



STAATSKOERANT

VAN DIE REPUBLIEK VAN SUID-AFRIKA

REPUBLIC OF SOUTH AFRICA

GOVERNMENT GAZETTE

As 'n Nuusblad by die Poskantoor Geregistreer

PRYS 20c PRICE
OORSEE 30c OVERSEAS
POSVRY — POST FREE

Registered at the Post Office as a Newspaper.

VOL. 139]

PRETORIA, 28 JANUARIE 1977
28 JANUARY 1977

[No. 5390

ALGEMENE KENNISGEWING

KENNISGEWING 54 VAN 1977

BEOOGDE GELDE INGEVOLGE ARTIKEL 7 (3) (b) VAN DIE WET OP PROFESSIONELE INGENIEURS, 1968 (Wet 81 VAN 1968)

Kennisgewing geskied hiermee dat die S.A. Raad vir Professionele Ingenieurs van voorneme is om, kragtens die bevoegdheid hom verleen by artikel 7 (1) (k) van die Wet op Professionele Ingenieurs, 1968 (Wet 81 van 1968), by die Minister van Openbare Werke aan te beveel dat die gelde uiteengesit in die bygaande Skedule gehef word deur professionele ingenieurs vir werk deur hulle verrig in private professionele raadgewende praktyk.

Belanghebbende persone en instansies wat kommentaar wil lewer op, of beswaar wil maak teen, enige van die beoogde gelde, word genooi om hul kommentaar of besware skriftelik aanhangig te maak by die Registrateur, S.A. Raad vir Professionele Ingenieurs, Posbus 61081, Marshalltown, 2107 nie later nie as 31 Maart 1977.

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GENERAL NOTICE

NOTICE 54 OF 1977

PROPOSED FEES IN TERMS OF SECTION 7 (3) (b) OF THE PROFESSIONAL ENGINEERS' ACT, 1968 (ACT 81 OF 1968)

Notice is hereby given that, in terms of the powers vested in it by section 7 (1) (k) of the Professional Engineers' Act, 1968 (Act 81 of 1968), the S.A. Council for Professional Engineers intends recommending to the Minister of Public Works that the fees set out in the schedule hereto be chargeable by professional engineers for work performed by them in private professional consulting practice.

Interested persons and bodies who wish to comment on or object to any of the proposed fees are invited to submit their comments or objections, in writing, to the Registrars, S.A. Council for Professional Engineers, P.O. Box 61081, Marshalltown, 2107, not later than 31 March 1977.

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SKEDULE

1. ALGEMEEN.

1.1 'n Uitdrukking of woord waaraan in die Wet op Professionele Ingenieurs, 1968 (Wet 81 van 1968), 'n besondere betekenis geheg word, sal in hierdie skedule dieselfde betekenis hê, tensy dit strydig met die samehang is.

1.2 Tensy uit die samehang anders blyk, beteken in hierdie skedule—

1.2.1 "projek" 'n gebou of skema waarvoor 'n professionele ingenieur in sy geheel of gedeeltelik 'n opdrag ontvang het;

1.2.2 "werke" of "ingenieurswerke" daardie gedeelte van 'n projek waarvoor 'n professionele ingenieur verantwoordelik is;

1.2.3 "kliënt" enige persoon of regspersoon wat 'n professionele ingenieur in private professionele raadgevende praktyk die opdrag gee om ten behoeve van hom die dienste te verrig wat in artikels 2, 3 of 4 uiteengesit word;

1.2.4 "kontrakteurs" enige persoon of regspersoon onder kontrak by 'n kliënt om ingenieurswerke of 'n gedeelte daarvan te verrig, en dit sluit enige subkontrakteur in aan wie 'n gedeelte van die werke deur 'n kontrakteur uitbestee is;

1.2.5 "stadium" die verslagstadium, die voorlopige ontwerpstadium, die uitvoerige ontwerpstadium, of die konstruksiestadium van die dienste wat deur die professionele ingenieur verrig moet word, soos omskryf in subartikels 2.1.1, 3.1.1 en 4.1.1.

1.3 Die dienste waarvoor die gelde kragtens hierdie skedule gevra kan word, word omskryf—

1.3.1 in subartikel 2.1 ten opsigte van ingenieurswerk wat nie in verband staan met bouprojekte nie;

1.3.2 in subartikel 3.1 ten opsigte van strukturele en siviele ingenieurswerk wat in verband staan met bouprojekte;

1.3.3 in subartikel 4.1 ten opsigte van meganiese en elektriese ingenieurswerk wat in verband staan met bou-

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SCHEDULE

1. GENERAL.

1.1 In this schedule, unless inconsistent with the context, an expression or word to which a meaning has been assigned in the Professional Engineers' Act, 1968 (Act 81 of 1968), shall bear the same meaning.

1.2 In this schedule, unless the context otherwise indicates—

1.2.1 "project" means a building or scheme for all or part of which a professional engineer is commissioned;

1.2.2 "works" or "engineering works" means that part of a project for which a professional engineer is responsible;

1.2.3 "client" means any person or body corporate engaging a professional engineer in private professional consulting practice to perform on his behalf the services set forth in sections 2, 3 or 4;

1.2.4 "contractor" means any person or body corporate under contract to the client to perform engineering works or part thereof and includes any subcontractor to whom any part of the works has been sublet by a contractor;

1.2.5 "stage" means the report stage, the preliminary design stage, the detailed design stage, or the construction stage of the services to be performed by the professional engineer, as described in subsections 2.1.1, 3.1.1 and 4.1.1.

