Outcomes:	stations	1600	R.....	R.....
#4.2b)	As above, C2.1.4.9 C3.3.2 D), C3.3.4.2 A), C) & D)	<b><u>Site-Variable Requirements:</u></b> All inclusive Site-Variable kilometer rate for Micro-gravity service entity travelling, including travelling time of Geo-professional(s), disbursements, subsistence etc., inclusive of support personnel, (if required), per each WO instructed site investigation.	km	4000	R.....	R.....

**\*IMPORTANT NOTE:** Bill items #4.2a) and 4.2 b) above will be the subject of a CASE 3 penalty, which will be applied when the designated sub-contracting entity takes more the 72 (seventy two) hours to reach and perform GHI or EEI instructed Bill #4 investigation Services. Reference is made to C3.2.2.4.4 C).

**C3.3.4.3 BILL #4.3: SPECIFIED OUTCOMES: ADDITIONAL EMERGENCY GEOLOGICAL EXPLORATION SERVICES BY MEANS OF BOREHOLE DRILLING, LOGGING, TESTING ETC.:**

**C3.3.4.3 A) General:**

A1) Whenever the PM instructs the Service Provider by WO to perform emergency Dolomite Stability Investigations (DSI) or GHI/EEI Services, albeit for Outcomes Based work or Time and Cost Based Fees Services, the Service Provider shall facilitate and undertake exploratory specialist drilling Services, as and where required. Since the locality of such events/incidents are unknown at tender stage, the location may be anywhere in the Dolomite affected provinces of South Africa.

A2) Generally GHI and EEI Services are WO instructed by the PM, which event(s) are typically reported to the PM by DPW property user entities, the public at large or any other DPW appointed consultant or contractor.

A3) Should the reported ground instability event, or structural (building) distress, warrant further detailed specialist studies/investigations, the PM shall, in collaboration/consultation with the Service Provider, instruct by means of a WO, drilling of additional emergency exploratory boreholes.

**C3.3.4.3 B) Site-Specific Activities Applicable to Emergency Drilling of Additional Exploratory Borehole(s):**

B1) The Service Provider shall assign competent Key Person(s) (time inputs based upon Time and Cost Based Fees Services as per relevant Bill #5 items), to facilitate, arrange, and coordinate the drilling of exploratory emergency boreholes on any DPW site underlain by dolomite. Such work shall only be attended to upon receipt of a formal WO issued by the PM.

B2) Should the Competent Person (Dolomite land) require additional emergency Gravity survey, (or Micro-gravity survey) work to be performed, i.e. before exploratory borehole drilling commences, then such instructions, read with WO Specified Outcome requirements, will form the basis of setting the scope of work for follow-on site investigation work.

B3) Subsequent to and resulting from the Service Provider's Competent Person's (Dolomite land) inspection of the WO instructed site/property, borehole setting out shall be undertaken to Outcome Based requirements. The Service Provider shall accordingly accurately peg out the determined positions of such as required exploratory boreholes on site, to enable the Service Provider drilling entity to perform its work, well before the drilling equipment establishment takes place on site. GPS coordinates of borehole positions must be accurately recorded and locality positioned on relevant reference maps/drawings.

B4) The Service Provider's sub-contracting drilling entity shall be under direct instruction, control and supervision of the assigned Key Person, who shall duly issue instructions for work which may be related to emergency work (i.e. GHI or EEI cases), or *ad-hoc* investigation substance.

B5) All drilling work shall be performed under the direct supervision of a qualified experienced drilling foreman until the Key Person (Geologist) has released the driller from his responsibility. Recording and logging of boreholes must be to best practice industry standards. Borehole logging and recording of relevant data/information shall be the responsibility of the Service Provider's Key Person (Geologist).

B6) The Competent Person (Dolomite land) and/or the designated Key Person (Geologist) must ensure that all drilling work is carried out to the current best practice standards specified in SANS 633 (also referenced in SANS 1936), and that recording be made in accordance with the specification for geotechnical logging of soil profiles and rotary percussion boreholes for engineering purposes in Southern Africa. The drilling foreman shall, under the supervision of the Service Provider's Key Person (Geologist), perform such drilling works as directed. The designated Key Person (Geologist) shall supervise all drilling work full time on site and shall render interim verbal report(s) (frequency as deemed appropriate/relevant), on drilling conditions/progress to the Competent Person (Dolomite land), for each borehole drilled. All

Borehole(s) drilled should intercept at least 6m dolomite bedrock before drilling may be ceased, unless otherwise instructed by the designated responsible Key Person. Each WO instructed borehole must be uniquely/sequentially numbered and compensation will only be considered if properly referenced/numbered/logged to the aforementioned requirements.

B7) Backfilling of all boreholes drilled and measured for payment under Bill #4.3 Services, shall be backfilled strictly in accordance with specified requirements set out in ANNEXURE 2 (attached hereto), clauses PS1 to PS 14.

IMPORTANT NOTE: Each borehole shall be backfilled for the full drilled depth (i.e. from the bottom to the top), under the explicit supervision of the designated Key Person.

B8) The Service Provider will be required to submit a detailed PEP, upon having received a PM instructed WO to have additional emergency exploratory boreholes drilled, which must contain a detailed breakdown of all work/activities required to be performed by assigned/designated Key Persons, for activities such as managing, coordinating, setting out, travelling (site-variable activity), logging, supervision of borehole backfill operations, dipping ground water level (after 48 hours), compilation of report(s) relevant to the cause, etc., all of which are to be compensated at Bill #5 Time and Cost Based Fees tendered Rates.

#### C3.3.4.3 C) Site-Variable Activities:

C1) The scheduled "Site-Variable" Activities associated with Bill #4.3 Services, has at its core a travelling substance applicable to the exploratory drilling entity, to produce Specified Outcomes.

C2) The Site-Variable Activity includes, in the broadest possible meaning of the term, all such items that can be related to the exploratory drilling entities' forward and return travelling arrangements/actions, which includes amongst others, staff travelling costs, overhead costs, diverse travelling expenses, toll fees, kilometers travelled, subsistence expenses, sundry disbursements etc., from the time of departure from the drilling entities' Home Base (or otherwise pre-authorized work place), to reach and return from the WO instructed site/property. Details of the sub-contracting drilling entities' planned travelling distance must be reflected upon in the Service Provider's PEP for each instructed WO.

C3) The drilling entities travelling distance will be remunerated at all inclusive travelling distance rate, for each WO issued by the PM, for the requisite investigation at an identified Site/property. Since distance(s) and destination detail(s) may be regarded as unknown(s) at tender stage (by virtue of the unknown locality/distance to reach and return from the specified site/property), the drilling entity shall tender all inclusive rates for travelling when attending to Specified Outcomes against this item, covering all expenses/costs as referenced in this section. See also C2.1.4.9, which further clarifies inclusions of the term "All-Inclusive".

C4) Additional Geological Exploration Services performed by WO (Bill #4 Services), as instructed by the PM to the Service Provider, shall be arranged, coordinated and managed by the Service Provider's Project Principal. All Time and Cost Based Fees Services required/rendered, involving Key Persons as may be relevant to the cause will be compensated at tendered Rates, the short descriptions of which are referenced in Bill #4.1 to Bill #4.4 Services.

C5) Time and costs of designated Key Persons envisaged to be deployed for WO instructed additional exploratory drilling work shall be reflected upon in the Service Provider's PEP, which must be submitted for approval to the PM. Upon formal approval of the PEP by the PM, remuneration will be at Bill #5 tendered Rates for Time and Cost Based Services attended to by the Service Provider's designated Key Persons. This includes amongst others for travelling, setting out, reporting to best practice standards, etc.

#### C3.3.4.3 D) Measurement and Payment:

D1) The Service Provider shall perform/deliver upon Specified Outcomes Services, at all inclusive tendered Rates, in accordance with specified requirements per C3.3.4.3 A) to C3.3.4.3 C) above.

D2) In addition to general instructions/information referred to in Site-Variable Services, per



C3.3.4.3 C) above, reference shall also be made to C3.3.2 D).

D3) Price Adjustment to Tendered Rates. Refer to C2.1.2.22.

**BILL #4.3: MEASUREMENT AND PAYMENT EXAMPLE:**

ITEM REFERENCE	PRICING INSTRUCTIONS/ SPECIFICATIONS REFERENCE	ACTIVITY DESCRIPTION	UNIT	QUANTITY	RATE/UNIT	AMOUNT
#4.3	C2.1.2, C2.1.3, C2.1.4, C3.2.2, C3.2.3, C3.3.4 C3.3.4.3	<b><u>Bill #4.3 Services*: Additional Emergency Geological Exploration work by means of Borehole drilling/ logging/ testing &amp; backfilling:</u></b>				
#4.3a)	As in #4.3 above, C3.3.4.3 A) & B) C3.3.4.3 D)	<b><u>Site-Specific requirements*:</u></b> On-the-site establishment and de-establishment from any WO instructed site, including setting up on any number of boreholes on the same site.	site	15	R .....	R .....
#4.3b)	As in #4.3 above, C3.3.4.3 A) & B) C3.3.4.3 D)	Drill through any material up to a maximum depth of 30 m, measured from ground surface, complete with backfilling of borehole	m	2500	R.....	R .....
#4.3c)	As in #4.3 above, C3.3.4.3 A) & B) C3.3.4.3 D)	Drill deeper through any material from a depth of 30m up to 60 m (measured from ground surface), complete with backfilling of borehole	m	1500	R.....	R .....
#4.3d)	As in #4.3 above, C3.3.4.3 A) & B) C3.3.4.3 D)	Drill deeper through any material from a depth of 60m up to 100 m (measured from ground surface), complete with backfilling of borehole	m	500	R.....	R .....
#4.3e)	As in #4.3 above, C3.3.4.3 A) & B) C3.3.4.3 D)	Install borehole casing if required; only by authorization of the Geologist or the Competent Person (dolomite land).	m	200	R.....	R .....
#4.3f)	As in #4.3 above, C3.3.4.3 C) C3.3.2 D)	<b><u>Site-Variable Activities*:</u></b> Single item travelling expenses kilometer rate (cumulative summation) for emergency additional Exploratory Drilling Service Entity, complete with its Operational and Supervisory personnel, inclusive of travelling distance, travelling and accommodation expenses, travelling time, disbursements, subsistence expenses, toll fees, etc., to reach, work at and return for each WO instructed site investigated:	km	7000	R.....	R .....

**IMPORTANT NOTE:** Bill items #4.3a) to #4.3e) above will be the subject of a CASE 3 penalty, which will be applied when the designated sub-contracting entity takes more the 72 (seventy two) hours to reach and perform GHI or EEI instructed Bill #4 Investigation Services. Reference is made to C3.2.2.4.4 C).

**C3.3.4.4 BILL #4.4: ADDITIONAL GEOLOGICAL EXPLORATION WORK BY MEANS OF TEST PITTING WITH TLB, DPSH AND LABORATORY TESTING:**

C3.3.4.4 A) General;

A1) Whenever required, albeit for Additional Services and/or any Ground instability event(s)/ incidence(s), the PM will instruct the Service Provider by WO to undertake exploratory geological exploration work by means of test pitting by TLB, perform DPSH and/or geotechnical laboratory testing, at the locality required/instructed.

A2) Typically Ground Hazard Incident (GHI) and Emergency Event Incident (EEI) cases are reported by means of notification from the Service Provider himself, DPW facility user(s), the public at large and/or other Consultant or Contracting entities working for the Department.

A3) Should the reported incident warrant further detailed specialist investigations, the PM shall in consultation with the Service Provider, instruct by WO additional geological exploration work, which could require test pitting with a TLB, DPSH testing and or recovery of soil samples and subsequent laboratory geotechnical testing. Since the locality of such event(s)/incident(s) are unknown at tender stage, the location may be anywhere in the dolomite affected provinces of South Africa.

C3.3.4.4 B) Site-Specific Activities Applicable to Additional Geological Exploration Work by Means of Test Pitting with a TLB, Perform DPSH Investigation(s) and Laboratory Testing:

B)1. The Service Provider shall arrange, facilitate, coordinate and deploy relevant Key Persons (time inputs based upon Time and Cost Based Fees Services as per relevant items of Bill #5 Services), to coordinate all activities leading towards the performing additional geological exploration work by means of test pitting with a TLB, DPSH investigation and Laboratory Testing, on any site in South Africa underlain by dolomite. Such work shall only be attended to upon receipt of a formal WO issued by the PM.

B)2. Should the Competent Person (Dolomite land) possibly require additional geological exploration work by means of test pitting with TLB, DPSH investigation and or laboratory testing work to be performed, then such instructions, and the Outcome Based Services required, will form the basis of setting the scope of work for further site investigation activities.

B)3. Subsequent to and resulting from the Service Provider's Competent Person's (Dolomite land) inspection of the subject site, the Service Provider shall peg out the exact positions of work(s) required, to enable the Service Provider sub-contracting entities to perform its work, in accordance with instructions issued by the Key Person (dolomite land). If required/instructed, GPS coordinates of such testing positions must be accurately recorded and locality positioned on relevant maps/drawings.

B)4. The Service Provider subcontracting entity shall render Bill #4.4 Services as instructed by WO, which Services shall be performed under the direct instruction, control and supervision of the designated Key Person, for work which may be of an *ad-hoc* or emergency substance (i.e. GHI or EEI cases).

B)5. Time and costs of designated Key Person(s), envisaged to be deployed for WO instructed additional Services for undertaking test pitting with a TLB, DPSH investigation and or Laboratory testing, shall be reflected upon in the Service Provider's PEP, which must be submitted for approval to the PM. Upon formal approval of the PEP by the PM, remuneration will be at Bill #5 tendered Rates for Time and Cost Based Fees Services due to be attended to by the Service Provider's designated Key Person(s). This includes amongst others for travelling, setting out, reporting to best practice standards, etc.

C3.3.4.4 C) Site-Variable Activities:

C1) The scheduled "Site-Variable" Activities associated with Bill #4.4 Services, has at its core a travelling substance, which the Service Provider and his respective Sub-contracting entities will be instructed to undertake, in performing additional geological exploration work by means of test

pitting with a TLB, DPSH investigations and geotechnical laboratory testing services, to produce Specified Outcomes.

C2) Site-Variable Activities includes, in the broadest possible meaning of the term, all such items that can be related to the travelling arrangements/actions of the various sub-contracting Service Provider's instructed WO scope of work, which amongst others includes for staff travelling costs, overhead costs, diverse travelling expenses, toll fees, kilometers' travelled, subsistence expenses, sundry disbursements etc., from the time of departure from the assigned sub-contracting entities' Home Base (or otherwise pre-authorized work place), to reach, establish/de-establish and subsequently return from the WO instructed site/property. Details of the assigned sub-contracting entities' planned travelling distance must be reflected upon in the Service Provider's PEP for each instructed WO, which must be approved by the PM before commencement/execution of work.

C3) The Sub-contracting entities' travelling distance will be remunerated at an all-inclusive kilometer travelling distance Rate, when attending additional geological exploration Services instructed to be performed by WO, which may require either test pitting with a TLB, DPSH investigation work and/or Laboratory Testing at the designated site/property. Since travelling distance(s) and destination detail(s) may be regarded as unknown at tender stage (by virtue of the unknown locality/distance to reach and return from the specified site/property), the Tendering Service Provider shall tender all inclusive kilometer Rates for travelling when attending to Specified Outcomes requirements against this item, covering all expenses/costs. See also C2.1.4.9.3, which clarifies inclusions of the term "all inclusive"

C4) Additional Geological Exploration Services performed by WO instruction (Bill Items #4.4 Services), as instructed by the PM to the Service Provider, shall be arranged, coordinated and managed by the Service Provider's Project Principal. All time related costs and expenses pertaining to the afore, involving designated Key Persons as may be required, will be compensated at tendered Time and Cost Based Fees Rates, the essence of which are described/referenced in Bill #5 Services.

#### C3.3.4.4 D) Measurement and Payment

D1) The Service Provider shall perform and deliver upon Specified Outcomes Services, at all inclusive tendered rates, in accordance with specified requirements per C3.3.4.4 A) to C3.3.4.4 C) above.

