
BOARD NOTICE

NOTICE 206 OF 2011

Engineering Council of South Africa

**Guideline Scope of Services and Tariff of Fees
for Persons Registered in terms of the
Engineering Profession Act, 2000,
(Act No.46 of 2000)**

This schedule contains sets of tariffs of fees that serve as a guideline for the use by Clients and Professional Service Providers in determining fees to be paid for engineering services that are fair and equitable to all parties.

The Engineering Council of South Africa has, under Section 34(2) of the Engineering Profession Act, 2000 (Act No. 46 of 2000) determined the guideline scope of services and tariff of fees in the Schedule.

Any amount mentioned in or fee calculated in terms of this Schedule is exclusive of Value Added Tax.

The commencement date of these Rules shall be 1 January 2012.

SCHEDULE

Guideline Scope of Services and Tariff of Fees for Registered Professionals

Index

Headings and clause numbers

1.	PREAMBLE	5
2.	GENERAL PROVISIONS	6
2.1	Repeal and Transition	6
2.2	Generality of Terms	6
2.3	Definitions	6
2.4	Short Title	7
3.	GUIDELINE SCOPE OF SERVICES	8
3.1	Planning, Studies, Investigations and Assessments	8
3.2	Normal Services	8
3.2.1	Stage 1 – Inception	9
3.2.2	Stage 2 – Concept and Viability (Often called Preliminary Design)	9
3.2.3	Stage 3 – Design Development (also termed Detail Design)	10
3.2.4	Stage 4 – Documentation and Procurement	10
3.2.5	Stage 5 – Contract Administration and Inspection	11
3.2.6	Stage 6 – Close-Out	12
3.3	Additional Services	13
3.3.1	Additional Services pertaining to all Stages of the Project	13
3.3.2	Construction Monitoring	14
3.3.3	Occupational Health and Safety Act, 1993 (Act No.85 of 1993)	16
3.3.4	Quality Assurance System	16
3.3.5	Lead Consulting Engineer	16
3.3.6	Engineering Management Services (Principal Consultant)	17
3.3.7	Mediation, Arbitration and Litigation proceedings and similar Services	20
3.3.8	Principal Agent of the Client	20
4.	GUIDELINE TARIFF OF FEES	23
4.1	Application of Tariff of Fees	23
4.2	Fees for Normal Services	25
4.2.1	Civil and Structural Engineering Services pertaining to Engineering Projects	26
4.2.2	Civil Engineering Services pertaining to Building Projects	28
4.2.3	Structural Engineering Services pertaining to Building Projects	29
4.2.4	Mechanical Engineering Services pertaining to Engineering Projects	30
4.2.5	Electrical Engineering Services pertaining to Engineering Projects	31
4.2.6	Mechanical Engineering pertaining to Building Projects	32
4.2.7	Electrical Engineering services pertaining to Building Projects	33
4.2.8	Electronic Engineering Services	34
4.2.9	Services provided partially or in Stages	35
4.2.10	Cancellation or Abandonment	36
4.3	Fees for Additional Services	36
4.4	Value Based Fees	38
4.5	Time Based Fees	38
4.6	Expenses and Costs	39

Words or expressions in bold font are defined in Clause 2.3.