1.3 The services covered by the fees to be charged in terms of this schedule are set out—

1.3.1 in subsection 2.1, in respect of engineering work not pertaining to building projects;

1.3.2 in subsection 3.1, in respect of structural and civil engineering work pertaining to building projects; and

1.3.3 in subsection 4.1, in respect of mechanical and electrical engineering work pertaining to building pro-

1.4 Die gelde wat kragtens hierdie skedule gehef word, word bereken op die koste van die werke, soos neergelê in subartikels 2.2.3, 3.2.3 en 4.2.3.

1.5 Waar die werk van sodanige aard is dat 'n persentasiebasis of ander vasgestelde gelde nie toepaslik is nie, word die gelde op 'n tydbasis bereken teen die tariewe neergelê in subartikels 2.3.4, 3.3.4 en 4.3.4.

1.6 Die gelde neergelê in subartikels 2.3.1, 3.3.1 en 4.3.1 is van toepassing op werk van 'n normale aard en waar werk van sodanige aard is dat buitengewoon hoë eise gestel word aan die professionele ingenieur se tyd in verhouding tot die koste van die werke as gevolg van die toepassing van nuwe, ongewone of onbeproeft tegnieke, veranderings aan bestaande werke, invoeging van halfslyt toerusting, ingewikkelde beheerbane of -stelsels, of 'n buitengewone multiplisiteit van afsonderlike elemente wat elk 'n oorspronklike ontwerp vereis, word die gelde neergelê in subartikels 2.3.1, 3.3.1 en 4.3.1 of die gedeelte van sodanige gelde oorstemmend met die koste van sodanige gedeelte van die werke, na gelang van die geval, verhoog met die spesifieke persentasies neergelê in subartikels 2.3.2, 3.3.2 en 4.3.2, indien van toepassing, en in ander gevalle met sodanige persentasie as waartoe met die kliënt ooreengekom word: Met dien verstande, dat sodra dit vir die professionele ingenieur duidelik word, maar normaalweg nie later nie as die verslagstadium, dat die werke van so 'n aard is dat dit 'n verhoging in gelde, soos vermeld, regverdig, hy die kliënt dienooreenkomstig in kennis stel: Met dien verstande verder, dat indien dit redelikerwys eers in 'n latere stadium duidelik word dat die werke van 'n ongewone aard is, hy die kliënt sonder versuim daarvan in kennis moet stel, in welke geval daardie gedeelte van die werk wat reeds deur die professionele ingenieur voltooi is toe hy die kliënt aldus ingelig het, nie aan 'n verhoogde geld onderworpe sal wees nie behalwe waar die kliënt in eie diskresie anders besluit.

1.7 Die ondervermelde uitgawes aangegaan deur 'n professionele ingenieur in die uitvoering van sy opdrag word nie voor voorsien in of gedek deur die gelde wat ingevolge hierdie Skedule vorderbaar is nie. Hierdie uitgawes is verhaalbaar en moet aan die professionele ingenieur terugbetaal word bo en behalwe die voormelde gelde:

1.7.1 Drukwerk, afrolwerk en/of verkryging van alle dokumente, rekords, tekeninge en landkaarte.

1.7.2 Regs-, argiteks- of ander deskundige advies namens die kliënt en met sy toestemming verkry.

1.7.3 Opmetings van enige aard, proeftoetse, ontledings, terrein-, fondament- of spesiale ondersoeke, of laboratoriumtoetse namens die kliënt uitgevoer.

1.7.4 Kabelgramme, telegramme, telekskoste, posgeld vir tekeninge en dokumente, oorsese posgeld en telefoonoproep, behalwe plaaslike oproepe.

1.7.5 Reiskoste aangegaan deur die professionele ingenieur en sy personeel in die uitvoering van hul pligte—

1.7.5.1 vir die vervoer van die professionele ingenieur en/of sy personeel, uitgesonderd terreinpersoneel, deur middel van—

1.7.5.1.1 private motorvervoer: Vir retoerritte van nie minder nie as 50 km, die hele afstand afgelê teen die tarief per km van toepassing op die grootte motor, soos van tyd tot tyd deur die Departement van Vervoer neergelê.

1.7.5.1.2 geskeduleerde vlugte, trein, bus, huurmotor of gehuurde motor: Die werklike koste plus versekering.

1.7.5.1.3 nie-geskeduleerde of private lugvervoer: Die werklike koste plus versekering.

1.7.5.2 vir die vervoer van alle terreinpersoneel op of om die werkterrein deur middel van private motor-

1.4 The fees chargeable in terms of this schedule shall be calculated on the cost of the work as defined in sub sections 2.2.3, 3.2.3 and 4.2.3.

1.5 Where the work is of such a nature that percentage or other stated fees are inappropriate the fee shall be calculated on a time basis at the rates set out in subsections 2.3.4, 3.3.4 and 4.3.4.