D2) In addition to general specifications about Site-Specific Activities, reference shall also be made to C3.3.2 C), as appropriate/applicable.

D3) Price Adjustment to Tendered Rates. Refer to C2.1.2.22.

#### BILL #4.4: MEASUREMENT AND PAYMENT EXAMPLE:

ITEM REFERENCE	PRICING INSTRUCTIONS/SPECIFICATIONS REFERENCE	ACTIVITY DESCRIPTION	UNIT	QUANTITY	RATE/UNIT	AMOUNT
#4.4	C2.1.2, C2.1.3, C2.1.4, C3.2.2, C3.2.3, C3.3.4 C3.3.4.4	<b>Bill Item #4.4 Services: Additional Emergency Geological Exploration work by means of test pitting with TLB, DPSH and laboratory testing:</b>				
#4.4a)	C3.3.3.4 A) & B)	<b>Site-Specific requirements:</b> On-the-site establishment of TLB to and de-establishment from any WO instructed site.	Site	15	R.....	R.....
#4.4b)	As above	<b>Site Specific Activity:</b> Excavation of test pits to refusal or maximum reach of TLB and backfilling after completion of soil profiling and sampling.	Day	25	R.....	R .....

#4.4c)	As above	<p><b>Site Specific Activity:</b> Onsite recovery and submission of soil samples to SANAS accredited soil testing facility to perform the following tests:</p> <p>(v) Foundation indicator (grading to 0,002mm and Atterberg Limits). No 55 R..... R .....</p> <p>(vi) Modified AASHTO maximum dry density and optimum moisture content No 30 R..... R .....</p> <p>(vii) CBR (Mod. AASHTO, NRB and Proctor compactive efforts) No 30 R..... R .....</p> <p>(viii) Oedometer No 10 R..... R .....</p> <p>Note: Travelling related activities for the above actions/activities are recoverable under Bill item #5.2 a) b) or c), as relevant/appropriate to the cause</p>				
#4.4d)	As above	<p><b>Site Specific Activity:</b> Establishment of DPSH equipment to and from WO instructed site, perform DPSH tests to refusal depth and record test data</p>	Day	15	R .....	R .....
#4.4e)	As above, C3.3.2 D) C3.3.4.4 C) C3.3.4.4 D)	<p><b>Site-Variable Activities:</b></p> <p>(i) Single item travelling expenses kilometre rate (cumulative summation) for TLB Service Provider, complete with operator and fuel supply, including travelling distance, accommodation expenses, travelling time, disbursements, subsistence expenses, toll fees, etc. to reach, work at and return for each WO instructed site investigated. km 1500 R..... R .....</p> <p>(ii) Single item travelling expenses kilometre rate (cumulative summation) for DPSH Service Provider, complete with operational and supervisory personnel, inclusive of travelling distance, accommodation expenses, travelling time, disbursements, subsistence expenses, toll fees, etc. to reach, work at and return for each WO instructed site investigated. km 4000 R..... R .....</p>				

**\*IMPORTANT NOTE:** Bill items #4.3a) to #4.3e) above will be the subject of a CASE 3 penalty, which will be applied when the designated sub-contracting entity takes more the 72 (seventy two) hours to reach and perform GHI or EEI instructed Bill #4 investigation Services. Reference is made to C3.2.2.4.4 C).

**C3.3.4.5 BILL #4.5: EMERGENCY EXPLORATORY GEOHYDROLOGICAL SERVICES FOR AUGMENTATION OF WATER SUPPLY:**

**C3.3.4.5 A) General**

A1) Whenever required, the PM will instruct the Service Provider by WO to undertake emergency exploratory geohydrological services for the augmentation of water supply at the locality required/instructed.

A2) Typically cases of insufficient water supply at DPW facilities are reported by means of notification from DPW facility user(s).

A3) Should the reported water supply insufficiency warrant detailed specialist investigation, the PM shall in consultation with the Service Provider, instruct by WO exploratory geohydrological investigation for the augmentation of the water supply. Since the locality of such cases are unknown at tender stage, the location may be anywhere in water scares areas associated with dolomite affected provinces of South Africa.

**C3.3.4.5 B) Site-Specific Activities Applicable to Emergency Exploratory Geohydrological Services for augmentation of water supply:**

B1) The Service Provider shall arrange, facilitate, co-ordinate and deploy relevant Key Person(s) (time inputs based upon Time and Cost Based Fees Services as per relevant items of Bill #5 Services), to co-ordinate all activities leading towards the performing of exploratory geohydrological services for the augmentation of water supply on the required site in South Africa. Such work shall only be attended to upon receipt of a formal WO issued by the PM.

B2) Should the PM require exploratory geohydrological services for the augmentation of water supply to be performed, then such instructions, and the Outcome Based Services required, will form the basis of setting the scope of work for such geohydrological services.

B3) The exploratory geohydrological services include the following aspects:

- Geophysical surveys, including magnetic, electro-magnetic, electric resistivity and gravity surveys;
- Percussion borehole drilling of 215mm diameter, with steel slotted/perforated casing, including gravel pack, solid steel casing with proper sanitary seal, standpipe and lockable steel cap.
- Pumping tests consisting of stepped and constant drawdown and recovery tests;
- Water quality tests to determine drinking water quality.

B4) All geophysical survey work shall be performed with appropriate best practice fit for purpose specialized equipment. The geophysicist shall perform magnetic/electro-magnetic (horizontal and vertical loop)/electric resistivity/gravity (30m x 30m) surveys all as deemed relevant/appropriate to the cause and submit a complete interpretive geophysical survey report with site layout drawings, survey traverses and proposed drill site locations indicated and properly motivated. Upon preparing and rendering such geophysical surveys, Specified Outcomes shall be formally recorded and handed over in a format acceptable to the Service Provider's Key Person (geologist). The aforementioned data shall also be put in possession of the PM in hard copy and digital format, before payment will be considered for such services rendered. Gravity surveys shall be performed according to C3.3.4.1 and billed under Bill #4.1.

B5) Subsequent to the completion of the geophysical surveys, the Service Provider's Key Person (geologist) shall evaluate the geophysical results, determine the most appropriate borehole position(s) and set out the required borehole position(s) on site to enable the Service Provider drilling entity to perform the drilling. GPS co-ordinates of borehole positions shall be accurately recorded and the borehole localities positioned on relevant map(s)/drawing(s). The Service Provider's subcontracting drilling entity shall work under direct instruction, control and supervision of the assigned Key Person (geologist), who shall duly issue instructions for

performing water boreholes. All drilling work shall be performed under the direct supervision of a qualified and experienced drilling foreman until the Key Person (geologist) has released the driller from his responsibilities. Recording and logging of the borehole profiles shall be the responsibility of the Service Provider's Key Person (geologist) and he/she shall ensure that the drilling work is carried out to the current best practice standards. All unsuccessful holes shall be backfilled strictly in accordance with the specified requirements set out in ANNEXURE 2 (attached hereto), Clauses PS1 to PS14. Each such borehole shall be backfilled for the full drilled depth (i.e. from the bottom to the top) under the explicit supervision of the designated Key Person (geologist) and sealed with a concrete capping.

On completion of the drilling of successful boreholes, the driller shall develop the holes to flush the hole clean for a duration of at least one hour and determine the blow yield. All successful holes shall be equipped with steel slotted/perforated casing, complete with a gravel pack, steel solid casing with sanitary seal and lockable steel cap.

B6) Pumping tests shall be performed in every successful water borehole by an approved, experienced and registered technician under supervision of the Service Provider's Key Person (geologist). A stepped discharge test and a constant discharge test (over 48 hours or 72 hours as specified), including recovery test by water level recovery measurements shall be performed in every successful water borehole according to the requirements of SANS 10299-A:2003. All required readings and data shall be properly recorded and submitted to the Key Person (geologist) in hard copy and digital format.

B7) Water samples shall be taken during the pumping tests from each successful borehole in approved water containers as specified and submitted to a SANAS accredited testing facility for drinking water standard analysis in accordance with SANS 241:2015.

B8) A pumping test analysis report on the analysis of the pumping test results shall be compiled by an approved groundwater test data analyst (geohydrologist). The report shall include interpretation of the pumping test data, determination of sustainable yields, duty cycles and installation guidelines for each tested borehole, including comparison of water quality test results with SANS 241 standards for drinking water. The report shall be submitted to the Service Provider in hard copy and digital format.

B9) Time and costs of designated Key Persons, envisaged to be deployed for WO instructed additional Services for undertaken exploratory geohydrological services for the augmentation of water supply, shall be reflected upon in the Service Provider's PEP, which must be submitted for approval to the PM. Upon formal approval of the PEP by the PM, remuneration will be at Bill #5 tendered Rates for Time and Cost Based Fees Services due to be attended to by the Service Provider's designated key Person(s). This includes amongst others for travelling, setting out, reporting to best practice standards, etc.

#### **C3.3.4.5 C) Site-Variable Activities**

C1) The scheduled "Site-Variable" Activities associated with Bill #4.5 Services, have at its core a travelling substance, which the Service Provider and his respective Subcontracting entities will be instructed to undertake, in performing exploratory geohydrological services for the augmentation of water supply, to produce Specified Outcomes.

C2) Site-Variable Activities include, in the broadest possible meaning of the term, all such items that can be related to the travelling arrangements/actions of the various subcontracting Service Provider's instructed WO scope of work, which amongst others, include for staff travelling costs, overhead costs, diverse travelling expenses, toll fees, kilometres travelled, subsistence expenses, sundry disbursements, etc., from the time of departure from the assigned sub-contracting entities' Home Base (or otherwise pre-authorized work place), to reach, establish/de-establish and subsequently return from the WO instructed Site/property. Details of the assigned subcontracting entities' planned travelling distance must be reflected upon in the Service Provider's PEP for each instructed WO, which must be approved by the PM before commencement/execution of work.

C3) The subcontracting entities' travelling distance will be remunerated at an all-inclusive kilometre travelling distance rate, when performing exploratory geohydrological services for the

augmentation of water supply instructed to be performed by WO, at the designated Site/property. Since travelling distance(s) and destination detail(s) may be regarded as unknown at tender stage (by virtue of the unknown locality/distance to reach and return from the specified Site/property), the Tendering Service Provider shall tender all-inclusive kilometre rates for travelling when attending to Specified Outcomes requirements against this item, covering all expenses/costs. See also C2.1.4.9.3, which clarifies inclusions of the term “all inclusive”.

C4 Exploratory geohydrological services for the augmentation of water supply performed by WO instruction (Bill Items #4.5 Services), as instructed by the PM to the Service Provider, shall be arranged, co-ordinated and managed by the Service Provider's Project Principal. All time related costs and expenses pertaining to the afore, involving designated Key Persons as may be required, will be compensated at tendered Time and Cost Based Fees Rates, the essence of which are described/referenced in Bill #5 Services.

#### C3.3.4.6 D) Measurement and Payment

- D1) The Service Provider shall perform and deliver upon Specified Outcomes Services, at all-inclusive tendered rates, in accordance with specified requirements per C3.3.4.5 A) to C3.3.4.5 C) above.
- D2) In addition to general specifications about Site-Specific Activities, reference shall also be made to C3.3.2 C), as appropriate/applicable.
- D3) Price Adjustment to Tendered Rates. Refer to C2.1.2.22.

#### BILL#4.5: MEASUREMENT AND PAYMENT EXAMPLE:

ITEM REFERENCE	PRICING INSTRUCTIONS/SPECIFICATIONS REFERENCE	ACTIVITY DESCRIPTION	UNIT	QUANTITY	RATE/UNIT	AMOUNT
#4.5	C2.1.2, C2.1.3, C2.1.4, C3.2.2, C3.2.3, C3.3.4, C3.3.4.5	<b><u>Bill Item #4.5 Services: Emergency Exploratory Geohydrological Services for Augmentation of Water Supply</u></b>				
		<b><u>Site-specific Activities:</u></b>				
#4.5a)	C3.3.3.4 A) & B)	<u>Geophysical Surveys:</u> General requirements/allowances				
		(i) Magnetic surveys: Execution of on-site magnetic surveys at any site, according to cited specifications and specified outcomes, including establishment and disestablishment of all equipment;	m	600		
		(ii) Electro-magnetic vertical and horizontal loop surveys at any site according to cited specifications and outcomes, including establishment and disestablishment of all equipment;	m	600		
		(iii) Electric resistivity surveys at any site according to cited specifications and outcomes, including establishment and disestablishment of all equipment.	m	600		
		(vi) Geophysical Survey Report Prepare complete interpretive geophysical survey report with site layout drawings, survey traverses and proposed drill site locations indicated and properly motivated	Site	1		
#4.5b)	As above	<u>Borehole Drilling:</u> General requirements/allowances				
		Establishment				

		<p>(i) On-the-site establishment and disestablishment of all equipment and personnel, including setting up on any number of boreholes on the same site.</p> <p>Drilling 215mm diameter</p> <p>(ii) Drill through any material up to a maximum depth of 60m measured from ground surface.</p> <p>(iii) Drill deeper through any material from a depth of 60m to 120m (measured from the ground surface).</p> <p>(iv) Install steel slotted/perforated casing, complete with gravel pack into successful holes.</p> <p>(v) Install steel solid casing, complete with proper sanitary seal into successful holes.</p> <p>(iv) On completion of drilling of successful holes, develop the holes to flush the hole clean for a duration of at least 1hr and determine the blow yield.</p> <p>(vii) Backfill unsuccessful holes and seal with concrete cap.</p> <p>(viii) Fit successful holes with a steel standpipe and lockable cap.</p>	Site	1		
			m	720		
			m	360		
			m	90		
			m	450		
			No	6		
			No	6		
			No	6		
#4.5c)	As above	<p><u>Pumping Tests:</u></p> <p>Establishment</p> <p>(i) On-the-site establishment and disestablishment of all equipment and personnel.</p> <p>Stepped discharge test</p> <p>(ii) Perform the stepped drawdown test in accordance with SANS 10299-4: 2003</p> <p>(iii) Constant discharge test: 48 hours Perform the constant discharge test for 48 hours in accordance with SANS 10299-4:2003.</p> <p>(vi) Constant discharge Test: 72 hours Perform the constant discharge test for 72 hours in accordance with SANS 10299-400:2003.</p> <p>(vii) Recovery Test Perform water level recovery measurements in accordance with SANS 10299-4- 2003</p>	Sum	6		
			No	6		
			No	6		
			No	6		
			hr.	144		
#4.5d)	As above	<p><u>Water Quality Tests:</u></p> <p>Take water samples from boreholes in approved water containers, transport and submit water samples to SANAS accredited laboratory for drinking water standard analysis in accordance with SANS 241:2015.</p>	No	6		
#4.5e)	As above	<p><u>Pumping Test Analysis Report:</u></p> <p>Complete report on the pumping test analysis by an approved groundwater test data analyst to interpret the pumping test data, determine sustainable yields, duty cycles and installation guidelines for each tested borehole, including comparison of water quality test results with SANS 241 standards for drinking water.</p>	Site	1		
#4.5f)	As above	<p><u>Site-Variable Activities</u></p> <p>(i) All inclusive single item travelling expenses kilometer rate for geophysical survey entity for Geohydrology Services, complete with operational and supervisory personnel, inclusive of travelling distance, accommodation expenses, travelling time, disbursements, subsistence expenses, toll fees, etc. to reach, work at and</p>	km	1600		



	return to base for each WO instructed site investigated.				
	(ii) All inclusive single item travelling expenses kilometer rate for water borehole drilling entity, complete with operational and supervisory personnel, inclusive of travelling distance, accommodation expenses, travelling time, disbursements, subsistence expenses, toll fees, etc. to reach, work at and return to base for each WO instructed site investigated.	km	1600		
	(iii) All inclusive single item travelling expenses kilometer rate for pumptesting entity for Geohydrology Services, complete with operational and supervisory personnel, inclusive of travelling distance, accommodation expenses, travelling time, disbursements, subsistence expenses, toll fees, etc. to reach, work at and return to base for each WO instructed site investigated.	km	1600		

**IMPORTANT NOTE:** Bill items #4.5a) to #4.5f) above will be the subject of a CASE 3 penalty, which will be applied when the designated sub-contracting entity takes more than 72 (seventy two) hours to reach and perform GHI or EEI instructed Bill #4 investigation Services. Reference is made to C3.2.2.4.4C).