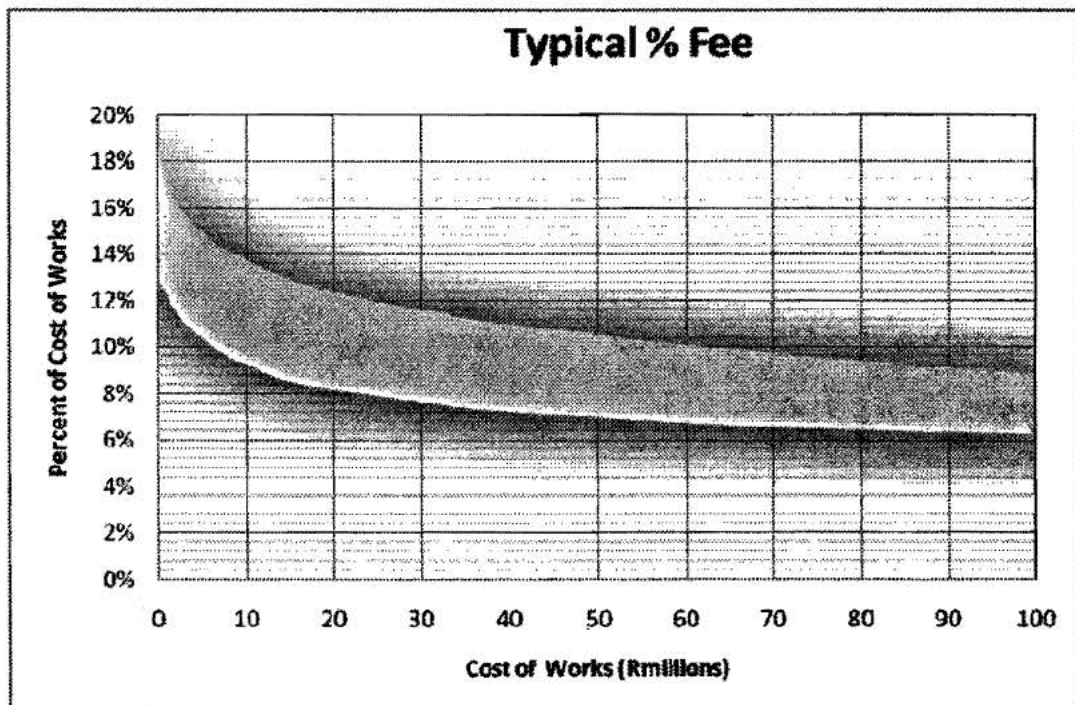
1. PREAMBLE

This schedule shows sets of tariffs of fees that serves as a guideline to determining fees to be paid for engineering services that are fair and equitable to all parties. This schedule allows for four different methods of remuneration namely:

- (i) Percentage fee based on the **cost of works**
- (ii) Fees for services that are additional to those provided for in the normal percentage fee based calculation.
- (iii) Time based fees and
- (iv) Reimbursable expenses.

Where the scope of work is uncertain remuneration will primarily be based on time and reimbursable expenses.

Where the location, size, character, form and function of the works has been defined through previous studies and investigations that have either formed part of the client's normal business practices or have been the subject of previous separate appointments paid for on a time and cost basis the remuneration can be determined using the guideline tariffs that are based on the **cost of the works**. . This provides a convenient way to express the fee payable if the scope of work is somewhat uncertain. The typical range of percentage fees applicable to different size projects and services provided are shown in the graph below.



The graph shows that the fee can range from 6% for a large project up to 20% for a small project. The fee can also fall within the shadowed area on either side of the band depending on the complexity factors that are expanded upon in paragraph 4.1. These factors are normally converted into multipliers that range from 0.3 to 1.5 and that are applied to modify the overall percentage fee and agree on a fair and reasonable fee for the service to be provided.

Once the client and consulting engineer have come to a mutually acceptable agreement on the appropriate fee and the scope of services and scope of work is clearly defined then

the client and consulting engineer should agree on commercial terms that set out the timing of deliverables and related payments as well as the method of payment that seeks to balance service provider cash flow and client risk.

2. GENERAL PROVISIONS

2.1 Repeal and Transition

Subject to sub-clause (2), 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), published under Government Gazette No. 28744, Board Notice 190 of 23 December 2010, is hereby repealed.

The provisions of Board Notice 192 of 24 December 2010 and 190 of 23 December 2010 and R.1113 of 11 June 1982 including subsequent amendments still apply in respect of **services** rendered during a **stage**, which has not yet been completed by the date of commencement of this Schedule.

2.2 Generality of Terms

In this document, except where the context otherwise requires or indicates:

- (i) the masculine includes the feminine,
- (ii) the singular includes the plural, and
- (iii) any reference to a natural person includes a juristic person

2.3 Definitions

In this Schedule, any word or expression defined in the Act has that meaning, and, unless the context otherwise indicates:

- (i) **"Building and Multi Disciplinary Project"** means a project comprising building work or multi disciplinary 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 and where the engineer is only paid a fee based on the costs of a portion of the works and has to attend project coordination meetings.
- (ii) **"client"**, means any juristic person or organ of the State engaging a **consulting engineer** for **services** on a **project**;
- (iii) **"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.
- (iv) **"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**;
- (v) **"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**;
- (vi) **"cost of the works"** means the total final amount (or a fair estimate thereof), exclusive of value added tax, certified or which would, normally, be certifiable for payment to **contractors** (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 –