1.6 The fees stated in subsections 2.3.1, 3.3.1 and 4.3.1 apply to work of normal character and where the work is of such a nature that demands on the time of the professional engineer are unusually high in relation to the cost of the works by virtue of causes such as the application of new, unusual or untried techniques, alterations to existing works, incorporation of second-hand plant, complex control circuits or systems, or excessive multiplicity of individual elements each requiring original design, the fees stated in subsections 2.3.1, 3.3.1 and 4.3.1 or the portion of such fee corresponding to the cost of such part of the works as the case may be, shall be increased by the specific percentages stated in subsection 2.3.2 and 3.3.2 and 4.3.2 if applicable and in other cases by such percentage as may be agreed with the client: Provided that the professional engineer shall, as soon as it becomes evident to him, and in any event ordinarily not later than at completion of the report stage, inform the client that he considers that the works are of such a nature as to warrant an increase of fees as aforesaid: Provided further that if it could reasonably only have become evident at a later stage that the works were of unusual character, he shall inform the client without delay, in which case such portion of the services of the professional engineer as he had already completed when he so informed the client shall not be subject to an increased fee unless the client in his discretion decides otherwise.

1.7 The following costs incurred by a professional engineer in the execution of his commission are not provided for or covered by the fees chargeable in terms of this schedule. These costs are of a reimbursive nature and refundable to the professional engineer over and above the aforementioned fees:

1.7.1 Printing, copying and/or acquisition of all documents, records, drawings or maps.

1.7.2 Legal, architectural or other specialist advice obtained on behalf of the client with his consent.

1.7.3 Surveys of any kind, model tests, analyses, site or foundation or special investigations or laboratory tests carried out on behalf of the client.

1.7.4 Cablegrams, telegrams, telex charges, postage on drawings and documents, overseas postage and telephone calls other than local calls.

1.7.5 Travelling expenses incurred by the professional engineer and his staff in performing their services:

1.7.5.1 For the conveyance of the professional engineer and/or members of his staff excluding site staff by means of—

1.7.5.1.1 Private motor transport: for journeys of not less than 50 km (round trip), for the total distance travelled at the rate per km applicable to the class of vehicle published from time to time by the Department of Transport;

1.7.5.1.2 scheduled air lines, train, bus, taxi or hired car: The actual cost plus insurance;

1.7.5.1.3 non-scheduled or privately-owned air transport: The actual cost plus insurance.

1.7.5.2 For the conveyance of all site staff on or about the site of works by means of private motor transport:

van toepassing op die grootte motor, soos van tyd tot tyd deur die Departement van Vervoer neergelê, plus 'n toeslag van 20 persent op voormelde tarief per km.

1.7.6. Onderhoudstoelae ter vergoeding vir uitgawes aan huisvesting en onderhoud wat redelikerwys en behoorlik deur die professionele ingenieur en/of lede van sy personeel aangegaan is.

1.7.7 Adverteer van tenders en vir terreinpersoneel.

1.7.8 Spesiale versekering met kliënt se goedkeuring uitgeneem.

1.7.9 Koste met rekenoutomaat aangegaan waar gelde op 'n tydbasis bereken word.

1.7.10 Koste in verband met nagaan, inspeksie, aansoek- en ander formele heffings opgelê deur bevoegde owerhede.

1.7.11 Koste verbonde aan die indiensneming van terreinpersoneel aangestel kragtens subartikels 2.1.3, 3.1.3 en 4.1.3, wat bereken word op die netto maandelikse salaris van sodanige terreinpersoneel, insluitende bonus ingevolge dienskontrak en gebiedstoelae, waar van toepassing, plus 50 persent van die netto maandelikse salaris, plus verhaalbare uitgawes, insluitende advertensiekoste vir terreinpersoneel namens die kliënt aangegaan, plus reiskoste en verhuisingskoste na en van die werkterrein by die aanvang en beëindiging van aanstelling.

2. INGENIEURSWERK WAT NIE MET BOUPROJEKTE IN VERBAND STAAN NIE.

2.1 WERK DEUR DIE PROFESSIONELE INGENIEUR VERRIG TE WORD.

2.1.1 NORMALE DIENSTE.

Die dienste wat normaalweg deur die professionele ingenieur verrig word, behels die volgende:

2.1.1.1 VERSLAGSTADIUM.

Die opstel en voorlegging van 'n verslag met voorlopige voorstelle of gangbaarheidstudies en kostebereamings vir oorweging deur die kliënt en, indien nodig, met inbegrip van—

2.1.1.1.1 samesprekings met die kliënt en/of sy gemagtigde verteenwoordiger;

2.1.1.1.2 besigtiging van die terrein van die werke;

2.1.1.1.3 voorlopige ondersoek, roetebepaling, -beplanning en -ontwerp waar enige hiervan nodig is om die gangbaarheid te bepaal;

2.1.1.1.4 samesprekings met owerhede wat oor beslissingsregte of -magte beskik;

2.1.1.1.5 raad aan die kliënt oor die noodsaaklikheid vir opmetings van enige aard, ontledings, toetse en/of terrein- of ander ondersoeke waar nodig vir afhandeling van die verslag, en die tref van reëlins om dit op koste van die kliënt uit te voer;

2.1.1.1.6 ontleding en vergelyking van gegewens, tekeninge en planne wat op die werke betrekking het;

2.1.1.1.7 indien nodig, ondersoeke na die geldelike implikasies van die voorstelle.