### **C3.3.5 BILL #5: TIME AND COST BASED FEES SERVICES:**

#### **SPECIFIED OUTCOMES FOR ADDITIONAL SERVICES BY KEY PERSONS:**

##### **Brief Service Description:**

##### **ATTENDANCE TO GROUND HAZARD INCIDENCES (GHI), EMERGENCY EVENT INCIDENTS (EEI) AND ADDITIONAL ASSIGNMENTS:**

#### **C3.3.5.1 A) General Requirements:**

A1) The PM may, at any time during this contract, instruct the Service Provider to make available additional Time and Cost Based Fees Services in terms of human and other resources required/necessary, to perform Additional Services, generally performed by designated/identified Key Persons. Such as instructed Additional Services shall amongst others include for providing, managing, facilitating, coordinating and mobilizing requisite support Services for and on behalf of the Department, which Services includes amongst other for additional gravity survey services, borehole drilling, geotechnical investigations and/or managing Services requiring specialist dolomite risk mitigation inspections, near surface investigation work, safety interventions, etc.. Such as required additional Time and Cost Based Fees Services shall be performed under WO instruction issued by the PM, and may be required locally (i.e. at or close to the Service Provider's offices) or otherwise anywhere in the dolomite affected provinces of the Republic of South Africa.

A2) The main sphere/field wherein, and the classes/types about which Additional Services will be instructed, are itemized under C2.2.3, Bill #4 and Bill #5 Services. Typically such required Additional Services will be in support of and involve dedicated attendance, upon the issue of a WO instruction by the PM, to investigate a GHI, EEI or perform Additional Services.

A3) PM instructed WO's will require of the Service Provider to render Additional Services to attend to specific events and/or certain specialist assignments, such as dolomite training workshops, planning & cost estimates of identified aspects for dolomite projects, the identification/prioritization of new dolomite projects and monitoring of dolomite related incidents. See also C2.1.4.5

A3) When instructed, the Service Provider shall diligently arrange for and attend GHI and EEI events by his designated/assigned Key Person(s). These incidents shall be methodically organized and urgently attended, complete with actions taken/recorded, both in terms of time/date of receiving the instruction to proceed, and when (date/time) the instructed GHI or EEI inspection were attended at the incident site scene.

A4) All EEI and GHI cases attended by the Service Provider shall culminate in written reports, which must be submitted in hard copy format to the PM, no later than 5 (five) working days after the date of notification of the event. The record of and details about such cases shall conform to a uniform generic reporting format/standard, the contents of which must be substantive and comprehensive to the incident/event. The following items shall, as a minimum requirement, but not limited thereto, be covered in such report(s):

- Brief description of the incident (i.e. GHI or EEI);
- Colour photographs (no less than 10 (ten));
- Accurate description of the locality of the incident plus reference to the unique GIS building/item reference, shown on a locality map; The latter is obtainable from the PM.
- Record of and reference to WO instruction(s) issued, the name(s) and contact number(s) of the person in command/control at the incident site, complete with date(s)/time(s), etc.;
- Which additional attendant Services will be required, and within what time restraints/limits such Services must be provided.
- Site conditions, public response, general observations, record of discussion(s), etc.;
- If it was deemed appropriate and necessary for a building or area to be evacuated, a copy of the written evacuation order, co-signed by the recipient responsible site person, complete with details of the instructing person's name and contact details;
- Recommendation(s) appropriate to the cause;

Note: The Service Provider's first incident report will be evaluated by the PM, with comments for correction/adaptation given, after which future incident reporting will have to be in conformance thereto.

A5) Reference shall be made to allowed/permitted Project Milestone Target Dates (see C3.2.2.4.3) and applicable penalties (see C3.2.2.4.4), when performing WO's related to GHI and EEI investigations and Additional Services.

A6) The Service Provider will be expected throughout this contract to give preference to the execution of WO's issued by the PM, on the basis that "Time is of the Essence".

A7) WO's shall be performed by the person(s) listed as Key Person(s) and persons under their supervision and further executed as described in the Programme according to clause 3.15 of the Contract Data (C1.2.2) and the approved final PEP, in accordance with said clause.

A9) Whenever required and/or instructed, PEP's shall be duly prepared, referenced and formally submitted to the PM for consideration and approval. Said PEP must give a clear indication of where, when and which Key Persons (listed in the schedule) are to be assigned to undertake the necessary tasks/duties involving in particular, Time and Cost Based Fees Services.

#### C3.3.5.1 B) Specific Requirements Applicable to GHI, EEI and Additional Assignments:

B1) The Service Provider shall in this contract required to be pro-active, vigilant and energetic in detecting and/or responding to call(s) reporting any dolomite related GHI or EEI case. The Generic "route" which has been found to be practically applicable to either GHI or EEI event notification's, is described hereunder:

B2) Whenever a dolomite ground/structure instability incident event is reported to the PM, either by the client user Department, the Service Provider or any other external party, the PM decides whether the case at hand should be treated/classed as an EEI or not. If the incident is not regarded an EEI event, the status of the incident will by default be classed as a GHI.

B3) Should the PM verbally instruct the Service Provider to attend to a reported ground instability event, such as an EEI case, it requires prompt and immediate attendance by the Service Provider's designated Key Person(s) within 24 hours. This verbal instruction will subsequently be followed up by a formal WO instruction issued by the PM.

B4) The Service Provider must immediately respond/attend to the EEI at the subject site/property, which may be anywhere in the dolomite affected provinces of the Republic of South Africa.

B5). The Service Provider shall with due care and caution diligently assesses the EEI (or GHI) on the subject site, by investigating/analysing possible causes, establishing the possibility of water leaks, assessing possible risks, etc., which may influence the immediate surrounds of the incident. First and foremost is ensuring the safety of people and then the prevention of damage to fixed (buildings or structures) assets. The Service Provider shall issue written instructions (appropriate to the cause) to the client user's responsible person at the incident site, immediately after discussion(s) with the PM. See also B6) hereunder.

B6) The Service Provider shall contact/liaise with the PM as soon as it is practically possible after arrival/assessment on the Site/property. Should the PM not be readily available on call, the Service Provider shall issue immediate instruction(s), which could include anyone of the following, but not limited thereto: issue an evacuation order, provide/place safety tape, arrange for closing off wet services valve(s), etc.

Note: On-site instructions for EEI cases are typically given verbally "on-the-spot", (depending on the assessed urgency). This must be supported (at the event site) by a written record of salient aspects/instructions that must be observed and attended to by the responsible person of the Client user occupying the site/property. Said record must be signed (as proof) by the responsible person at the site of the incident.

B7) The Service Provider shall take best quality digital (min. 4 Megabyte resolution) photographs, at the scene of the incident (generally no less than 10 photos). See C3.3.5.1 A4).

B8) The Service Provider's designated Key Person may not depart from the site of the EEI event to return to his Home base, until such time as it has been determined that all imminent (dolomite) safety risks have been attended, at least in the immediate short term, by having duly instructed those affected by the incident as described in B5) and B6) above.

B9) The Service Provider shall prepare/submit a detailed written EEI report within 72 hours after the incident was first reported. See also A4) above, indicating basic minimum requirements for such written report(s).

B10) The Service Provider shall consult the PM and in doing so recommend an appropriate way forward (as part of the EEI report) required by the PM.

B11) Should additional Services, such as geophysical and/or drilling work, be required as part the Service Provider's assessment/evaluation (emanating from and/or dealing with a specific EEI or GHI), the Service Provider shall be obliged to immediately engage the PM and come to agreement as to what actions are to follow. This may require the Service Provider to immediately manage activate/coordinate work/activities deemed necessary, per scheduled items listed in C2.2.3.1, C2.2.3.2 and C2.2.3.3, under Bill #4.1 to Bill #4.4 Services.

B12) See C2.1.2.21.4 for Specialist Geo-Professional Service Provider's minimum enabling requirements (but not limited thereto) to perform Bill #5 Services:

B12) Whenever the PM instructs Additional Time and Cost Based Fees work by WO to the Service Provider, it is a particular requirement for the Service Provider to timeously prepare/submit a PEP relevant to the cause to the PM for consideration/approval, unless instructed to otherwise.

#### C3.3.5.1 C) Additional Services Instructed by WO

C1) In the event of the Service Provider being instructed by the PM by WO to perform Additional Time and Cost Based Fees Services, the Service Provider shall prepare a detailed PEP for such assignment, following a formal briefing meeting with the PM, within 10 (ten) working days after the date of the briefing meeting. The PEP must render a full description of the Scope of Work intended, appropriately linked to programme target milestone dates, complete with an exposition of how the Service Provider:

- i). understands the detailed requirements of the assignment,
- ii). envisages the means and methods of executing both professional and physical work activities,
- iii). when and for what activity which listed Key Person(s) will be assigned to the work in execution thereof, and
- iv). a detailed cost breakdown, indicating amongst other Key Person's time(s), applicable rates
- v). a detailed cost estimate for Additional Services covered by scheduled Bill items #4.1 to #4.4 (if required).

C2) The Service Provider shall perform WO's for Additional Services (see C2.1.4.5) in accordance with the requirements/details of the approved PEP, as instructed (in writing) by the PM. The information relevant to the WO approved PEP shall form the basis of management of such assignment. Time and Cost Based Fees shall apply as per tendered Rates. The programme contained in the PEP will become the "programme" as meant in clause 3.15 of the Conditions of Contract, for each such WO assignment. The cost breakdown contained in the PEP shall not be exceeded without timeous prior approval of the PM. Should unavoidable and unforeseen circumstance/conditions change during execution of a WO (i.e. since the briefing), the Service Provider and the PM shall formally engage in an attempt to negotiate/resolve/determine an amicable way forward. Should the Parties fail to reach mutual consent/agreement, the matter will be dealt with in terms of the Conditions of Contract.

#### C3.3.5.1 D) Time and Cost Based Fees Services: Site-Variable Activities:

D1) The scheduled "Site-Variable" Activities associated with C2.2.3.4, Bill #5 Services, has at its core a travelling substance of Key Persons, when attending WO's instructed by the PM, for Time and Cost Based Fees Services. Typically, a single person (Key Person) would attend to travelling/attending such site/property related work/assignment.

D2) In the context of Bill #5 Time and Cost Based Fees Services, tendering Service Provider's shall tender for Site-Variable Activities (e.g. travelling) for the designated Key Person(s), based on the following principles:

- i). Travelling time and travelling costs shall be tendered on a consolidated combined all inclusive tendered rate per km, based on one Key Person travelling.
- ii). Reasonable disbursement(s) and subsistence costs for trips in excess of 8 (eight) hours away from Home Base, will be compensated as an extra over to item D2) i) above.  
Note: Allowable trip recoverable costs shall be remunerated, plus a fixed mark-up percentage, as recorded elsewhere in Bill #5 Services.
- iii). All sundry disbursements such as toll fees, meals, refreshments etc., for trips less than 8 (eight) hours away from Home Base, must be priced inclusive of tendered Time and Cost Based Fees Rates.
- iv). Travelled distance will be remunerated on the basis of travelling commencing from the Service Provider's Home Base, to reach and return from the specified site/property, site travelling kilometres included.
- v). Travelling distance will be remunerated at all inclusive travelled distance tendered fees Rate(s), for each WO instructed Service for investigation/attendance, near or far. Since distance(s) and destination detail(s) are unknown at tender stage (by virtue of the unknown locality/distance to reach and return from the specified site/property), the Rates tendered shall be all inclusive as per requirements noted above.
- vi). Price Adjustment to Tendered Rates. Refer to C2.1.2.22.

**C3.3.5.1 E) Measurement and Payment for Time and Cost Based Fees Services Instructed by WO:**

D1) Time Based Fees for Key Persons (hourly rates), as itemized per Bill #5 Services, shall be compensated upon meeting requirements specified under C3.3.5.1 A) to C) above, taking due cognisance, as appropriate, of D3) to D5) hereunder. In principle, tendered Rates shall be deemed to be all inclusive.

D2) Travelling costs (e.g. Site-Variable Activities as per C3.3.5.1 D2 above) for designated identified Key Persons, shall be remunerated as set out in Table 3 in the "Rates for Reimbursable Expenses".

D3) The Service Provider shall tender all inclusive Time and Cost Based Fees Rates for Key Persons listed in C2.2.3.4, Bill #5 Services, Bill items #5.1a) to #5.1f). See also specific inclusions/requirements listed under C2.1.4 in general and C2.1.4.5 in particular.

D4) See C3.2.3.3 for generic (minimum) printing, copying, and duplicating requirements, the cost of which must be attended to as per requirements of C2.1.4.8 and separately remunerated under Bill #5 Services, item #5.4a).

D5) When the PM specifically instructs the Service Provider by WO, recoverable Time and Cost Based Fees Services (e.g. authorized subsistence recoverable costs), such will be compensated under Bill #5, item #5.3a). Remuneration will be certified for substantiated reasonable cost invoice(s) upon receipt of original invoices/proof of expenses, plus a mark-up (maximum allowed 7,5%) for attendance to same under Bill #5, Bill item #5.3b) See also specific requirements detailed in C2.1.4.10.

**BILL ITEM #5: MEASUREMENT EXAMPLE:**

..... continued on next page

**C2.2.3: ACTIVITY SCHEDULE FOR TIME AND COST BASED FEES SERVICES: BILL #4 AND BILL #5**

ADDITIONAL EMERGENCY AND AD-HOC GEO-PROFESSIONAL AND GEO-PHYSICAL DOLOMITE INVESTIGATION SERVICES, INCLUSIVE OF TIME BASED SERVICES FOR KEY PERSONS AND PEER REVIEWS:

**C2.2.3.5: ADDITIONAL TIME AND COST BASED FEES SERVICES FOR KEY PERSONS ATTENDING TO EMERGENCY EVENT INCIDENTS (EEI), DOLOMITE HAZARD INCIDENTS (DHI) AND ANY ADDITIONAL WO ASSIGNMENTS, SUBSISTENCE AND SUNDRY ALLOWANCES:**

**BILL #5:**

ITEM REFERENCE	PRICING INSTRUCTIONS/ SPECIFICATIONS REFERENCE	CATEGORY	ACTIVITY DESCRIPTION	UNIT	QUANTITY	RATE/UNIT	AMOUNT
#5.1	C2.1.2, C2.1.3, C2.1.4, C3.3.2, C3.3.4.1, C3.3.4.2, C3.3.4.3, C3.3.3.4, C3.3.5, C3.3.5.1		<b>Bill #5.1</b> <b><u>Emergency Time and Cost Based Fees Services performed by Key Persons:</u></b> (hourly basis): Time and Cost Based Fees Services performed by the Service Provider upon the issue of a WO by the PM( <b>refer to clause 4.4 (2) of 2016 NDPW - Scope of Engineering Services and Tariff of fees</b> ): <b><u>Note:</u></b> Bill #5.Services only applies to the investigation of and reporting about dolomite related GHI, EEI cases and Additional Services				
#5.1a)	As above, C3.3.5.1 A), B), C3.3.5.1 C), C3.3.5.1 E)	B	g)Project Principal (as defined in this contract)	hr.	1000	R.....	R.....
#5.1b)		C	h)Competent Person (civil engineering)	hr.	800	R.....	R.....
#5.1c)		C	i) Competent Person (dolomite land)	hr.	2000	R.....	R.....
#5.1d)		C	j) Competent Person (structural engineering)	hr.	300	R.....	R.....
#5.1e)		C	k) Registered Geologist (Pr. Sci.)	hr.	2000	R.....	R.....
#5.1f)		D	l) Civil Engineering Field Technician (Pr. Techni.)	hr.	1000	R.....	R.....
Sub-total c/o to next page						C/0	R.....