- Escalation, assuming continuity of the project through to final completion. Where delays occur in the project cycle the client and consultant should come to an agreement on the escalation that will be applicable to various stages of services.
 - a pro-rata portion of all costs related to the Contractor general obligations and overhead (preliminary and general) items applicable to the Works; (irrespective of who actually carries out 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);
- (vii) **"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.
- (viii) **"Engineering Project"** means a project of which the scope comprises mainly engineering work.
- (ix) **"Industrial Engineering Services"** means services related to the integration of resources and processes into cohesive strategies, structures and systems for the effective and efficient delivery of quality goods and services.
- (x) **"normal services"** means the services set out in clause 3.1;
- (xi) **"Principal Agent"** means the Professional Service Provider appointed as such.
- (xii) **"project"** means any total scheme envisaged by a client, including all the works and services concerned;
- (xiii) **"scope of work"** means the portion of the works for which the consulting engineer is engaged.
- (xiv) **"services"** means the services contemplated in clause 3 on a project for which a consulting engineer is engaged;
- (xv) **"stage"** means a stage of normal services set out in clause 3.1;
- (xvi) **"the Act"** means the Engineering Profession Act, 2000 (Act No. 46 of 2000);
- (xvii) **"total annual cost of employment"** means the total annual cost of employment as defined in clause 4.5(4);
- (xviii) **"works"** means the activities on a project for which contractors are under contract to the client to perform or are intended to be performed, including the supply of goods and equipment;

2.4 Short Title

This Schedule is called the Guideline Scope of Services and Tariff of Fees for Registered Persons, 2010.

3. GUIDELINE SCOPE OF SERVICES

The following guideline scope of services are provided to indicate which services would normally be provided and for which the guidelines tariffs would typically represent reasonable compensation. In agreeing the scope of services and the scope of work to be carried out, the client and consulting engineer should review the scope of services and list the applicable normal and additional services and agree the related compensation.

3.1 Planning, Studies, Investigations and Assessments

These typical services 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) Developing a scope of work where required.
- (4) Preliminary investigation, route location, planning and a level of design appropriate to allow decisions on feasibility.
- (5) Consultation with authorities having rights or powers of sanction as well as consultation with the public and stakeholder groups.
- (6) 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.
- (7) Searching for, obtaining, investigating and collating available data, drawings and plans relating to the works.
- (8) Investigating financial and economic implications relating to the proposals or feasibility studies.
- (9) Clause (8) does not normally apply to civil and structural services on **Building Projects**, where these services are provided by a Quantity Surveyor, except as far as the interpretation of cost figures the Engineer's **scope of work** is concerned.

Deliverables will typically include:

- ♦ 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.

3.2 Normal Services

These services listed below 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.

Note, in building or multi-disciplinary projects all calculation of quantities and related cost estimates are the responsibility of the quantity surveyor and are not included as normal services of the Engineer. These services are shown in *italics* in the following lists.

In other projects where quantity surveyors are not involved these services will be the responsibility of the Engineer.

In certain instances on building or multi-disciplinary projects these services are provided with the assistance of the engineers in the respective disciplines and the specific scope should be formulated with care. For example, on building projects the electrical engineer may calculate quantities and related costs and will be compensated for this as an additional service.

In the case where only a single consulting engineer is appointed on a project and the required services extend through to stage 4, 5 and 6, the services of the Principal Agent defined under paragraph 3.3.8 are included as normal services and must be agreed between the parties.

3.2.1 Stage 1 – Inception

(Defined as: Establish client requirements and preferences, assess user needs and options, appointment of necessary consultants, 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 will typically include:

- ♦ 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 – Concept and Viability (Often called Preliminary Design)

(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 of the project)

- (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) Advise the client regarding further surveys, analyses, tests and investigations which may be required.
- (6) Establish regulatory authorities' requirements and incorporate into the design.
- (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.
- (9) Coordinate design interfaces with other consultants involved.

- (10) Prepare preliminary process designs, preliminary designs, and related documentation for approval by authorities and client and suitable for costing.
- (11) *Provide cost estimates and comment on life cycle costs as required.*
- (12) Liaise, co-operate and provide necessary information to the client, principal consultant and other consultants involved.