2.1.1.2 VOORLOPIGE ONTWERPSTADIUM.

In opvolging van die kliënt se opdragte om voort te gaan, die ontwikkeling van die voorlopige voorstelle of die basiese beplanning van die werke, soos deur die kliënt verlang en, indien nodig, met inbegrip van—

2.1.1.2.1 voorlegging van 'n basiese beplanningsverslag, indien deur die kliënt verlang;

2.1.1.2.2 raad aan die kliënt oor die noodsaaklikheid vir verdere opmetings van enige aard, ontledings, toetse en/of terrein- of ander ondersoeke waar nodig, en die tref van reëlins om dit op die koste van die kliënt

the rate per km applicable to the class of vehicle published from time to time by the Department of Transport plus a surcharge of 20 per cent of the above rate per km.

1.7.6 Subsistence allowances to cover accommodation and subsistence expenses reasonably and properly incurred by the professional engineer and/or members of his staff.

1.7.7 Advertising for tenders and for resident staff.

1.7.8 Special insurance taken out with the client's consent.

1.7.9 Computer costs incurred where fees are charged on a time basis.

1.7.10 Scrutiny, inspection, application and other formal charges raised by competent authorities.

1.7.11 The cost of employing resident staff appointed in terms of subsections 2.1.3, 3.1.3 and 4.1.3, which shall be calculated on the nett monthly salary of such resident staff, inclusive of bonus in accordance with service agreement and area allowance, where applicable, plus 50 per cent of the nett monthly salary plus refundable disbursements, including advertising for resident staff on behalf of the client, plus the cost of travelling and removals to and from the site of the works at the commencement and termination of appointment.

2. ENGINEERING WORK NOT PERTAINING TO BUILDING PROJECTS.

2.1 SERVICES TO BE PERFORMED BY A PROFESSIONAL ENGINEER.

2.1.1 NORMAL SERVICES.

The normal service to be performed by a professional engineer are:

2.1.1.1 REPORT STAGE.

The preparation and submission of a report embodying preliminary proposals or feasibility studies and estimates of cost for consideration by the client, including as may be necessary:

2.1.1.1.1 Consultation with the client and/or his authorised representatives.

2.1.1.1.2 Inspection of the site of the works.

2.1.1.1.3 Preliminary investigation, route location, planning and design where any of these are required for determination of feasibility.

2.1.1.1.4 Consultation with authorities having rights or powers of sanction.

2.1.1.1.5 Advising the client as to the need for surveys of any kind, analyses, tests and/or site or other investigations where such are required for the completion of the report and arranging for these to be carried out at the client's expense.

2.1.1.1.6 Investigation and collation of available data, drawings and plans relating to the works.

2.1.1.1.7 Investigations, as may be required, of financial implications in relation to the proposals.

2.1.1.2 PRELIMINARY DESIGN STAGE.

Following the client's instruction to proceed, the development of the preliminary proposals, or the basic planning of the works, as may be required by the client, including as may be necessary:

2.1.1.2.1 Submission of a basic planning report if required by the client.

2.1.1.2.2 Advising the client as to the need for any further surveys of any kind, analyses, tests and/or site or other investigations which may be required, and arranging for these to be carried out at the client's expense.

2.1.1.2.3 raad aan die kliënt, indien nodig, oor die aanstelling en die omskrywing van die dienste van ander professionele ingenieurs, argitekte en deskundige raadgevers; en die tref van reëlins vir sodanige aanstellings en samesprekings met sodanige raadgevers oor sake rakende die werke;

2.1.1.2.4 die ontwerp van enige proses of stelsel of afronding van die voorlopige prosesontwerp waar sodanige prosesontwerp 'n voorvereiste is vir die ontwerp van die werke;

2.1.1.2.5 voorbereiding van die voorlopige planne, tekeninge en beramings wat nodig is vir die goedkeuring deur statutêre owerhede;

2.1.1.2.6 samesprekings oor tegniese sake met owerhede en belanghebbende instansies, behalwe diegene met beslissingsregte of -magte;

2.1.1.2.7 aanbring van wysigings aan die voorlopige ontwerp van die werk voortspruitende uit of wat verband hou met die samesprekings vernoemd.

2.1.1.3 GEDETAILEERDE ONTWERPSTADIUM.

Die opstel van alle dokumente wat nodig is om tenders vir die werke in te win of op 'n ander wyse deur die kliënt uitbestede te word en, indien nodig, met inbegrip van—

2.1.1.3.1 raad aan die kliënt oor die noodsaaklikheid vir die uitsetting of die afbakening van die werke, en die tref van reëlins om dit op die kliënt se koste te laat doen;

2.1.1.3.2 opstel van ontwerpe, tekeninge, spesifikasies en hoeveelheidslyste vir ingenieurswerk;

2.1.1.3.3 opstel en wysiging van tenderadvertensies, tendervoorwaardes, tendervorms en kontrakvoorwaardes;

2.1.1.3.4 ontleiding van tenders en voorlegging van aanbevelings by die aanvaarding van tenders en kosteberamings van die werke.