..... continued on next page

#5.3	C2.1.4	<b><u>Provisional Cost Sum :</u></b>				
#5.3a)	C2.1.2.20 C3.3.5.1E)	Provisional Cost Sum for authorized subsistence recoverable costs:	PC Sum	-	-	R 30,000.00
#5.3b)	C2.1.2.20	Mark-up on above item #5.3a) (max 7.5%)	Percent	..... %	-	R.....
#5.4	C2.1.4	<b><u>Provisional Cost Sum :</u></b>				
#5.4a)	C2.1.4.8	Provisional Cost Sum for Authorized recoverable charges for printing & sundry items): Note: Gazetted rates apply, with zero mark-up	PC Sum	-	-	R 40,000.00
#5.5	C2.1.4.	<b><u>Provisional Cost Sum :</u></b>				
#5.5a)	C2.1.2.20 C2.1.4.5 C3.3.5.1E)	Dolomite monitoring and risk related mitigation requirements (such as externally acquired equipment, systems, materials etc.), excl. Key Persons input (e.g. time, or travelling), obtained on quotation basis.	PC Sum	-	-	R 400,000.00
#5.5b)	C2.1.2.20	Profit on above item #5.5a) (max 7.5%)	Percent	..... %	-	R.....

## C4: SITE INFORMATION

### C4 Site Information:

For the explicit purpose of this contract, all Sites/properties implicated by virtue of it being identified or un-identified at the time of tender, are to be considered being located on **high risk dolomite land**. **IMPORTANT:** This statement reflects upon insurance requirements applicable to this contract.

Site information related to this contract reflects upon a large number of State Owned Sites/properties, located on dolomite formation and/or intended to be purchased/leased by the National Department of Public Works, anywhere in South Africa.

See C3.2.2.5 for information about and status of available sample documents.

### **SAMPLE DOCUMENTS:**

**Important Notice:** The reports listed hereunder shall be on display to Tendering Service Provider's during the compulsory tender clarification meeting. These documents are not included as part of Tender documentation. The *locus standi* of these listed documents are that it be regarded an integral part of this Contract's tender documentation, and that it serves the purpose of setting an acceptable minimum standard to meet with the Department's requirements.



## **C5: ANNEXURES, APPENDICES AND SAMPLE DOCUMENTS:**

## C5.1 ANNEXURES

### ANNEXURE 1:

#### **PW 344/2017: APPROPRIATE DEVELOPMENT OF INFRASTRUCTURE ON DOLOMITE: MANUAL FOR CONSULTANTS**

- **VOLUME 1:** STANDARD SPECIFICATIONS APPLICABLE TO DOLOMITE STABILITY INVESTIGATIONS (DSI) AND THE PLANNING, ENGINEERING REQUIREMENTS AND MANAGEMENT OF DEVELOPMENT ON DOLOMITE LAND.
- **VOLUME 2: ANNEXURES:** STANDARD SPECIFICATIONS APPLICABLE TO DOLOMITE STABILITY INVESTIGATIONS (DSI) AND THE PLANNING, ENGINEERING REQUIREMENTS AND MANAGEMENT OF DEVELOPMENT ON DOLOMITE LAND.
- **VOLUME 3: TYPICAL ENGINEERING DETAILS:** STANDARD SPECIFICATIONS APPLICABLE TO DOLOMITE STABILITY INVESTIGATIONS (DSI) AND THE PLANNING, ENGINEERING REQUIREMENTS AND MANAGEMENT OF DEVELOPMENT ON DOLOMITE LAND.

Volumes 1,2 and 3 are available from the Department of Public Works website and/or a Dropbox link as respectively referenced hereunder.

<http://www.publicworks.gov.za/consultantguidelines.html> , see item 4, Civil Engineering.

## **ANNEXURE 2:**

**ENGINEERING GEOLOGICAL SERVICE: EXPLORATORY  
GEOTECHNICAL DRILLING “PARTICULAR SPECIFICATION (PS):  
EXPLORATORY DRILLING FOR ENGINEERING GEOLOGICAL  
INVESTIGATION.**

## **ENGINEERING GEOLOGICAL SERVICE: EXPLORATORY GEOTECHNICAL DRILLING**

### **PARTICULAR SPECIFICATION (PS): EXPLORATORY DRILLING FOR ENGINEERING GEOLOGICAL INVESTIGATION**

#### **GENERAL:**

This section deals with the requirements of drilling of exploratory percussion boreholes for an Engineering Geological investigation.

**Important note:** Competency of drilling Service Provider:

The drilling Service Provider must be experienced in dolomite environment with a minimum drilling experience of 10 000 m drilled on dolomite stability investigations.

#### **PS 1 DRILLING OPERATION SUPERVISION**

The Service Provider shall take total responsibility for the reliability and correctness of the driller's requisite information/results.

Note: Stringent precautionary measures and direct supervision shall be instituted to conform to the aforementioned stipulated requirement.

#### **PS 2 EQUIPMENT (minimum requirements)**

Drilling equipment shall comprise of the following mobile unit(s):

Compressor unit with measured and calibrated constant air delivery rating at 750 cfm and 16 bar minimum.

Pneumatic percussion drilling rig with 165 mm nominal diameter button bit capable of drilling in all soil types up to 100 m deep and at any inclination up to 30 degrees to the vertical.

The Service Provider shall submit a Safety Certificate issued by the manufacturer or SABS/ISO accredited firm for the complete unit and air compressor unit separately.

#### **PS 3 ALTERNATIVE EQUIPMENT**

Tenderers may submit details of alternative similar available equipment. Full particulars shall however be submitted with the tender submission.

#### **PS 4 SERVICE PROVIDER'S SUPERINTENDENCE**

No work shall be executed unless supervised by an approved experienced Representative of the Service Provider whom shall be made known, in writing, to the Engineer/Geologist for his approval, prior to commencement of any drilling work. Any faulty work executed in the absence of the Service Providers approved representative shall be re-done at the Service Provider's expense.

#### **PS 5 SETTING OUT OF THE WORKS AND ACCESS TO BOREHOLE POSITIONS**

The Engineer/Geologist shall set out and furnish the Service Provider with drilling positions.

The cost of obtaining access to and from borehole positions, on any site listed in C2.2.2.2, shall be for the Service Provider's account and such shall be deemed included in tendered rates.

#### **PS 6 LOCATION, PROTECTION AND DAMAGES TO EXISTING SERVICES**

The Engineer/Geologist shall furnish the Service Provider with the position of all known sub-surface services. The drilling Service Provider shall excavate up to a depth of 1,5 metre to expose such services if deemed necessary by the Engineer/Geologist. Repair of damages to under/above ground services shall be for the account of the drilling Service Provider once the position of such service was established/made known to the

Service Provider or indicated by the Engineer/Geologist. All damages to any service shall be reported to the Engineer/Geologist within 1(one) hour of occurrence. The drilling Service Provider shall submit a full damage report in writing within 24 hours of the occurrence.

## **PS 7 SETTING UP**

Setting up shall include setting up the drill vertically or at any inclination, and the movement of the complete drilling rig between boreholes as per drilling sequence or as directed by Engineer/Geologist.

## **PS 8 PERCUSSION DRILLING (165 mm Button bit)**

### **PS 8.1 Depth of drilling**

Drilling shall be to the depth as indicated by the Engineer/Geologist, who will supervise/direct drilling work. Should the following conditions be encountered, the following principles apply:

1. Drilling into rock for more than 6 metre; stop at 6 metre and call for further instructions
2. Drilling through cavities or highly compressible material.
3. Encountering of water, abnormally wet soil, abnormal odours or other forms of contamination.

### **PS 8.2 Drilling classifications**

For the purpose of this contract, exploratory drilling shall be to any depth, in any material, up to a maximum depth of 100 meters, which includes for drilling through cavities, voids and/or unstable ground conditions:

The applicable rate for boreholes drilled shall cover all costs for the supply and maintenance of equipment, expendable materials as required for drilling exploratory boreholes, recovery of samples at 1 metre intervals as well as recording drilling time for each borehole, the addition of material to enhance sample recovery, completion of the driller's field report, delivery of samples to the approved/accredited laboratory directed by the Engineer/Geologist, and backfilling of the borehole (including water to wet backfilling material).

### **PS 8.3 Drilling at inclination**

The inclination of boreholes to be noted in degrees, measured for deviation from the vertical and indication of the direction of propagation. Drilling at any inclination shall be rated as an extra over cost to the cost per meter drilled irrespective of depth or type of material. No additional payment shall however be allowed for setting up.

### **PS 8.4 Driller's field report**

The compilation of field report shall be deemed inclusive of the drilling rate.

### **PS 8.5 Sample recovery/delivery and testing**

Samples shall be recovered of each metre drilled and placed in sequential order at a suitable location near the borehole and left undisturbed until inspected by the Engineer/Geologist. The Driller shall recover two 300 ml uncontaminated samples, sealed in plastic bags (clearly marked - hole no and recovery depth) directly after drilling of each metre and place it in sequential order in a plastic "sausage" in order to provide two sample sets. The recovery, compilation and delivery of samples shall be deemed inclusive of the drilling rate.

The Cost of testing recovered samples at an accredited laboratory, as directed by the Engineer/Geologist, shall deemed included in the rates tendered.

### **PS 8.6 Water/Foam/Drilling mud used**

The depth range of water used to enhance sample recovery shall be clearly indicated on Driller's field report. Drilling rates shall cover application of water/foam/mud.

## **PS 9 CASING**

### **PS 9.1 Temporary casing**

Temporary steel casing of 150 mm nominal diameter and wall thickness of (x t= ??) shall only be installed when instructed by the Engineer/Geologist. The rate for this work shall cover insertion and recovery of casing. Casing lost (due to non-recoverability) shall not be payable under this contract and shall be allowed for by the Service Provider

### **PS 9.2 Permanent casing**

Permanent steel casing of 150 mm nominal diameter is to be installed only if instructed by the Engineer/Geologist. The annulus between the casing and the borehole walls should be grouted, with backfilled with soilcrete (10% Cement) and a 500 mm diameter (150 mm thick) concrete (19mm/20Mpa) collar shall be provided at ground level. Borehole to be sealed with an approved painted (red oxide) metal cap (detail to be supplied by the Engineer). The rate for this work shall cover cost of casing, insertion, backfilling, grouting of annulus, concrete collar (neatly finished/shuttered) and fitted/welded cap.

### **PS 10 WATER LEVELS AFTER 24 HOURS**

Boreholes are to be left open until the Engineer/Geologist issue instructions for backfilling. A suitable approved protective cover shall be provided to prevent debris or water to enter the borehole. Water levels will be taken/recorded by the Engineer, 24 hours after completion of drilling.

### **PS 11 BACKFILLING OF BOREHOLE**

Boreholes are to be backfilled with stabilised grouting (to the brim), with materials recovered from drilling, suitably wetted to form a flowing slurry, all to the requirements of the Engineer/Geologist.

### **PS 12 STABILISED GROUTING OF BOREHOLE**

All boreholes are to be backfilled using a 1:8 cement: sand mix with just sufficient water to allow mixture to flow, all to the requirements of the supervising Geologist/Engineer. The cost of backfilling boreholes shall be deemed included in the rates.

### **PS 13 SEAL AND MARKING OF BOREHOLES**

The drilling Service Provider shall provide a 400x400 x 150 mm 15 MPa wood floated concrete cap with 100 mm concrete thickness down the hole. The concrete cap is to be installed 300 mm below ground surface. A steel rod, 10 mm in diameter and 200 mm in length (Engineer to provide detail drawing) is to be placed centrally and horizontally within the cap. The soil is to be reinstated and compacted over the concrete cap when it has cured. The backfilling shall be slightly proud of the natural ground level to prevent ponding of storm water in the vicinity of the borehole. The borehole number, drilling date and direction of inclination shall be engraved/marked (letter size no less than 50 mm) in the wet concrete, all to the requirements of the Engineer/Geologist.

### **PS 14 STOPPING OF WORK DUE TO INCLEMENT WEATHER**

The Engineer/Geologist reserves the right to stop drilling operations temporarily if weather conditions, to his discretion, may interfere with the desired drilling results. No standing time shall be paid for such instructed stoppages and the rates tendered shall be deemed inclusive of such eventualities. The Drilling Service Provider shall formally record these events in writing and have same signed off within 48 hours of the stoppage event.

**C5.1 ANNEXURES (cont.)**

**ANNEXURES A, B, C AND D:  
FUNCTIONALITY QUESTIONNAIRES:**

## ANNEXURE A:

Tender no. H20/035 AI

WCS no. 055 846

**RECORD OF TENDERER'S CURRENT AND PAST EXPERIENCE IN PERFORMING \*COMPARABLE SPECIALIST ADVISORY PROJECT SERVICES FOR INFRASTRUCTURE DEVELOPMENTS ON PROBLEMATIC SOILS, AMONGST OTHER PERFORMING DOLOMITE STABILITY INVESTIGATIONS, GEOTECHNICAL ENGINEERING SERVICES, PREPARATION OF DOLOMITE RISK MANAGEMENT PLANS (DRMP) DURING THE PAST 5 (FIVE) OR MORE YEARS**

**Note:** The term **\*comparable** in the context of this tender means similar work performed by tenderers having been appointed to execute assignments/duties relevant and appropriate to the scope of works applicable to this tender.

**Important: This page must be submitted with the Tenderer's tender submission.**

<b>Project title</b>	<b>CIVIL ENGINEERING AND GEO-PROFESSIONAL SERVICES: DRMS: PHASE 5: EMERGENCY AND AD-HOC PROPERTY INVESTIGATIONS IN SUPPORT OF THE DOLOMITE RISK MANAGEMENT STRATEGY FOR THE PROPERTIES OF THE NATIONAL DEPARTMENT OF PUBLIC WORKS.</b>		
<b>Tender no:</b>	<b>H20/035 AI</b>	<b>Reference no:</b>	
<b>PROJECT TITLE; YEAR OF APPOINTMENT</b>	<b>PROJECT CLIENT &amp; CONTACT PARTICULARS</b>	<b>DETAILS OF *COMPARABLE SPECIALIST ADVISORY PROJECT SERVICES / EXPERIENCE</b>	<b>CONTRACT VALUE</b>
.....	.....		
.....	.....		
.....	.....		
.....	.....		

**NB:** Attach additional sheets if more space is required.

**Signature of Tenderer** \_\_\_\_\_



<b>ANNEXURE B :</b> <b>TENDERERS ARE REQUIRED TO PREPARE AND SUBMIT **REQUISITE DOCUMENTATION FOR EACH LISTED PROFESSIONAL KEY PERSON COMPRISING OF HIS CURRICULUM VITAE (DETAILING AMONGST OTHER EXPERIENCE IN THE TYPE/CLASS OF WORK REQUIRED FOR THIS PROJECT), COMPLETE WITH CERTIFIED COPIES OF PROFESSIONAL REGISTRATION/S AND QUALIFICATIONS.</b>	
<b>Project title</b>	<b>CIVIL ENGINEERING AND GEO-PROFESSIONAL SERVICES: DRMS: PHASE 5: EMERGENCY AND AD-HOC PROPERTY INVESTIGATIONS IN SUPPORT OF THE DOLOMITE RISK MANAGEMENT STRATEGY FOR THE PROPERTIES OF THE NATIONAL DEPARTMENT OF PUBLIC WORKS.</b>
<b>Tender no:</b>	<b>H20/035 AI</b>

IMPORTANT:

- i) The Project Principal may not perform more than 2 (two) Key Person's specific jobs / functions.
- ii) Tenderers are required to complete and submit **ANNEXURE B** with their tender submission, complete with **\*\*requisite documentation**.