Typical deliverables will include:

- ♦ Concept design.
- ♦ Schedule of required surveys, tests and other investigations and related reports.
- ♦ Process design.
- ♦ Preliminary design.
- ♦ *Cost estimates as required.*

3.2.3 Stage 3 – Design Development (also termed Detail Design)

(Defined as: Develop the approved concept to 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) *Review and evaluate design and outline specification and exercise cost control.*
- (7) *Prepare detailed estimates of construction cost.*
- (8) Liaise, co-operate and provide necessary information to the principal consultant and other consultants involved.
- (9) Submit the necessary design documentation to local and other authorities for approval.

Typical deliverables will include:

- ♦ Design development drawings.
- ♦ Outline specifications.
- ♦ Local and other authority submission drawings and reports.
- ♦ *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 specifications and preambles for the works.
- (3) Accommodate services design.

- (4) *Check cost estimates and adjust designs and documents if necessary to remain within budget.*
- (5) *Formulate the procurement strategy for contractors or assist the principal consultant where relevant.*
- (6) *Prepare documentation for contractor procurement.*
- (7) *Review designs, drawings and schedules for compliance with approved budget.*
- (8) *Calling for tenders and/or negotiation of prices and/or assist the principal consultant where relevant.*
- (9) *Liaise, co-operate and provide necessary information to the principal consultant and the other consultants as required.*
- (10) *Evaluation of tenders.*
- (11) *Preparation of contract documentation for signature*
- (12) *Assist in pricing, documentation and tender evaluation as required when the detailed services for these activities are provided by others.*
- (13) *Assess samples and products for compliance and design intent.*

Typical deliverables will include:

- ♦ *Specifications.*
- ♦ *Services co-ordination.*
- ♦ *Working drawings.*
- ♦ *Budget construction cost.*
- ♦ *Tender documentation.*
- ♦ *Tender evaluation report.*
- ♦ *Tender recommendations.*
- ♦ *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) *Carry out contract administration procedures in terms of the contract.*
- (4) *Prepare schedules of predicted cash flow.*
- (5) *Prepare pro-active estimates of proposed variations for client decision making.*
- (6) *Attend regular site, technical and progress meetings.*
- (7) *Inspect works for conformity to contract documentation*
- (8) *Adjudicate and resolve financial claims by contractor(s).*
- (9) *Assist in the resolution of contractual claims by the contractor.*

- (10) *Establish and maintain a financial control system.*
- (11) Clarify details and descriptions during construction as required.
- (12) *Prepare valuations for payment certificates to be issued by the principal agent.*
- (13) Witness and review of all tests and mock ups carried out both on and off site.
- (14) Check and approve contractor drawings for design intent.
- (15) Update and issue drawings register.
- (16) Issue contract instructions as and when required.
- (17) Review and comment on operation and maintenance manuals, guarantee certificates and warranties.
- (18) Inspect the works and issue practical completion and defects lists.
- (19) Arranging for the delivery of all test certificates, statutory (regulatory) and other approvals, as built drawings and operating manuals

Typical deliverables will include:

- ♦ *Schedules of predicted cash flow.*
- ♦ Construction documentation.
- ♦ Drawing register.
- ♦ *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 building works, items 4,5,8,10 and 12 and related deliverables will not be required from the engineer.

3.2.6 Stage 6 – Close-Out

(Defined as: Fulfill 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) *Receive, comment and approve relevant payment valuations and completion certificates*
- (3) Facilitate and/or procure final operations and maintenance manuals, guarantees and warranties.
- (4) Prepare and/or procure as-built drawings and documentation.
- (5) *Conclude the final accounts where relevant.*

Typical deliverables will include:

- ♦ *Valuations for payment certificates*
- ♦ Works and final completion lists
- ♦ Operations and maintenance manuals, guarantees and warranties