2.1.1.4 KONSTRUKSIESTADIUM.

Die algemene administrasie van en ander dienste in verband met die uitvoering van die werke en, indien nodig, met inbegrip van—

2.1.1.4.1 plasing van bestellings vir die werke namens die kliënt;

2.1.1.4.2 raad aan die kliënt oor die opstel van die kontrakdokumente, of voorbereiding van die kontrakdokumente;

2.1.1.4.3 raad aan die kliënt oor die aanstelling van terreinpersoneel kragtens subartikel 2.1.3;

2.1.1.4.4 opstel van enige ander planne, ontwerpe en tekeninge, uitgesonderd werkwinkeltekeninge, wat vir die uitvoering van die werke nodig mag wees. Dit sluit in buigskedules in die geval van gewapende betonwerk;

2.1.1.4.5 nagaan van die kontrakteurs se tekeninge ten opsigte van strukture, masjinerie, toerusting en stelsels vir die permanente werke om te voldoen aan die ontwerpvereistes, maar uitgesonderd die uitvoerige nagaan van vervaardiging en besonderhede van installering met die oog op oprigtingsjuistheid;

2.1.1.4.6 raad aan die kliënt oor alternatiewe ontwerpe en tenders, maar uitgesonderd die uitvoerige bestudering, hersiening en/of die nagaan van alternatiewe ontwerpe en/of tekeninge wat nie deur die professionele ingenieur opgestel is nie, maar deur 'n kontrakteur of voornemende kontrakteur voorgelê is;

2.1.1.4.7 die uitreik van opdragte aan kontrakteurs, die koördinering en algemene inspeksie van hoe die werk uitgevoer word, met sodanige tussenposes as wat die professionele ingenieur nodig ag, maar uitgesonderd toesig en daaglikse uitvoerige inspeksie van die werke en terreinadministrasie waarvoor in subartikel 2.1.3 voorsiening gemaak word.

2.1.1.2.3 Advising the client, as may be necessary, upon the appointment and delineation of the services of other professional engineers, architects and specialist advisers, arranging such appointments and consultation with such advisers in matters affecting the works.

2.1.1.2.4 Design of any process or system or refinement of the preliminary process design, where such process design is a prerequisite to the design of the works.

2.1.1.2.5 Preparation of preliminary plans, drawings and estimates required for seeking approval of statutory authorities.

2.1.1.2.6 Consultation on technical matters with authorities and interested parties other than those having rights or powers of sanction.

2.1.1.2.7 Making modifications to the preliminary design of the works dictated by or in connection with the consultations aforesaid.

2.1.1.3 DETAILED DESIGN STAGE.

The preparation of all documents necessary to enable the works to be tendered for or otherwise placed by the client, including as may be necessary:

2.1.1.3.1 Advising the client as to the necessity for setting out or staking out the works and arranging for such to be carried out at the client's expense.

2.1.1.3.2 Preparation of designs, drawings, specifications and engineering schedules of quantities.

2.1.1.3.3 Drafting or adapting invitations to tender, tender conditions, forms of tender and conditions of contract.

2.1.1.3.4 Analyses of tenders and submission of recommendations on the acceptance of tenders and estimates of the cost of the works.

2.1.1.4 CONSTRUCTION STAGE.

The general administration and other services in connection with the carrying out of the works, including as may be necessary:

2.1.1.4.1 Placing orders for the works on behalf of the client.

2.1.1.4.2 Advising the client as to the preparation of the contract documents, or preparation of the contract documents.

2.1.1.4.3 Advising the client as to the appointment of site staff in accordance with subsection 2.1.3.

2.1.1.4.4 Preparation of any further plans, designs and drawings, excluding shop details, which may be necessary for the carrying out of the works. This is to include bending schedules in the case of reinforced concrete work.

2.1.1.4.5 Checking contractors' drawings of structures, plant, equipment and systems for the permanent works for conformity with design requirements but excluding detailed checking of manufacture and installation details for erection fit.

2.1.1.4.6 Advising the client on alternative designs and tenders but excluding detailed inspection, reviewing and/or checking of alternative designs and/or drawings not prepared by the professional engineer and submitted by any contractor or potential contractor.

2.1.1.4.7 Issuing instructions to contractors, co-ordinating and generally inspecting the execution of the works at such intervals as the professional engineer may deem necessary but excluding supervision, detailed and day-to-day inspection of the works and site administration as

2.1.1.4.8 die uitreik van betaalsertifikate aan kontrakteurs en reëling van finale hoeveelhede met kontrakteurs waar terreinpersoneel aangestel is, maar uitgesonderd opmetings op die terrein;

2.1.1.4.9 beslegting van geskille of verskille wat tussen die kliënt en kontrakteurs mag ontstaan, maar uitgesonderd regsgedinge en arbitrasie;

2.1.1.4.10 uitreik van wysigingsopdragte;

2.1.1.4.11 raad aan die kliënt oor die inspeksie en toets van sodanige materiaal en toerusting wat normaalweg nagegaan en getoets word, en die tref van reëlins vir sodanige inspeksie en toetsing om op die kliënt se koste uitgevoer te word;

2.1.1.4.12 tref van reëlins vir die uitvoer van en die bywoning van bedryfs- of aanvaardingstoetse op die terrein;

2.1.1.4.13 tref van reëlins namens die kliënt vir die verskaffing en reproduksie van sodanige tekeninge en dokumente wat deur die kontrakteurs en terreinpersoneel benodig mag word vir die uitvoering van die werke;

2.1.1.4.14 tref van reëlins om die kliënt, na voltooiing van die werke, van sodanige rekordtekeninge en handleidings te voorsien as wat vir die bedryf en instandhouding van die werke nodig mag wees.