## KEY PERSONNEL:

NAME OF KEY PERSON &	KEY PERSON'S POSITION	DETAILS OF RELEVANT EXPERIENCE	CV & CERTIFIED COPIES OF PROFESSIONAL REGISTRATION & QUALIFICATIONS ATTACHED
	<b>**Project Principal:</b>	Attach details of relevant experience with CV & certified copies of professional registration & qualifications	<input type="checkbox"/> Yes <input type="checkbox"/> No
	<b>**Competent Person (Civil Engineering)</b>	Attach details of relevant experience with CV & certified copies of professional registration & qualifications	<input type="checkbox"/> Yes <input type="checkbox"/> No
	<b>**Competent Person (Dolomite land) Engineering Geologist or Civil Engineer</b>	Attach details of relevant experience with CV & certified copies of professional registration & qualifications	<input type="checkbox"/> Yes <input type="checkbox"/> No
	<b>**Competent Person (Structural Engineering)</b>	Attach details of relevant experience with CV & certified copies of professional registration & qualifications	<input type="checkbox"/> Yes <input type="checkbox"/> No
	<b>**Civil Engineering Technician</b>	Attach details of relevant experience with CV & certified copies of professional registration & qualifications	<input type="checkbox"/> Yes <input type="checkbox"/> No
	<b>Geologist</b>	Attach details of relevant experience with CV & certified copies of professional registration & qualifications	<input type="checkbox"/> Yes <input type="checkbox"/> No

**NB:** Attach additional sheets if more space is required.

**Signature of Tenderer** \_\_\_\_\_

## ANNEXURE C: DOLOMITE LAND: CASE STUDY

Tenderers are required to prepare in writing a systematic account of dealing with a sinkhole event that has just been reported to the DPW Dolomite Risk Manager (DRM), who in turn instructs the “successful” tenderer to duly attend to the incident, such being categorized by the PM as an Emergency Event Incident (EEI). Said systematic account or methodology should describe such actions/activities deemed necessary, from the date/time of receiving the instruction up to the recommendation(s) stage, whether to retain, repair or demolish the affected structure.

Details about the reported EEI are as follows:

- a) The sinkhole size measures about 2m dia. x 3m deep, which incident occurred on a property with a Hazard rating = 6/(7)//1, with utility wet services installed before 1980.
- b) The sinkhole was noted and reported by an employee who observed the sinkhole, such having occurred right next to a three storey office block.

Tenderers are required to give an account in dealing with the above incident hereunder (**ANNEXURE C**) with their tender submission, describing in detail their methodology in dealing with the EEI, comprising each of the three main components of response, hereunder:

**Important: This page must be submitted with the Tenderer’s tender submission.**

<b>Project title</b>	<b>SPECIALIST CIVIL ENGINEERING AND GEO-PROFESSIONAL SERVICES: DRMS: PHASE 5: EMERGENCY AND AD-HOC PROPERTY INVESTIGATIONS IN SUPPORT OF THE DOLOMITE RISK MANAGEMENT STRATEGY FOR THE PROPERTIES OF THE NATIONAL DEPARTMENT OF PUBLIC WORKS.</b>	
<b>Tender no:</b>	<b>H20/035 AI</b>	
i) attending to the incident upon arrival on site		
ii) options and criteria to be considered for investigative methods and means,		
iii) relevant and appropriate considerations should rehabilitation of the sinkhole be regarded feasible.		

**NB:** Attach additional sheets if more space is required.

**Signature of Tenderer** \_\_\_\_\_

## **ANNEXURE D: DOLOMITE RISK MANAGEMENT STRATEGY (DRMS) DOLOMITE RISK MANAGEMENT PLAN: (DRMP)**

Tenderers are required to prepare and submit details of the basic elements that should be covered when preparing a DRMS/DRMP for a dolomite property located on a site with a Dolomite Area Designation = D4, which is occupied by a Government Department .

Details of the site:

- The target site's buildings were developed prior to 1965.
- The site had one large sinkhole (10m dia and 20m deep) some 20 m from the building footprint, which was rehabilitated in 2013. The cause was identified to have been inappropriate storm water control.
- Wet and dry civil engineering services were replaced/upgraded in accordance with SANS 1936-3, under the same contract.

Tenderers are required to complete and submit their DRMP/DRMS in writing hereunder (**ANNEXURE D**).

**Important: This page must be submitted with the Tenderer's tender submission.**

<b>Project title</b>	<b>SPECIALIST CIVIL ENGINEERING AND GEO-PROFESSIONAL SERVICES: DRMS: PHASE 5: EMERGENCY AND AD-HOC PROPERTY INVESTIGATIONS IN SUPPORT OF THE DOLOMITE RISK MANAGEMENT STRATEGY FOR THE PROPERTIES OF THE NATIONAL DEPARTMENT OF PUBLIC WORKS.</b>
<b>Tender no:</b>	<b>H20/035 AI</b>

**PROPOSED DRMP/DRMS:**

**NB:** Attach additional sheets if more space is required.

**Signature of Tenderer** \_\_\_\_\_

## **C5.1 ANNEXURES (CONT.)**

### **ANNEXURE E**

#### **EXTERNAL INDEPENDENT PEER REVIEWER CV AND SUPPLEMENTARY INFORMATION**

## ANNEXURE E:

The tendering Service Provider shall, as a **compulsory requirement** to this Tender, provide full particulars and a comprehensive Curriculum Vitae of the external independent Senior Competent Person (Dolomite land), who shall be retained to perform all required peer review activities necessitated by this Contract. Said detail(s) and commitment must be submitted with the tenderer's **RETURNABLE DOCUMENTS**. [See also T2.1 (5)], which information must be appended to this Tender document, as ANNEXURE E.

**Important: This page must be submitted with the Tenderer's tender submission.**

Project title	<b>SPECIALIST CIVIL ENGINEERING AND GEO-PROFESSIONAL SERVICES: DRMS: PHASE 5: EMERGENCY AND AD-HOC PROPERTY INVESTIGATIONS IN SUPPORT OF THE DOLOMITE RISK MANAGEMENT STRATEGY FOR THE PROPERTIES OF THE NATIONAL DEPARTMENT OF PUBLIC WORKS.</b>
Tender no:	H20/035 AI

**TENDERING SERVICE PROVIDERS SHALL ATTACH REQUISITE DOCUMENTATION TO THIS PAGE.**

**NB:** Attach additional sheets if more space is required.

**Signature of Tenderer** \_\_\_\_\_

## **C5.2 APPENDICES:**

# **Appendix A**

<b>PROFESSIONAL FEES IN RESPECT OF AN ENGINEER'S APPOINTMENT (ALL DISCIPLINES)</b>
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**National Department of Public Works  
Scope of Engineering Services and Tariff of Fees  
for Persons Registered in terms of the  
Engineering Profession Act, 2000 (Act No. 46 of 2000)**

**1 April 2016**

**2016 NDPW - Scope of Engineering Services and Tariff of Fees**

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**National Department of Public Works  
Scope of Engineering Services and Tariff of Fees  
for Persons Registered in terms of the  
Engineering Profession Act, 2000,  
(Act No.46 of 2000)**

**The commencement date of this document**

**shall be**

**1 April 2016**



# 2016 National Department of Public Works: Scope of Engineering Services and Tariff of Fees for Registered Professionals

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## 1. PREAMBLE

This document is based on the “Guideline Scope of Services and Tariff of Fees for Persons Registered in terms of the Engineering Profession Act, 2000, (Act No.46 of 2000)” determined by the Engineering Council of South Africa under Section 34(2) of the Engineering Profession Act, 2000 (Act No. 46 of 2000) and published under Government Gazette No 34875 Board Notice 206 of 20 December 2011 (ECSA Guideline Fee Scales).

Changes have been made to the ECSA Guideline Fee Scales to reflect the specific requirements of the National Department of Public Works for professional engineering appointments/contracts. The **services** to be provided by the **consulting engineer** and the corresponding remuneration have been set out herein for projects implemented by or on behalf of the National Department of Public Works and were determined with consideration of the factors put forward in the ECSA Guideline Fee Scales.

The Scope of Services and Tariff of Fees described herein are generally applicable and are referred to in the **agreement**. Specific requirements with regards to the Scope of Services and the Tariff of Fees shall be set out in the **agreement** and should any requirement of the **agreement** be in conflict with the requirement of this document, the requirement of the Agreement shall prevail.

Any amount mentioned in or fee calculated in terms of this document is exclusive of Value Added Tax.

This document allows for four different methods of remuneration namely:

- (1) Fees for Normal Services (percentage fee based on the cost of works),
- (2) Fees for Additional Services (fees for services additional to those provided for in the Normal Services),
- (3) Time based fees and
- (4) Expenses and costs.

Words or expressions in bold font are defined in clause 2.2.

## 2. GENERAL PROVISIONS

### 2.1 Generality of Terms

In this document, except where the context otherwise requires or indicates:

- (1) the masculine includes the feminine,
- (2) the singular includes the plural, and
- (3) any reference to a natural person includes a juristic person.

### 2.2 Definitions

In this Schedule, any word or expression defined in **the Act** has that meaning, unless the context otherwise indicates:

- (1) **Agreement** means the Letter of Appointment/Acceptance or the Professional Services Contract.
- (2) **Client** means any juristic person or organ of the State engaging a **consulting engineer** for services on a **project**.
- (3) **Construction monitoring** means the process of administering the construction contract and over-seeing and/or inspecting the works, to the extent of the **consulting engineer's** engagement, for the purpose of verification that the works are being completed in accordance with the requirements of the contract that the designs are being correctly interpreted and that appropriate construction techniques are being utilized. **Construction monitoring**, to whatever extent, shall not diminish the **contractor's** responsibility for executing and completing the works in accordance with his contract.
- (4) **Consulting engineer** for purposes of these rules only, means any professional registered in terms of **the Act**, or a juristic person who employs such professional, engaged by a **client** on a **project**.
- (5) **Contractor** means any person or a juristic person under contract to a **client** to perform the **works** or part of it on a **project**, including a subcontractor under contract to such **contractor**.

- (6) **Cost of the works** means the total amount, exclusive of value added tax, certified or which would normally be certifiable for payment to **contractor(s)** (irrespective of who actually carries out the works) in respect of the **works** designed, specified or administered by the **consulting engineer**, before deduction of liquidated damages or penalties, including –
  - a *pro rata* portion of all preliminary and general items applicable to the **works** and
  - the costs of new materials, goods or equipment, or a fair evaluation, of such material, goods or equipment as if new whether supplied new or otherwise by, or to, the **client** and including the cost or a fair evaluation of the cost of installation. The sourcing, inspection and testing of such will comprise additional **services** by the **consulting engineer**.
- (7) **Electronic Engineering Services** means **services** related to the provision of electronic systems and detailing the terminations, signals and interconnections of electronic components as distinct from conventional electrical HV, MV and LV systems and related reticulation.
- (8) **Engineering Project** means a project of which the scope comprises mainly engineering work of one discipline only and all financial and administrative matters are dealt with by the **consulting engineer** or where the **consulting engineer** will act as **principal agent** where other disciplines are also involved.
- (9) **Multi-disciplinary Project** means a project comprising building work, together with its associated engineering work, where the engineer is subject to the authority of another professional acting as the Principal Agent while financial and administrative matters are dealt with by another professional.
- (10) **Normal services** means the **services** set out in clause 3.2.
- (11) **Principal Agent** means the Professional Service Provider appointed as such.
- (12) **Project** means any total scheme envisaged by a **client**, including all the **works** and **services** concerned.
- (13) **Services** means the services contemplated in clause 3 on a **project** for which a **consulting engineer** is engaged.
- (14) **Stage** means a stage of **normal services** set out in clause 3.2.
- (15) **The Act** means the Engineering Profession Act, 2000 (Act No. 46 of 2000).
- (16) **Total annual cost of employment** means the total annual cost of employment as defined in clause 4.4(4).
- (17) **Works** means the activities on a **project** for which **contractor(s)** are under contract to the **client** to perform or are intended to be performed, including the supply of goods and equipment.

## 2.3 Short Title

This document is called the “2016 NDPW – Scope of Engineering Services and Tariff of Fees”.

## 3. SCOPE OF SERVICES

### 3.1 Planning, Studies, Investigations and Assessments Reports

These services, as indicated below, relate to carrying out studies and investigations as well as the preparation and submission of reports embodying preliminary proposals or initial feasibility studies and will normally be remunerated on a time and cost basis.

- (1) Consultation with the **client** or **client's** authorized representative.
- (2) Inspection of the site of the **project**.
- (3) Preliminary investigation, route location, planning and a level of design appropriate to allow decisions on feasibility.
- (4) Consultation with authorities having rights or powers of sanction as well as consultation with the public and stakeholder groups.
- (5) Advice to the **client** as to regulatory and statutory requirements, including environmental management and the need for surveys, analyses, tests and site or other investigations, as well as approvals, where such are required for the completion of the report, and arranging for these to be carried out at the **client's** expense.
- (6) Searching for, obtaining, investigating and collating available data, drawings and plans relating to the **works**.
- (7) Investigating financial and economic implications relating to the proposals, feasibility studies and/or option analysis and recommendations.

- (8) Clause 3.1(7) does not normally apply to civil and structural **services** on **multi-disciplinary projects**, except as far as the interpretation of cost figures for civil and structural **services** are concerned.

**Deliverables:**

- Submission of a report for consideration by the **client**, including all or any of the above, with emphasis on the following:
  - Collation of information.
  - Reports on technical and financial feasibility and related implications.
  - List of consents and approvals.
  - Schedule of required surveys, tests, analyses, site and other investigations.
  - Comparison of **project** options, including life cycle costing and recommendations where required.

## **3.2 Normal Services**

These services are applicable to projects where the nature, form and function of the facility has been defined through previous investigations and reports and the engineering services are required to take the **project** through to successful completion of construction.

### **3.2.1 Stage 1 – Inception**

(Defined as: Establish **client** requirements and preferences, assess user needs and options, appointment of necessary consultants, and establish the **project** brief including **project** objectives, priorities, constraints, assumptions aspirations and strategies.)

- (1) Assist in developing a clear **project** brief.
- (2) Attend **project** initiation meetings.
- (3) Advise on procurement policy for the **project**.
- (4) Advise on the rights, constraints, consents and approvals.
- (5) Define the scope of **services** and scope of work required.
- (6) Conclude the terms of the **agreement** with the **client**.
- (7) Inspect the site and advise on the necessary surveys, analyses, tests and site or other investigations where such information will be required for **Stage 2** including the availability and location of infrastructure and services.
- (8) Determine the availability of data, drawings and plans relating to the **project**.
- (9) Advise on criteria that could influence the **project** life cycle cost significantly.
- (10) Provide necessary information within the agreed scope of the **project** to other consultants involved.

**Deliverables:**

- Submission of a report for consideration by the **client**, including all or any of the above, with emphasis on the following:
  - Agreed scope of **services** and scope of work.
  - Signed **agreement**.
  - Report on **project**, site and functional requirements.
  - Schedule of required surveys, tests, analyses, site and other investigations.
  - Schedule of consents and approvals.

### **3.2.2 Stage 2 – Preliminary Design: Concept and Viability**

(Defined as: Prepare and finalise the **project** concept in accordance with the brief, including project scope, scale, character, form and function, plus preliminary programme and viability study/assessment of the **project**.)

Following the **client's** instructions to proceed with the development of preliminary proposals or the basic planning of the **project**, comprising all or any of the following:

- (1) Agree documentation programme with principal consultant and other consultants involved.
- (2) Attend design and consultants' meetings.
- (3) Establish the concept design criteria.
- (4) Prepare initial concept design and related documentation.
- (5) Advice to the **client** as to the regulatory and statutory requirements, including environmental management and the need for any further surveys, analyses, tests and site or other investigations, as well as approvals, which may be required and arranging for these to be carried out at the **client's** expense. This advice is to be presented by the **consulting engineer** based on the interpretation of the results of these tests and investigations including geotechnical and/or foundation investigations, in a report containing recommendations to be applied to and incorporated in designs. The **consulting engineer** will also take the environmental management plan into account for the full life cycle of the **project**.
- (6) Preparation and submission to the **client** of any preliminary plans, drawings and estimates required for seeking the approval of statutory authorities and the **client**.
- (7) Refine and assess the concept design to ensure conformance with all regulatory requirements and consents.
- (8) Establish access, utilities, services and connections required for the design of the **project**.
- (9) Coordinate design interfaces with other consultants involved.
- (10) Prepare process designs (where required), preliminary designs including preliminary drawings and plans, and related documentation for approval by authorities and **client**, including costing of the aforementioned.
- (11) Provide cost estimates and life cycle costs including financial implications and preliminary programmes.
- (12) Liaise, co-operate and provide necessary information to the **client**, principal consultant and other consultants involved.

**Deliverables:**

- Submission of a report for consideration by the **client**, including all or any of the above, with emphasis on the following:
  - Concept design report.
  - Schedule of required surveys, tests and other investigations and related reports.
  - Process design report.
  - Preliminary design report.
  - Cost estimates, concept and viability reports which include all or any of the above.