- ♦ As-built drawings and documentation
- ♦ *Final accounts*

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) All services related to defining the scope of work, previously carried out under the report stage and that was normally paid for on a time and cost basis.
- (2) Enquiries not directly concerned with the works and its subsequent utilisation.
- (3) Valuation for purchase, sale or leasing of plant, equipment, material, systems, land or buildings or arranging for such valuation.
- (4) Making arrangements for way leaves, servitudes or expropriations.
- (5) Negotiating and arranging for the provision or diversion of services not forming part of the works.
- (6) 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.
- (7) Additional work related to monitoring as required by any Government Departments or Authorities in order to facilitate regulatory approvals and certification (e.g. Mines Health and Safety Act 29 of 1996).
- (8) Topographical and environmental surveys, analyses, tests and site or foundation or other investigations, model tests, laboratory tests and analyses carried out on behalf of the client.
- (9) Setting out or staking out the works and indicating any boundary beacons and other reference marks.
- (10) Preparation of drawings for manufacture and installation or detailed checking of such for erection or installation fit.
- (11) 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.
- (12) Travel and travel time costs related to offsite inspection and testing of materials and plant during manufacture and/or prior to delivery to site.
- (13) Preparing and setting out particulars and calculations in a form required by any relevant authority.
- (14) 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.
- (15) 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.
- (16) Investigating or reporting on tariffs or charges leviable by or to the client.
- (17) Advance ordering or reservation of materials and obtaining licenses and permits.
- (18) Preparing detailed operating, operation and maintenance manuals.
- (19) 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 advise 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.

- (20) The frequency and extent of site administration and inspections that are required relative to the norm: The frequency and duration of works inspections will depend on many factors, such as the nature, complexity and duration of the project, site location, project programme, contractor competence, important elements of the works being enclosed or covered etc. The norm is that meetings and inspections should occur at an average frequency of once every 2 weeks with more frequent occurrences during critical stages of the Works.
- (21) When the Works Contract is extended beyond the awarded contract period due to poor contractor performance or unforeseen circumstances, attendance at such meetings and related inspections may be considered as additional services.
- (22) Where more frequent inspections are required due to poor contractor performance or other extraneous factors these will normally be considered to be additional services.
- (23) Preparing as-built drawings on designs done by others or related to alterations to existing works.
- (24) Work and or services related to targeted procurement that could entail, but is not necessarily limited to any or all of the following:
 - incorporation of any targeted participation goals,
 - the measuring of key participation indicators,
 - the selection, appointment and administration of participation and;
 - auditing compliance to the above by any contractors and/or professional consultant.
- (25) Exceptional arrangements, communication, facilitation and agreements with any stakeholders other than the client and contractors appointed for the works on which the consulting engineer provides services.
- (26) Any other additional services, of whatever nature, specifically agreed to in writing between the consulting engineer and the client.

3.3.2 Construction Monitoring

- (1) If the construction monitoring, as set out in clause 3.2.5, is deemed to be insufficient by the parties, the **consulting engineer** may, with prior written approval having been obtained from the **client**, appoint or make available additional staff for such 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. In particular, such monitoring is required where designed elements are normally buried or covered or become inaccessible during the course of the Works.
- (2) Alternatively, the **client** may appoint or make available staff, as intended in clause (1), subject to approval by the **consulting engineer**.
- (3) Staff, as intended in clauses (1) and (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 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 engineer** shall provide additional services, including additional

site visits, as required and agreed to in writing with the **client** prior to commencement thereof.

- (6) The duties of the **consulting engineer** for the following four defined levels of construction monitoring, respectively, are as follows:

(a) Level 1:

The construction monitoring staff shall:-

- (i) Monitor the outputs from another party's quality assurance programme against the requirements of the plans and specifications.
- (ii) Visit the **works** at a frequency agreed with the **client** to review important materials, critical work procedures and/or completed elements or components.
- (iii) Be available to advise the **contractor** on the technical interpretation of the plans and specifications.

(b) Level 2:

The **construction monitoring** staff shall:-

- (i) Review, preferably at the earliest opportunity, a sample of each important –
Work procedure
Construction material
for compliance with the requirements of the plans and specifications and review representative samples of important completed work prior to enclosure or completion as appropriate.
- (ii) Visit the **works** at a frequency agreed with the **client** to review important materials, critical work procedures and/or completed elements or components.
- (iii) Be available to provide the **contractor** with technical interpretation of the plans and specifications.

(c) Level 3:

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) Be available to provide the **contractor** with technical interpretation of the plans and specifications.

(d) Level 4:

The **construction monitoring** staff shall:-

- (i) Maintain a full time presence on site to constantly review –
Work procedures
Construction materials
for compliance with the requirements of the plans and specifications and review completed work prior to enclosure or on completion and include in as-built records and drawings 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) 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 above Occupational Health and Safety Act 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 above Occupational Health and Safety Act.
- (2) The consulting engineer must execute the duties of the client, as his appointed agent, as contemplated in the Construction Regulations to the above Occupational Health and Safety Act.

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 contractors.