2.1.2 BYKOMENDE DIENSTE.

Werk in verband met onderstaande items is bykomend tot die normale dienste van die professionele ingenieur wat die kliënt moet inlig oor die noodsaaklikheid dat sodanige werk verrig word.

2.1.2.1. LEIER VAN DIE PROFESSIONELE SPAN.

As die kliënt verlang dat die professionele ingenieur as leier van die professionele span van ander professionele ingenieurs, argitekte en/of tegniese raadgewers moet optree, omvat die bykomende dienste die volgende:

2.1.2.1.1. Verantwoordelikheid vir die algehele administrasie van daardie afdelings van die projek wat binne die bestek van die ander professionele raadgewers val.

2.1.2.1.2 Verantwoordelikheid vir al die koördinering, programmering van die ontwerp en finansiële beheer van die projek.

2.1.2.1.3 Goedkeuring van betaalsertifikate aan kontrakteurs wat deur ander professionele raadgewers uitgereik is voordat dit vir betaling aan die kliënt voorgelê word.

2.1.2.2 REGSGEDINGE EN SOORTGELYKE DIENSTE.

Indien die kliënt die volgende pligte aan die professionele ingenieur opdra, moet die betrokke partye tot 'n ooreenkoms geraak oor die omvang daarvan:

2.1.2.2.1 Hantering van waterhofaangeleenthede, sake rakende die Waterwet, of parlementêre goedkeuring, of die verkryging van statutêre magte, lisensies of permitte.

2.1.2.2.2 Bystand met voorgenome of werklike regsgedinge of arbitrasieverrigtinge.

2.1.2.2.3 Voorsit by of bywoning van geregshowe en kommissies van ondersoek, gekose komitees en soortgelyke liggame wat kragtens wet, regulasie of verordening ingestel is.

2.1.2.3 DIVERSE BYKOMENDE DIENSTE.

2.1.2.3.1 Departementele ondersoeke wat nie regstreeks verband hou met die ontwerp, dokumentering en inspeksie van die uitvoering van die werke nie.

2.1.2.3.2 Die pryswaardering vir die aankoop, verkoop of die huur van masjinerie, toerusting, materiaal, stelsels, grond of geboue of om vir sodanige pryswaardering te

2.1.1.4.8 Issuing certificates for payment to contractors and agreeing final quantities with contractors where resident staff is engaged, but excluding measurements on site.

2.1.1.4.9 Deciding on disputes or differences that may arise between the client and contractors, excepting litigation and arbitration.

2.1.1.4.10 Issuing variation orders.

2.1.1.4.11 Advising the client regarding the inspection and testing of such materials and plant as are usually inspected and tested and arranging for such inspection and testing to be carried out at the client's expense.

2.1.1.4.12 Arranging for the carrying out and for the witnessing of performance or acceptance tests at site.

2.1.1.4.13 Making arrangements on behalf of the client for the provision and reproduction of such drawings and documents as may be required by contractors and resident staff for the performance of the works.

2.1.1.4.14 Making arrangements to provide the client, on completion of the works, with such record drawings and manuals as may be required for the operation and maintenance of the works.

2.1.2 ADDITIONAL SERVICES.

Work in connection with the items listed hereunder is additional to the normal services of the professional engineer who will advise the client as to the necessity for such work to be carried out.

2.1.2.1 LEADER OF THE PROFESSIONAL TEAM.

Should the client require the professional engineer to assume the leadership of the team of other professional engineers, architects and/or technical advisers, the additional services shall include the following:

2.1.2.1.1 Responsibility for the overall administration of those sections of the project which fall within the ambit of the other professional advisers.

2.1.2.1.2 Responsibility for the overall co-ordination, programming of design and financial control of the project.

2.1.2.1.3 Approval of certificates of payment to contractors issued by the other professional advisers prior to their presentation to the client for settlement.

2.1.2.2 LITIGATION PROCEEDINGS AND SIMILAR SERVICES.

When the client instructs the professional engineer to undertake the services listed hereunder, the extent thereof shall be subject to agreement between the two parties.

2.1.2.2.1 Dealing with Water Court matters, Water Law matters or Parliamentary approval or obtaining of statutory powers, licences or permits.

2.1.2.2.2 Assisting with contemplated or actual litigation or arbitration proceedings.

2.1.2.2.3 Officiating at or attending courts and Commissions of Enquiry, Select Committees and similar bodies convened by statute, regulation or decree.

2.1.2.3 DIVERSE ADDITIONAL SERVICES.

2.1.2.3.1 Departmental enquiries not directly concerned with the design, documentation and inspection of the execution of the works.

2.1.2.3.2 Valuation for purchase, sale or leasing of plant, equipment, material, systems, land or building or arrang-

2.1.2.3.3 Die tref van reëlins vir deurgangsregte of servitude.

2.1.2.3.4 Onderhandelings oor en/of die tref van reëlins vir die verskaffing of verskuiwing van utiliteitsdienste wat nie deel van die werke is nie.

2.1.2.3.5 Aanbring van sodanige aanpassings as wat nodig mag wees vir die verkryging van die formele toestemming van die betrokke staatsdepartemente of openbare owerhede voortspruitend uit besluite van sodanige departemente of owerhede as gevolg van beleidsveranderinge, of uit ander oorsake buite die beheer van die professionele ingenieur.