### 3.2.3 Stage 3 – Detail Design

(Defined as: Finalise the design, outline specifications, cost plan, financial viability and programme for the **project**.)

- (1) Review documentation programme with principal consultant and other consultants involved.
- (2) Attend design and consultants' meetings.
- (3) Incorporate **client's** and authorities' detailed requirements into the design.
- (4) Incorporate other consultant's designs and requirements into the design.
- (5) Prepare design development drawings including draft technical details and specifications.
- (6) Prepare detail designs, and design drawings including draft technical details and specifications:
  - In the case of reinforced concrete **works**, drawings must include bending schedules.
  - In the case of structural steel **works**, drawings and details provided by the **consulting engineer** must include full information, dimensions and specifications on all sections, connections, plates, fasteners, bolts and welding, to such an extent that no further designs by **contractor(s)** or other parties are required. The **consulting engineer** need not provide shop drawings for the manufacture of the structural steel **works**.
- (7) Review and evaluate design, specifications and estimates of the **cost of works** in order to finalise the detail design **stage**.

- (8) Advice to the **client** on any alternative designs and tenders, but excluding detailed inspection, reviewing and checking of alternative designs and drawings not prepared by the **consulting engineer** and submitted by any **contractor** or potential **contractor**.
- (9) Liaise, co-operate and provide necessary information to the principal consultant and other consultants involved.
- (10) Submit the necessary design documentation to local and other authorities for approval and obtain said approval or alternatively for record purposes where approval is not required by Building Regulations.
- (11) Accommodate services design.

**Deliverables:**

- Submission of a report for consideration by the **client**, including all or any of the above, with emphasis on the following:
  - Detail design drawings.
  - Outline specifications.
  - Local and other authority submission drawings, reports and approvals.
  - Detailed estimates of construction costs.

### 3.2.4 Stage 4 – Documentation and Procurement

(Defined as: Prepare procurement and construction documentation, confirm and implement the procurement strategies and procedures for effective and timeous procurement of necessary resources for execution of the **project**.)

- (1) Attend design and consultants' meetings.
- (2) Prepare and finalise specifications, schedule of quantities and preambles for the **works**.
- (3) Submission of detailed estimates, capital and life cycle costs, financial implications and programmes for implementation of the **works**.
- (4) Reaffirm detailed cost estimates and adjust designs and documents if necessary to remain within approved budget.
- (5) Prepare and finalise the procurement strategy for **contractor(s)** or assist the principal consultant where relevant.
- (6) Prepare documentation for **contractor** procurement.
- (7) Assist in calling for tenders/bids and/or negotiation of prices and/or assist the principal consultant where relevant.
- (8) Liaise, co-operate and provide necessary information to the principal consultant and the other consultants as required.
- (9) Assist in the evaluation of tenders/bids.
- (10) Assist with the preparation of contract documentation for signature.
- (11) Assess samples and products for compliance and design intent.
- (12) Advice to the **client** on any alternative designs and tenders, but excluding detailed inspection, reviewing and checking of alternative designs and drawings not prepared by the **consulting engineer** and submitted by any **contractor** or potential **contractor**.
- (13) Placing orders for the **works** on behalf of the **client**.

**Deliverables:**

- Submission of a report for consideration by the **client**, including all or any of the above, with emphasis on the following:
  - Finalised Specifications.
  - Service co-ordination.
  - Detail design drawings.
  - Tender/bid documentation.
  - Tender/bid evaluation and report.
  - Tender/bid recommendation.
  - Priced contract documentation.

### 3.2.5 Stage 5 – Contract Administration and Inspection

(Defined as: Manage, administer and monitor the construction contracts and processes including preparation and coordination of procedures and documentation to facilitate practical completion of the **works**.)

- (1) Attend site handover.
- (2) Issue construction documentation in accordance with the documentation schedule including, in the case of structural engineering, reinforcing bending schedules and detailing and specifications of structural steel sections and connections.
- (3) Execute the contract administration in terms of the contract between the **client** and the **contractor**.
- (4) Prepare schedules of predicted cash flow.
- (5) Prepare pro-active estimates of proposed variations for **client** decision making.
- (6) Preparation of and issuing variation orders on behalf of and after consultation with the **client**.
- (7) Attend regular site, technical and progress meetings.
- (8) Inspect **works** for conformity to contract documentation.
- (9) Adjudicate and resolve financial claims by **contractor(s)**.
- (10) Assist in the resolution of contractual claims by the **contractor**.
- (11) Assist the **client** in the resolution of disputes or differences that may arise between the **client** and the **contractor**, except mediation, arbitration and/or litigation.
- (12) Establish and maintain a financial control system.
- (13) Clarify details and descriptions during construction as required.
- (14) Assist and/or prepare valuations for payment certificates to be issued by the **principal agent**.
- (15) Witness and review of all tests and mock ups carried out both on and off site.
- (16) Check and approve **contractor** drawings for design intent.
- (17) Update and issue drawings and drawings register.
- (18) Issue contract instructions as and when required.
- (19) Agreeing and verifying final quantities during construction with the **contractor**.
- (20) Review and comment on operation and maintenance manuals, guarantee certificates and warranties.
- (21) Inspect the **works** and issue practical completion certificates and defects lists.
- (22) Arranging for the delivery of all test certificates, including the Electrical Certificate of Compliance, statutory and other approvals, as built drawings and operating manuals.
- (23) Advice to the **client** on any further alternative designs, but excluding detailed inspection, reviewing and checking of alternative designs and drawings not prepared by the **consulting engineer** and submitted by any **contractor**.

**Deliverables:**

- Submission of a report for consideration by the **client**, including all or any of the above, with emphasis on the following:
  - Schedules of predicted cash flow.
  - Construction documentation.
  - Register of drawings issued.
  - Estimates for proposed variations.
  - Contract instructions.
  - Financial control reports.
  - Valuations for payment certificates.
  - Progressive and draft final account(s).
  - Practical completion and defects list.
  - Electrical Certificate of Compliance.

Where a quantity surveyor is included in the project team in Multi-Disciplinary works, items 4, 5, 9 and 12 will not be required from the engineer.

### **3.2.6 Stage 6 – Close-Out**

(Defined as: Fulfil and complete the **project** close-out including necessary documentation to facilitate effective completion, handover and operation of the **project**).

- (1) Inspect and verify the rectification of defects.

- (2) Prepare comments for relevant payment valuations and completion certificates.
- (3) Prepare and/or procure operations and maintenance manuals, guarantees and warranties.
- (4) Prepare and/or procure as-built drawings and documentation.
- (5) Agreeing final quantities with **contractor(s)**, compiling final accounts and issuing final payment certificates.

**Deliverables:**

- Valuations for payment certificates.
- Works and final completion lists.
- Operations and maintenance manuals, guarantees and warranties.
- As-built drawings and documentation.
- Final accounts.

### 3.2.7 Targeted (Preferential) Procurement

Should the **client** during any **stage** of the **project**, require the **consulting engineer** to perform work or **services** pertaining to targeted procurement, such work and or **services** could entail, but are not limited to, any or all of the following:

- (1) incorporation of any targeted (preferential) participation goals;
- (2) the measuring of key participation indicators;
- (3) the selection, appointment and administration of participation and;
- (4) auditing compliance to the above by any **contractor s** and/or professional consultant.

### 3.3 Additional Services

The following **services** are additional to the **normal services** provided by the **consulting engineer**, unless specifically agreed otherwise between the **consulting engineer** and the **client**. The **agreement** on the scope of **services** and remuneration shall be in writing and should, if at all possible, be concluded before such **services** are rendered.

#### 3.3.1 Additional Services pertaining to all Stages of the Project

- (1) Enquiries not directly concerned with the **works** and its subsequent utilisation.
- (2) Valuation for purchase, sale or leasing of plant, equipment, material, systems, land or buildings or arranging for such valuation.
- (3) Making arrangements for way leaves, servitudes or expropriations.
- (4) Negotiating and arranging for the provision or diversion of services not forming part of the **works**.
- (5) Additional work in obtaining the formal approval of the appropriate Government Departments or Public Authorities, including the making of such revisions as may be required as a result of decisions of such Departments or Authorities arising out of changes in policy, undue delay, or other causes beyond the **consulting engineer's** control.
- (6) Topographical and environmental surveys, analyses, tests and site or foundation or other investigations, model tests, laboratory tests and analyses carried out or procured on behalf of the **client**.
- (7) Setting out or staking out the **works** and indicating any boundary beacons and other reference marks.
- (8) Preparation of drawings for manufacture and installation or detailed checking of such for erection or installation fit.
- (9) Detailed inspection, reviewing and checking of designs and drawings not prepared by the **consulting engineer** and submitted by any **contractor** or potential **contractor** as alternative to those embodied in tender or similar documents prepared by the **consulting engineer**.
- (10) Preparing and setting out particulars and calculations in a special form required by any relevant authority.
- (11) Abnormal additional **services** by or costs to the **consulting engineer** due to the failure of a **contractor** or others to perform their required duties adequately and on time.



- (12) Executing or arranging for the periodic monitoring and adjustment of the **works**, after final handover and completion of construction and commissioning, in order to optimise or maintain proper functioning of any process or system.
- (13) Investigating or reporting on tariffs or charges leviable by or to the **client**.
- (14) Advance ordering or reservation of materials and obtaining licenses and permit.
- (15) Additional **services**, duties and/or work resulting from project scope changes, alterations and/or instructions by the **client**, or his duly authorized agents, requiring the **consulting engineer** to advice upon, review, adapt and/or alter his completed designs and/or any other documentation and/or change the scope of his **services** and/or duties. Such additional **services** are subject to **agreement** in writing between the **consulting engineer** and the **client** prior to the execution thereof.
- (16) Exceptional arrangements, communication, facilitation and agreements with any stakeholders other than the **client** and **contractor(s)** appointed for the **works** on which the **consulting engineer** provides **services**.
- (17) Any other additional **services**, of whatever nature, specifically agreed to in writing between the **consulting engineer** and the **client** prior to the execution thereof.

### 3.3.2 Construction Monitoring

- (1) If the **construction monitoring**, as set out in clause 3.2.5(3), is deemed to be insufficient by the **consulting engineer**, the **consulting engineer** may, with prior written approval having been obtained from the **client**, appoint or make available additional staff for such **construction monitoring** as are necessary to undertake additional **construction monitoring** on site to the extent specifically defined and agreed with the **client**. The functions in respect of additional **construction monitoring** are to be limited to detailed inspections and exclude those mentioned under clause 3.2.5.

Applications for additional staff must be made on the department's prescribed format, together with which the **consulting engineer** must submit a proper motivation, containing *inter alia*, a schedule indicating the envisaged time to be spent on additional **construction monitoring** as applied for, as well as the envisaged time to be spent on normal **construction monitoring** as set out in clause 3.2.5(3).

- (2) Alternatively, the **client** may appoint or make available staff, as intended in clause 3.3.2(1), subject to approval by the **consulting engineer**.
- (3) Staff, as intended in clauses 3.3.2(1) and 3.3.2(2), shall report to and take instructions from the **consulting engineer** or an authorized representative of the **consulting engineer** only and shall be deemed to be in the employ of the **consulting engineer**.
- (4) Should any change regarding the persons utilized for additional on-site monitoring or their remuneration or duration of services be necessary, the utilization of such persons and/or their remuneration must be agreed to in writing with the **client** prior to the implementation thereof.
- (5) If, for any reason, no additional staff or inadequate staff for **construction monitoring** is appointed, the **consulting engineers** shall provide additional **services**, including additional site visits, as required and agreed to in writing with the **client** prior to commencement thereof.
- (6) Where provided for in the **agreement**, the duties of the **consulting engineer** for the following defined levels of **construction monitoring**, respectively, are as follows:

#### (a) Level 1:

The **construction monitoring** staff shall:-

- (i) Maintain a part-time presence on site as agreed with the **client** to review random samples and review important completed work prior to enclosure or on completion as appropriate.
- (ii) Where the **consulting engineer** is the sole consultant or **principal agent**, carry out such administration of the **project** as is necessary on behalf of the **client**.
- (iii) Where the **principal agent**, other than the **consulting engineer**, has been appointed for the **project**, provide such information as to enable the **principal agent** to fulfil his responsibilities.
- (iv) Be available to provide the **contractor** with technical interpretation of the plans and specifications.

(b) **Level 2:**

The **construction monitoring** staff shall:-

- (i) Maintain a full time presence on site to constantly review –
  - (a) Work procedures
  - (b) Construction materialsfor compliance with the requirements of the plans and specifications and review completed work prior to enclosure or on completion as appropriate.
- (ii) Where the **consulting engineer** is the sole consultant or **principal agent**, carry out such administration of the **project** as is necessary on behalf of the **client**.
- (iii) Where the **principal agent**, other than the **consulting engineer** has been appointed for the **project**, provide such information as to enable the **principal agent** to fulfil his responsibilities.
- (iv) Be available to provide the **contractor** with technical interpretation of the plans and specifications.

### 3.3.3 Occupational Health and Safety Act, 1993 (Act No.85 of 1993)

Should the **client** require the **consulting engineer** to undertake duties falling under the Occupational Health and Safety Act, 1993 (Act No.85 of 1993) and the Construction Regulations in terms thereof, on behalf of the **client**, the additional **services** may include the following:

- (1) The **consulting engineer** must arrange, formally and in writing, for the **contractor** to provide documentary evidence of compliance with all the requirements of the Occupational Health and Safety Act, 1993 (Act No.85 of 1993).
- (2) The **consulting engineer** must execute the duties of the **client**, as his appointed agent, as contemplated in the Construction Regulations to the Occupational Health and Safety Act, 1993 (Act No.85 of 1993).

### 3.3.4 Quality Assurance System

Where the **client** requires that a quality management system or quality assurance services, over and above **construction monitoring** services, be applied to the **project**, these are in addition to **normal services** provided by the **consulting engineer** and to be specifically defined and separately agreed in writing prior to commencement thereof.

### 3.3.5 Lead Consulting Engineer

Should the **client** require the **consulting engineer** to assume the leadership of a joint venture, consortium or team of consulting engineers, of the same discipline, prescribed or requested by the **client**, the additional **services** may include the following:

- (1) Responsibility for the overall administration of all sections of the **services**, including those portions of the **services**, which fall within the ambit of the other consulting engineers.
- (2) Responsibility for the overall co-ordination, programming of design and financial control of all the **works** included in the **services**.
- (3) Processing certificates or recommendations for payment of **contractor(s)**.

### 3.3.6 Principal Agent of the Client

When a **consulting engineer** is, in addition to his normal functions as **consulting engineer**, appointed as the **principal agent** of the **client** on a project, the **consulting engineer** will also be responsible for the following:

- (1) Leadership of the professional team.
- (2) Submission of preliminary and developed proposals in the form of consolidated reports, drawings and specifications together with estimates of time required and **cost of the works**.
- (3) The overall administration of all sections of the **project** including those, which fall within the ambit of the other professional members in the team.

- (4) The overall coordination, programming of design and financial control of the **project**.
- (5) Resolving differences that may arise between the **client** and the **contractor(s)**, excluding mediation, arbitration or litigation.
- (6) Approval of certificates for payment to **contractor(s)** issued by the other professional members in the team before their presentation to the **client** for settlement.
- (7) Making arrangements to provide the **client**, on completion of the **works**, with such record drawings as may be required for a proper record of the **works** as constructed and such manuals as may be required for the operation and maintenance of the relevant parts of the **works**.
- (8) Approval of the final contract account and provision of a close out report for the **project**.
- (9) Manage targeted procurement **services** as indicated in clause 3.2.7.

### 3.3.7 Mediation, Arbitration and Litigation proceedings and similar Services

Where the **client** requires the **consulting engineer** to, on his behalf, perform the **services** listed hereunder or similar work, the extent thereof and remuneration therefore is subject to agreement between the **client** and the **consulting engineer**:

- (1) Dealing with matters of law, obtaining parliamentary or other statutory approval, licenses or permits.
- (2) Assisting with or participating in contemplated or actual mediation, arbitration or litigation proceedings.
- (3) Officiating at or attending courts and commissions of enquiry, select committees and similar bodies convened by statute, regulation or decree.