2.1.2.3.6 Opnames van enige soort, ontledings, toetse of ondersoek deur of gereël deur die professionele ingenieur ingevolge subartikels 2.1.1.1.5, 2.1.1.2.2 en 2.1.1.4.11.

2.1.2.3.7 Uitsetting of afbakening van die werke ingevolge subartikel 2.1.1.3.1.

2.1.2.3.8 Opstel en uitvoerige nagaan van vervaardiging en installeringsvoorskrifte met die oog op oprigtingsjuistheid.

2.1.2.3.9 Uitvoerige bestudering, hersiening en/of nagaan van ontwerpe en/of tekeninge wat nie deur die professionele ingenieur opgestel is nie, maar deur 'n kontrakteur of voornemende kontrakteur voorgelê is as alternatief vir dié wat by die tender ingesluit is of soortgelyke dokumente wat deur die professionele ingenieur opgestel is.

2.1.2.3.10 Voorbereiding en omskrywing van besonderhede en/of berekeninge op 'n wyse wat deur enige aangewese owerheid verlang word.

2.1.2.3.11 Werk wat sou ontstaan indien 'n kontrakteur in gebreke sou bly om sy kontrak te voltooi.

2.1.2.3.12 Werk deur 'n professionele ingenieur verrig wat gebruiklik of kontraktueel die verantwoordelikheid van die kontrakteur is, waar die kontrakteur in gebreke gebly het om gebruiklike of kontraktuele verpligtings na te kom of vanweë spesiale kontraktuele voorwaardes wat die kontrakteur onthef van gebruiklike verantwoordelikhede.

2.1.2.3.13 Inspeksie van die werke en administrasie van kontrakte vir bykomende tydperke waar die kontrakteur nie sy kontrak binne die vasgestelde tyd voltooi nie.

2.1.2.3.14 Uitvoering van of die tref van reëlins vir periodieke kontrolering en aanpassing van die werke om behoorlike funksionering van enige proses of stelsel te verseker of vol te hou.

2.1.2.3.15 Ondersoek in te stel na en verslag te doen oor tariewe of vorderings wat deur die kliënt gehef kan word.

2.1.2.3.16 Vooruitbestel of reservering van materiaal, die verkryging van lisensies en permitte en die voorlegging van feitelike arbeids- en materiaalopgawes, ensomeer.

2.1.2.3.17 Inspeksie en toets (uitgesonderd die op die terrein) van materiaal en masjinerie, met inbegrip van inspeksie en werkttoetsing gedurende en na vervaardiging.

2.1.2.3.18 Bykomende dienste soos vervat in—

subartikel 2.2.1.4—nie aangestelde terreinpersoneel;

subartikel 2.2.5—skade aan of vernietiging van die werke;

subartikel 2.2.6—uitstel, kansellering, vermindering of verlating van die werke;

subartikel 2.2.7—veranderinge aan of modifikasies van ontwerp.

2.1.2.3.19 Enige ander dienste wat nie spesifiek omskryf is nie.

2.1.2.3.3 Making arrangements for wayleaves or servitudes.

2.1.2.3.4 Negotiating and/or arranging for the provision or diversion of utility services not forming part of the works.

2.1.2.3.5 Making such revisions as may be required to obtain the formal approval of the appropriate Government Departments or Public Authorities, resulting from decisions of such departments or authorities arising out of changes in policy and other causes beyond the professional engineer's control.

2.1.2.3.6 Surveys of any kind, analyses, tests or investigations by or arranged by the professional engineer in accordance with subsections 2.1.1.1.5, 2.1.1.2.2 and 2.1.1.4.11.

2.1.2.3.7 Setting out or staking out the works in accordance with subsection 2.1.1.3.1.

2.1.2.3.8 Preparation or detailed checking of manufacture and installation details for erection fit.

2.1.2.3.9 Detailed inspection, reviewing and/or checking of designs and/or drawings not prepared by the professional engineer and submitted by any contractor or potential contractor as alternative to those embodied in tender or similar documents prepared by the professional engineer.

2.1.2.3.10 Preparing and setting out particulars and/or calculations in a form required by any appropriate authority.

2.1.2.3.11 Work arising from the failure of any contractor to perform his contract.

2.1.2.3.12 Work done by the professional engineer which it is customarily or contractually incumbent upon the contractor to perform, whether by virtue of special contractual provisions relieving the contractor of customary obligations or in consequence of the contractor's failure to meet customary or contractual obligations.

2.1.2.3.13 Inspection of the works and administration of contracts for additional periods of time in consequence of any contractor failing to complete his contract within the stipulated time.

2.1.2.3.14 Executing or arranging for the periodic monitoring and adjustment of the works in order to establish or maintain proper functioning of any process or system.

2.1.2.3.15 Investigating or reporting upon tariffs or changes leviable by the client.

2.1.2.3.16 Advance ordering or reservation of materials, the obtaining of licences and permits and the submission of actual labour and material returns, etc.

2.1.2.3.17 Inspection and testing (other than on site) of materials and plant, including inspection and works testing during and after manufacture.

2.1.2.3.18 Additional services as defined in—

subsection 2.2.1.4—resident staff not appointed;

subsection 2.2.5—damage or destruction of the works;

subsection 2.2.6—postponement, cancellation, reduction or abandonment of the works;

subsection 2.2.7—alterations or modifications to design.