## 4. TARIFF OF FEES

### 4.1 Application of Tariff of Fees

- (1) The tariff of fees contained in this Schedule applies in respect of the **services** set out in clause 3 "Scope of Services".
- (2) The **client** shall remunerate the **consulting engineer**, for the **services** rendered, on the basis of clauses 4.2 and 4.5. In cases where the **client** and **consulting engineer** have agreed that clauses 4.2 and 4.3 are not applicable, payment should be on the basis of clause 4.4 or as agreed according to clause 4.1(4).
- (3) The **client** shall reimburse the **consulting engineer** for all expenses and costs incurred in terms of clause 4.5 in performing his **services**, irrespective of whether fees are charged in terms of clauses 4.2 and 4.3 or clause 4.4 as well as for all costs incurred on behalf, and with the approval of the **client**.
- (4) While the tariff of fees contained in this document can be applied to many projects the factors that influence the fees to be paid for **services** are complex and depend on a number of contributing factors. These contributing factors that should be taken into account may include, inter alia, all or any of the following:
  - (a) **Project complexity:** Projects may range from relatively simple projects where it is based on well established, common practices to more complex projects where it calls for the application of new, unusual or untried practices.
  - (b) **Cost of the works:** This may range from a situation where the **cost of the works** is abnormally high relative to the **services** being rendered to a project where the **cost of the works** is abnormally low relative to the **services** required from the **consulting engineer**.
  - (c) **Time duration:** This may involve projects where the **works** are executed over appreciably shorter or longer periods than would normally be expected for any of the **stages** defined in 3 "Scope of Services".
  - (d) **Level of responsibility, liability and risk:** These may range from relatively low levels of responsibility and/or risks to projects with unusually high responsibilities and/or risks that are expected to be carried by the **consulting engineer**.

- (e) **Level of expertise, qualifications, skills and experience:** Some works do not require a high degree of expertise while other works may require more specialized expertise or substantial skills and experience that cost more to develop and retain.
  - (f) **Level of technology** required and changes in technology that may influence the costs of the **services** provided.
  - (g) Whether aspects related to labour intensive works need to be considered in the design.
- (5) Combinations of one or more of the above factors may require an adjustment of the tariffs to fairly compensate the **consulting engineer** and this adjustment should be negotiated in good faith by both parties.
- (6) Agreement on any adjustment of or special fees should be reached at the time of the engagement of the **consulting engineer** or as soon after circumstances warrant such as practically possible, but in all cases prior to the **consulting engineer** rendering **services** which may be affected.
- (7) Where the **normal services** relate to more than one of the disciplines of consulting engineering contemplated in clauses 4.2.1 to 4.2.7 namely civil, structural, mechanical, electrical and **electronic engineering services**, a separate fee for **services** in each discipline should be calculated in accordance with the relevant clause. Where a **consulting engineer** is appointed for either or both electronic and electrical services, his payment shall be according to the electrical fee scales based on the combined value of these **services**.
- (8) Where at the instance and with the consent of the **client** the **works** are undertaken on separate non-contiguous sites, continuity is interrupted or are unusually fragmented or are constructed as separately documented phases or sections, the fee for **normal services** is:
- (a) The sum of the fees calculated separately for each site, contract, phase or section as if they were separate works; or
  - (b) A fee agreed to between the **client** and the **consulting engineer** and which fee lies between the fee calculated on the total **cost of the works** and the sum of the fees contemplated in clause 4.1(8)(a) above.
- (9) For the calculation of fees, "duplication of works" is defined as the re-use of designs, drawings and details done by a consultant to duplicate a complete unit (e.g. a building or bridge).
- (10) The following fees may be claimed after each **stage** of **services** or monthly or as agreed between the **consulting engineer** and the **client**:
- (a) Percentage fees determined on the basis of the **cost of the works** prevailing at the time of the fee calculation and *pro rata* to the completed **services**, or a portion of the total fee based on completion of the **stages** along the lines indicated in 4.2.8.
  - (b) Time based fees applicable when the **services** were rendered.
- (11) Disbursements as set out in clause 4.1(3) may be claimed monthly.

## 4.2 Fees for Normal Services

### 4.2.1 Civil and Structural Engineering Services pertaining to Engineering Projects

- (1) The basic fee for **normal services** in the disciplines of civil and structural engineering, pertaining to **engineering projects**, is determined from the table below. The fee is the sum of the primary fee and the secondary fee applicable to the specific **cost of the works** in respect of which the **services** were rendered on the **project**.

Cost of the Works		Basis of Fee Calculation	
Where the costs of the works:		Primary Fee	Secondary fee
Exceeds	But does not exceed		
R 0	R 598,000	R 0	A Lump Sum or on Time Basis
R 598,000	R 1,419,000	R 74,800	12,5% on the balance over R 598 000
R 1,419,000	R 6,985,000	R 177,400	10,0% on the balance over R 1 419 000
R 6,985,000	R 14,248,000	R 734,000	9,0% on the balance over R 6,985,000
R 14,248,000	R 35,480,000	R 1,387,600	8,0% on the balance over R 14,248,000
R 35,480,000	R 70,961,000	R 3,086,200	6,0% on the balance over R 35,480,000
R 70,961,000	R 427,427,000	R 5,215,100	5,5% on the balance over R 70,961,000
R 427,427,000		R 24,820,700	5,0% on the balance over R 427,427,000

- (2) The following additional fee shall be applicable to the value of the reinforced concrete and structural steel portions of the **works**, inclusive of the costs of concrete, reinforcing, formwork, structural steel work and any *pro rata* preliminary and general amounts. Where structures of identical design are repeated on the same **project**, the combined costs shall be cumulated for the determination of the cost of the reinforced concrete and structural steel works.

Cost of the Works		Basis of Fee Calculation	
Where the costs of the works:		Primary Fee	Secondary fee
Exceeds	But does not exceed		
R 0	R 598,000	R 0	A Lump Sum or on Time Basis
R 598,000	R 1,419,000	R 29,900	5,0% on the balance over R 598,000
R 1,419,000	R 6,985,000	R 71,000	4,5% on the balance over R 1,419,000
R 6,985,000	R 14,248,000	R 321,400	4,0% on the balance over R 6,985,000
R 14,248,000	R 35,480,000	R 611,900	3,0% on the balance over R 14,248,000
R 35,480,000	R 70,961,000	R 1,248,900	2,0% on the balance over R 35,480,000
R 70,961,000	R 427,427,000	R 1,958,500	1,5% on the balance over R 70,961,000
R 427,427,000		R 7,305,500	1,5% on the balance over R 427,427,000

- (3) To calculate the fee for railway track work in terms of this item, 50 per cent of the cost of the permanent way materials is excluded from the **cost of the works**, but the full cost of ballast and equipment specially designed by the **consultant** is included in the **cost of the works**.
- (4) For **normal services** relating to a description of the **works** mentioned in the first column of the following table, the proportion of the basic fee relating to the specific item calculated in terms of clause 4.2.1(1) and 4.2.1(2) is multiplied by the category factor mentioned against that description in the second column of the table. In case more than one of the descriptions below applies, the effective factor will be the product of the factors involved, except for the fee for targeted procurement.
- (5) These factors do not apply when fees are a lump sum or on a time basis.

- (6) In the case of road works, where the road traverses both rural and urban areas, an adjustment *pro rata* to the length of road in rural and urban area should be made.
- (7) In the case of road rehabilitation a combination of factors applies depending on the situation of the road (rural or urban) and the category factor for alterations to existing works.

Description of the Works	Factor by which basic fee is multiplied
Rural roads (single carriageways), excluding bridges	0,85
Rural freeways and dual carriageways, excluding bridges	0,95
Freeways and dual carriageways through existing peri-urban areas, excluding bridges	1,00
Single Carriageways through existing urban areas	1.00
Freeways and dual carriageways through existing urban areas	1,25
Gravel roads:      Primary roads	1,25
Secondary roads	1,00
Informal roads	0,75
Water and waste water treatment works	1,25
Services (Excluding roads for existing informal settlements including roads and to reduced standards or supplies)	1,25
Water and sanitation in rural areas	1,35
Alterations to existing works (Only applicable to the fees on the portion or section of <b>works</b> affected)	1,25
Mass concrete foundations, brickwork and cladding designed and detailed by the <b>consulting engineer</b> (Only applicable to the design portion of the fees on such <b>works</b> )	0,33
Duplication of works (Only applicable to the design portion of the fees on duplicated works)	0,25
Targeted procurement (Additional fee based on the basic fees before the application of any of the other factors. Only applicable where specifically appointed for service)	0,07

#### 4.2.2 Civil Engineering Services pertaining to Multi-disciplinary Projects

- (1) The basic fee for **normal services** in the discipline of civil engineering, pertaining to **multi-disciplinary projects**, is determined from the table below. The fee is the sum of the primary fee and the secondary fee applicable to the specific **cost of the works** in respect of which the **services** were rendered on the **project**.

Cost of the Works		Basis of Fee Calculation	
Where the costs of the works:		Primary Fee	Secondary fee
Exceeds	But does not exceed		
R 0	R 598,000	R 0	A Lump Sum or on Time Basis
R 598,000	R 1,419,000	R 74,800	12,5% on the balance over R 598,000
R 1,419,000	R 6,985,000	R 177,400	10,0% on the balance over R 1,419,000
R 6,985,000	R 14,248,000	R 734,000	9,0% on the balance over R 6,985,000
R 14,248,000	R 35,480,000	R 1,387,600	8,0% on the balance over R 14,248,000
R 35,480,000	R 70,961,000	R 3,086,200	7,0% on the balance over R 35,480,000
R 70,961,000	R 427,427,000	R 5,569,900	7,0% on the balance over R 70,961,000
R 427,427,000		R 30,522,500	7,0% on the balance over R 427,427,000

- (2) For **normal services** relating to a description of the **works** mentioned in the first column of the following table, the proportion of the basic fee relating to the specific item calculated in terms of clause 4.2.2(1) is multiplied by the category factor mentioned against that description in the second column of the table. In case more than one of the descriptions below applies, the effective factor will be the product of the factors involved.

These factors do not apply when fees are a lump sum or on a time basis.

Description of the Works	Factor by which basic fee is multiplied
Alterations to existing works (Only applicable to the fees on the portion or section of <b>works</b> affected)	1,25
Internal water and drainage for buildings upon specific agreement with the <b>client</b> to render such services	1,25
Duplication of works (Only applicable to the design portion of the fees on duplicated <b>works</b> )	0,25

### 4.2.3 Structural Engineering Services pertaining to Multi-disciplinary Projects

- (1) The basic fee for **normal services** in the discipline of structural engineering, pertaining to **multi-disciplinary projects**, is determined from the table below. The fee is the sum of the primary fee and the secondary fee applicable to the specific **cost of the works** in respect of which the **services** were rendered on the project.

Cost of the Works		Basis of Fee Calculation	
Where the costs of the works:		Primary Fee	Secondary fee
Exceeds	But does not exceed		
R 0	R 598,000	R 0	A Lump Sum or on Time Basis
R 598,000	R 1,419,000	R 74,800	12,5% on the balance over R 598,000
R 1,419,000	R 6,985,000	R 177,400	10,0% on the balance over R 1,419,000
R 6,985,000	R 14,248,000	R 734,000	9,0% on the balance over R 6,985,000
R 14,248,000	R 35,480,000	R 1,387,600	8,0% on the balance over R 14,248,000
R 35,480,000	R 70,961,000	R 3,086,000	7,0% on the balance over R 35,480,000
R 70,961,000	R 427,427,000	R 5,570,000	7,0% on the balance over R 70,961,000
R 427,427,000		R 30,523,000	7,0% on the balance over R 427,427,000

- (2) For **normal services** relating to a description of the **works** mentioned in the first column of the following table, the proportion of the basic fee relating to the specific item calculated in terms of clause 4.2.3(1) is multiplied by the category factor mentioned against that description in the second column of the table. In case more than one of the descriptions below applies, the effective factor will be the product of the factors involved.

These factors do not apply when fees are a lump sum or on a time basis.

Description of the Works	Factor by which basic fee is multiplied
Alterations to existing works (Only applicable to the fees on the portion or section of <b>works</b> affected)	1,25
Mass concrete foundations and brickwork designed and cladding designed and detailed by the <b>consulting engineer</b> (Only applicable to the design portion of the fees on such works)	0,33
Duplication of works (Only applicable to the design portion of the fees on duplicated <b>works</b> )	0,25



#### 4.2.4 Mechanical Engineering Services pertaining to Engineering Projects

- (1) The basic fee for **normal services** in the discipline of mechanical engineering, pertaining to **engineering projects**, is determined from the table below. The fee is the sum of the primary fee and the secondary fee applicable to the specific **cost of the works** in respect of which the **services** were rendered on the **project**.

Cost of the Works		Basis of Fee Calculation	
Where the costs of the works:		Primary Fee	Secondary fee
Exceeds	But does not exceed		
R 0	R 598,000	R0	A Lump Sum or on Time Basis
R 598,000	R 1,419,000	R74,800	12,5% on the balance over R 571 000
R 1,419,000	R 6,985,000	R177,400	10,0% on the balance over R 1 353 000
R 6,985,000	R 14,248,000	R734,000	8,0% on the balance over R 6 659 000
R 14,248,000	R 35,480,000	R1,315,000	7,0% on the balance over R 13 582 000
R 35,480,000	R 70,961,000	R2,801,300	6,0% on the balance over R 33 824 000
R 70,961,000	R 427,427,000	R4,930,100	5,5% on the balance over R 67 648 000
R 427,427,000		R24,535,700	5,5% on the balance over R 407 474 000

- (2) For **normal services** relating to a description of the **works** mentioned in the first column of the following table, the proportion of the basic fee relating to the specific item calculated in terms of clause 4.2.4(1) is multiplied by the category factor mentioned against that description in the second column of the table. In case more than one of the descriptions below applies, the effective factor will be the product of the factors involved, except for the fee for targeted procurement.

These factors do not apply when fees are a lump sum or on a time basis.

Description of the Works	Factor by which basic fee is multiplied
Alterations to existing <b>works</b> (Only applicable to the fees on the portion or section of <b>works</b> affected)	1,25
Duplication of <b>works</b> (Only applicable to the design portion of the fees on duplicated <b>works</b> )	0,25
Targeted procurement (Additional fee based on the basic fees before the application of any of the other factors. Only applicable where specifically appointed for service)	0,07

#### 4.2.5 Mechanical Engineering services pertaining to Multi-disciplinary Projects

- (1) The basic fee for **normal services** in the discipline of mechanical engineering or wet services, pertaining to **multi-disciplinary projects**, is determined from the table below. The fee is the sum of the primary fee and the secondary fee applicable to the specific **cost of the works** in respect of which the **services** were rendered on the **project**.

Cost of the Works		Basis of Fee Calculation	
Where the costs of the works:		Primary Fee	Secondary fee
Exceeds	But does not exceed		
R 0	R 598,000	R0	A Lump Sum or on Time Basis
R 598,000	R 1,419,000	R89,700	15,0% on the balance over R 571 000
R 1,419,000	R 6,985,000	R212,900	12,5% on the balance over R 1 353 000
R 6,985,000	R 14,248,000	R908,600	10,5% on the balance over R 6 659 000
R 14,248,000	R 35,480,000	R1,671,200	9,5% on the balance over R 13 582 000
R 35,480,000	R 70,961,000	R3,688,300	9,0% on the balance over R 33 824 000
R 70,961,000	R 427,427,000	R6,881,500	8,5% on the balance over R 67 648 000
R 427,427,000		R37,181,200	8,5% on the balance over R 407 474 000

- (2) For **normal services** relating to a description of the **works** mentioned in the first column of the following table, the proportion of the basic fee relating to the specific item calculated in terms of clause 4.2.5(1) is multiplied by the category factor mentioned against that description in the second column of the table. In case more than one of the descriptions below applies, the effective factor will be the product of the factors involved, except for the fee for targeted procurement.

These factors do not apply when fees are a lump sum or on a time basis.

Description of the Works	Factor by which basic fee is multiplied
Multi-tenant installations: <i>The Multi-tenant factor only becomes applicable if substantial fragmentation of services, which would otherwise not be divided, occurs as a result of the multi-tenant application. Normal multi-zoning, even if applied in multi-tenant accommodation, does not qualify for the application of the Multi-tenant factor.</i>	1,25
Alterations to existing <b>works</b> (Only applicable to the fees on the portion or section of <b>works</b> affected)	1,25
Duplication of <b>works</b> (Only applicable to the design portion of the fees on duplicated <b>works</b> )	0,25
For <b>projects</b> where the <b>cost of the works</b> exceeds R 572,000 and where bills of quantities are not required from the <b>consulting engineer</b> and all financial, tender and contractual matters are dealt with by the Quantity Surveyor or other parties	0,75
Targeted procurement (Additional fee based on the basic fees before the application of any of the other factors. Only applicable where specifically appointed for service)	0,07

#### 4.2.6 Electrical and Electronic Engineering Services pertaining to Engineering Projects

- (1) The basic fee for **normal services** in the discipline of electrical and electronic engineering, pertaining to **engineering projects**, is determined from the table below. The fee is the sum of the primary fee and the secondary fee applicable to the specific **cost of the works** in respect of which the services were rendered on the **project**.

Cost of the Works		Basis of Fee Calculation	
Where the costs of the works:		Primary Fee	Secondary fee
Exceeds	But does not exceed		
R 0	R 598,000	R0	A Lump Sum or on Time Basis
R 598,000	R 1,419,000	R74,800	12,5% on the balance over R 571 000
R 1,419,000	R 6,985,000	R177,400	10,0% on the balance over R 1 353 000
R 6,985,000	R 14,248,000	R734,000	8,0% on the balance over R 6 659 000
R 14,248,000	R 35,480,000	R1,315,000	7,0% on the balance over R 13 582 000
R 35,480,000	R 70,961,000	R2,801,300	6,0% on the balance over R 33 824 000
R 70,961,000	R 427,427,000	R4,930,100	5,5% on the balance over R 67 648 000
R 427,427,000		R24,535,700	5,5% on the balance over R 407 474 000

- (2) For **normal services** relating to a description of the **works** mentioned in the first column of the following table, the proportion of the basic fee relating to the specific item calculated in terms of clause 4.2.6(1) is multiplied by the category factor mentioned against that description in the second column of the table. In case more than one of the descriptions below applies, the effective factor will be the product of the factors involved, except for the fee for targeted procurement.

These factors do not apply when fees are a lump sum or on a time basis.

Description of the Works	Factor by which basic fee is multiplied
Alterations to existing <b>works</b> (Only applicable to the fees on the portion or section of <b>works</b> affected)	1,25
Duplication of <b>works</b> (Only applicable to the design portion of the fees on duplicated <b>works</b> )	0,25
Targeted procurement (Additional fee based on the basic fees before the application of any of the other factors. Only applicable where specifically appointed for service)	0,07

#### 4.2.7 Electrical and Electronic Engineering services pertaining to Multi-disciplinary Projects

- (1) The basic fee for **normal services** in the discipline of electrical and electronic engineering, pertaining to **multi-disciplinary projects**, is determined from the table below. The fee is the sum of the primary fee and the secondary fee applicable to the specific **cost of the works** in respect of which the **services** were rendered on the **project**.

Cost of the Works		Basis of Fee Calculation	
Where the costs of the works:		Primary Fee	Secondary fee
Exceeds	But does not exceed		
R 0	R 598,000	R0	A Lump Sum or on Time Basis
R 598,000	R 1,419,000	R89,700	15,0% on the balance over R 571 000
R 1,419,000	R 6,985,000	R212,900	12,5% on the balance over R 1 353 000
R 6,985,000	R 14,248,000	R908,600	10,5% on the balance over R 6 659 000
R 14,248,000	R 35,480,000	R1,671,200	9,5% on the balance over R 13 582 000
R 35,480,000	R 70,961,000	R3,688,300	9,0% on the balance over R 33 824 000
R 70,961,000	R 427,427,000	R6,881,500	8,5% on the balance over R 67 648 000
R 427,427,000		R37,181,200	8,5% on the balance over R 407 474 000

- (2) For **normal services** relating to a description of the **works** mentioned in the first column of the following table, the proportion of the basic fee relating to the specific item calculated in terms of clause 4.2.7(1) is multiplied by the category factor mentioned against that description in the second column of the table. In case more than one of the descriptions below applies, the effective factor will be the product of the factors involved, except for the fee for targeted procurement.

These factors do not apply when fees are a lump sum or on a time basis.

Description of the Works	Factor by which basic fee is multiplied
Multi-tenant installations: <i>The Multi-tenant factor only becomes applicable if substantial fragmentation of services, which would otherwise not be divided, occurs as a result of the multi-tenant application. Normal multi-zoning, even if applied in multi-tenant accommodation, does not qualify for the application of the Multi-tenant factor.</i>	1,25
Alterations to existing <b>works</b> (Only applicable to the fees on the portion or section of <b>works</b> affected)	1,25
Duplication of <b>works</b> (Only applicable to the design portion of the fees on duplicated <b>works</b> )	0,25
For <b>projects</b> where the <b>cost of the works</b> exceeds R 572,000 and where bills of quantities are not required from the <b>consulting engineer</b> and all financial, tender and contractual matters are dealt with by the Quantity Surveyor or other parties.	0,75
Targeted procurement (Additional fee based on the basic fees before the application of any of the other factors. Only applicable where specifically appointed for service)	0,07

#### 4.2.8 Services provided partially or in Stages

- (1) The following table shall be used for proportioning the basic fee for **normal services** over the various **stages** of the **services**.

Stage of Services	Percentage points for each stage
<b>Civil: Engineering Projects:</b> <ul style="list-style-type: none"> <li>Inception</li> <li>Preliminary Design: Concept and Viability</li> <li>Detail Design</li> <li>Documentation and Procurement</li> <li>Contract Administration and Inspection</li> <li>Close-Out</li> </ul>	5 20 30 15 25 5
<b>Structural: Engineering Projects:</b> <ul style="list-style-type: none"> <li>Inception</li> <li>Preliminary Design: Concept and Viability</li> <li>Detail Design</li> <li>Documentation and Procurement</li> <li>Contract Administration and Inspection</li> <li>Close-Out</li> </ul>	5 20 30 15 25 5
<b>Civil: Multi-disciplinary Projects:</b> <ul style="list-style-type: none"> <li>Inception</li> <li>Preliminary Design: Concept and Viability</li> <li>Detail Design</li> <li>Documentation and Procurement</li> <li>Contract Administration and Inspection</li> <li>Close-Out</li> </ul>	5 20 30 15 25 5
<b>Structural: Multi-disciplinary Projects:</b> <ul style="list-style-type: none"> <li>Inception</li> <li>Preliminary Design: Concept and Viability</li> <li>Detail Design</li> <li>Documentation and Procurement</li> <li>Contract Administration and Inspection</li> <li>Close-Out</li> </ul>	5 20 30 15 25 5
<b>Mechanical, electrical and electronic projects:</b> <ul style="list-style-type: none"> <li>Inception</li> <li>Preliminary Design: Concept and Viability</li> <li>Detail Design</li> <li>Documentation and Procurement</li> <li>Contract Administration and Inspection</li> <li>Close-Out</li> </ul>	5 20 30 15 25 5

- (2) Where not all the **stages** of the **normal services** are provided by the **consulting engineer**, the fee is, subject to clause 4.1(7), calculated as a percentage of the total fee calculated in terms of this clause, which percentage is the sum of the percentage points appropriate to each **stage** as set out in the above table against those **stages** of the **services** provided by the **consulting engineer**.

#### 4.2.9 Cancellation or Abandonment

Should instructions having been given by the **client** to the **consulting engineer** to proceed with any of the **stages** of **services** set out in clause 4.2.8(1) and the whole or part of the **works** is cancelled or abandoned or postponed for a period of more than six months, the **consulting engineer** shall be remunerated for **services** performed, plus a surcharge equal to such losses (excluding future profits) and expenses as may have been caused by such termination of the **agreement** as can be substantiated by the **consulting engineer**.

#### 4.3 Fees for Additional Services

- (1) Subject to clauses 4.2.8(2), 4.3(2), 4.3(3), 4.3(4), 4.3(5), 4.3(6) and 4.3(7), the fees for additional **services**, contemplated in clause 2.2, are agreed to between the **client** and the **consulting engineer** as set out in clause 4.1.
- (2) For additional **services** as a result of the resumption of such **services** or the alteration or modification of designs on the instructions of the **client**, the **consulting engineer** is entitled to time based fees and actual costs incurred.
- (3) For the provision of a **construction monitoring** service, as contemplated in clause 3.3.2, the **consulting engineer** is entitled to recover from the **client** the fees as agreed between the **consulting engineer** and the **client**:
  - (a) for part time **construction monitoring** staff costs, the amount payable to such staff shall be at the hourly rates contemplated in clause 4.4(3);
  - (b) for full time **construction monitoring** service the fee shall be based on the **total annual cost of employment** plus a surcharge of twelve percentage points (12%);
  - (c) a maximum of 50 hours may be applied for part time **construction monitoring** per month. Time spent on site in excess hereof will be without further remuneration; and
  - (d) distances for travelling applied for may not be exceeded without prior written approval of the departmental project manager. Remuneration of travelling will be calculated according to actual distances per month at the applicable rate of the time of travel.
- (4) For all other costs, as set out in clause 4.5, the actual expenses incurred.
- (5) For duties under the Occupational Health and Safety Act, 1993 (Act No.85 of 1993), as contemplated in clause 3.3.3, the **consulting engineer** shall, if so appointed by the **client**, be remunerated on a time and cost basis as agreed with the **client**.
- (6) For assuming the leadership of a joint venture, a consortium or team of consulting engineers, as contemplated in clause 3.3.5, the fee for the lead **consulting engineer** shall be ten percentage points (10%), which is not an additional fee but is that portion of the fee for **services** rendered by the team, which shall be allocated to the lead **consulting engineer**. The apportionment of the fee to **services** is as stated in clause 4.2.8(1).
- (7) For **services** as **principal agent** of the **client**, as contemplated in clause 3.3.6, the **consulting engineer** is entitled to an additional fee calculated at one percentage point (1%) of the total **cost of the works** comprising the **project**. The **consulting engineer** is not entitled to any fees for **principal agent** if he is not explicitly appointed as such.

#### 4.4 Time Based Fees

- (1)
  - (a) Time based fees are all-inclusive fees, including allowances for overhead charges incurred by the **consulting engineer** as part of normal business operations, including the cost of management, as well as payments to administrative, clerical and secretarial staff used to support professional and technical staff in general and not on a specific project only.
  - (b) Time based fees are calculated by multiplying the hourly rate contemplated in clause 4.4(3), which is applicable to the **consulting engineer** for professional and any other technical staff employed by the **consulting engineer**, with the actual time spent by such staff in rendering the **services** required by the **client**.
  - (c) Professional and technical staff include all staff performing work directly related to the execution of the **services** the **consulting engineer** is engaged for by the **client** and excludes all administrative, clerical and secretarial staff used to support professional and technical staff in general and not on a specific project only, but includes the typing of letters, minutes, reports and documents for **projects**.

- (2) To determine the time based fee rates the professional and technical staff concerned is divided into:-
- (a) **Category A**, in respect of a private consulting practice in engineering, shall mean a top practitioner whose expertise and relevant experience is nationally or internationally recognized and who provides advice at a level of specialization where such advice is recognized as that of an expert.
  - (b) **Category B**, in respect of a private consulting practice in engineering, shall mean a partner, a sole proprietor, a director, or a member who, jointly or severally with other partners, co-directors or co-members, bears the risks of the business or takes full responsibility for the projects and related liabilities of such practice and where his/her level of expertise and relevant experience is commensurate with the position performs work of a conceptual nature in engineering design and development, provides strategic guidance in planning and executing a project and/or carries responsibility for quality management pertaining to a project.
  - (c) **Category C**, in respect of a private consulting practice in engineering, shall mean all salaried professional staff with adequate expertise and relevant experience performing work of an engineering nature and who carry the direct technical responsibility for one or more specific activities related to a project. A person referred to in Category B may also fall in this category if such person performs work of an engineering nature at this level.
  - (d) **Category D**, in respect of a private consulting practice in engineering, shall mean all other salaried technical staff with adequate expertise and relevant experience performing work of an engineering nature with direction and control provided by any person contemplated in *categories A, B or C*.
- (3) The scale of fees on a time basis, on which Value Added Tax is excluded, shall be at the following rates per hour, rounded off to the nearest rand:
- (a) for a person in *category A and B*: 18.75 cents for each R100 of the total annual remuneration package (lowest notch) attached to a Director's grading (level 13) in the Public Service;
  - (b) for a person in *category C*: 17,5 cents for each R100 of the total annual remuneration package (lowest notch) attached to a Deputy Director's grading (level 12) in the Public Service;
  - (c) for a person in *category D*: 16,5 cents for each R100 of his/her **total annual cost of employment**; provided that this hourly rate shall not exceed 16,5 cents for each R100 of the total annual remuneration package (lowest notch) attached to an Assistant Director's grading (level 11) in the Public Service.

Hourly rates calculated in terms of (a), (b) and (c) above shall be deemed to include overheads and charges in respect of time expended by clerical personnel, which shall, therefore, not be chargeable separately.

Unless otherwise specifically agreed in writing, remuneration for the time expended by *Category B persons* in terms of (a) above on a project shall be limited to 5 per cent of the total time expended on the **project**. Any time expended by principals in excess of the 5 per cent limit shall be remunerated at the rates determined in (b) or (c) above.

Notwithstanding the above, where work is of such a nature that personnel as described in paragraph (c) above are capable of performing such work, it shall be remunerated at that level and not at the rates described in paragraphs (a) and (b) above, irrespective of who in fact executed the work.

The salaries referred to in (a) to (c) above can change from time to time, which will, therefore, change the rates applicable. These rates will, however, only be adjusted on the first day of each calendar year irrespective of any changes in salary ranges during the relevant year. The rate as set out in Table 8 of the "Rates for Reimbursable Expenses", as amended from time to time may be used as bases for relevant claims.

- (4) For the purposes of clause 4.4(3)(c), the **total annual cost of employment** (gross annual remuneration) of a person contemplated in clause 4.4(2) means the total amount borne by an employer in respect of the employment of such a person per year, calculated at the amounts applicable to such a person at the time of appointment of the person.

## **4.5 Expenses and Costs**

All expenses and costs shall be claimed for in accordance with the provisions of the **agreement** subject to the submission of substantiating documentation.



## **APPENDIX B:**

**THE CONDITIONS OF TENDER ARE THE STANDARD CONDITIONS OF TENDER (JANUARY 2009 EDITION) AS CONTAINED IN ANNEX F OF THE CONSTRUCTION INDUSTRY DEVELOPMENT BOARD (CIDB) STANDARD FOR UNIFORMITY IN CONSTRUCTION PROCUREMENT.**

Note: The abovementioned document is available from the CIDB web page.

### **C5.3 EXAMPLES OF REQUIRED SPECIFIED OUTCOMES: SAMPLE DOCUMENTS:**

(Note: Listed documents hereunder will only be available for inspection by Tendering Service Provider's on the date of the compulsory tender clarification meeting)

#### **REPORTS AND DOCUMENTS:**

##### **DOCUMENT A:**

Example of a Design Level Dolomite Stability Investigation (DSI), complete with Shallow Geotechnical Investigation (SGI) report for the SAPS Potchefstroom Equestrian Centre.

##### **DOCUMENT B:**

Example of a Phase 2 Footprint Dolomite Stability Investigation (FDSI) for the SAPS Potchefstroom Equestrian Centre.

##### **DOCUMENT C:**

Example of a Dolomite Status Certificate (DSC) of a property owned by the Department of Public Works.

##### **Note:**

Listed documents here above (Documents A, B and C) will be available to Tendering Service Provider's for viewing at the compulsory tender clarification meeting. Should it be required, said documents may also be viewed at the offices of the PM after the date of the compulsory tender clarification meeting, but not later than the advertised tender closing date/time.