2.1.3 ADMINISTRASIE EN TERREININSPEKSIE.

Die professionele ingenieur belas met die dienste omskryf in subartikel 2.1.1.4 moet, indien verlang, die nodige en bevoegde terreinpersoneel aanstel vir die doeltreffende kontrolering van die uiteensetting, die daaglikse administrasie en inspeksie van die werke, die opmeet van die werk op die terrein en om met die kontrakteur se verteenwoordigers oor hoeveelhede ooreen te kom.

2.2 VERGOEDING EN BASIS VAN BETALING VAN DIE PROFESSIONELE INGENIEUR VIR INGENIEURSWERK WAT NIE MET BOUPROJEKTE IN VERBAND STAAN NIE.**2.2.1 VERGOEDING.****2.2.1.1 NORMALE DIENSTE.**

Die professionele ingenieur word as volg vergoed vir die gewone dienste wat hy ingevolge subartikel 2.1.1 lewer:

2.2.1.1.1 VERSLAGSTADIUM: SUBARTIKEL 2.1.1.1.

Die gelde word op 'n tydbasis bereken teen die tariewe in subartikel 2.3.4 vervat, en word aan die professionele ingenieur betaalbaar, tensy anders ooreengekom, wanneer die voorlopige voorstelle of gangbaarheidstudies aan die kliënt voorgelê word.

2.2.1.1.2 SUBARTIKELS 2.1.1.2, 2.1.1.3 EN 2.1.1.4.

Die gelde word bereken op die basis en wyse soos in subartikels 2.3.1 en 2.3.2 uiteengesit en word, tensy anders ooreengekom, soos volg aan die professionele ingenieur betaalbaar; met dien verstande dat waar slegs 'n gedeeltelike diens benodig word, die gedeeltelike gelde bereken word soos in subartikel 2.2.1.1.3 uiteengesit:

2.2.1.1.2.1 VOORLOPIGE ONTWERPSTADIUM: SUBARTIKEL 2.1.1.2.

Twintig persent van die geld wanneer die ontwikkelde voorstelle vir die aanlê van die werke voorberei en aan die kliënt voorgelê is; onderworpe daaraan dat die professionele ingenieur 'n gepaste toelating maak vir die waarde van sodanige ontwerpwerk verbonde aan die aanvaarde voorstelle en uitgevoer ingevolge subartikel 2.1.1.1, en wat gebruik kan word of is in die ontwikkeling van die voorlopige voorstelle.

2.2.1.1.2.2 GEDETAILLEERDE ONTWERPSTADIUM: SUBARTIKEL 2.1.1.3.

'n Verdere 40 persent van die gelde wanneer die tekeninge en ander dokumente wat nodig is om die werke op tender uit te bestee, of om deur die kliënt andersins geplaas te word, voltooi en aan die kliënt voorgelê is; met dien verstande dat waar die professionele ingenieur sodanige tekeninge en dokumente as deel van die ontwikkeling van sy voorlopige voorstelle opgestel het, die gelde ingevolge subartikel 2.2.1.1.2.1 tot 50 persent verhoog en die gelde ingevolge subartikel 2.2.1.1.2.2 tot 10 persent verminder word.

2.2.1.1.2.3 KONSTRUKSIESTADIUM: SUBARTIKEL 2.1.1.4.**(a) SIVIEL EN STRUKTUREEL.**

'n Verdere 15 persent (of pro rata) van die gelde by voltooiing van gedetailleerde tekeninge: Met dien verstande dat waar die professionele ingenieur alle of sommige van sodanige gedetailleerde tekeninge as deel van die tenderdokumente, of voordat die werk uitbestee is, opgestel het, die hele of toepaslike gedeelte van die gelde, na gelang van die geval, ingevolge subartikel 2.2.1.1.2.3 gevoeg word by die gelde betaalbaar ingevolge subartikel 2.2.1.1.2.2 en afgetrek word van die gelde ingevolge subartikel 2.2.1.1.2.3 betaal. Die restant van 25 persent van die gelde na gelang die konstruksie- en/of die installeringswerk vorder in

2.1.3 ADMINISTRATION AND INSPECTION ON SITE.

The professional engineer charged with the services in subsection 2.1.1.4 shall, if required, appoint such competent resident staff as is necessary for the efficient checking of setting out, day-to-day administration and inspection of construction of the works, measuring up of work on site and agreeing quantities with contractors' representatives.

2.2 REMUNERATION AND BASIS OF PAYMENT OF THE PROFESSIONAL ENGINEER IN RESPECT OF ENGINEERING WORK NOT PERTAINING TO BUILDING PROJECTS.**2.2.1 REMUNERATION.****2.2.1.1 NORMAL SERVICES.**

The remuneration of the professional engineer for the normal services performed by him under subsection 2.1.1 shall be as follows:

2.2.1.1.1 REPORT STAGE: SUBSECTION 2.1.1.1.

Fees shall be calculated on a time basis at the rates set out in subsection 2.3.4 and shall become due to the professional engineer, unless otherwise agreed, on the submission of the preliminary proposals or feasibility studies to the client.

2.2.1.1.2 SUBSECTIONS 2.1.1.2, 2.1.1.3 AND 2.1.1.4.

Fees shall be calculated on the basis and in the manner set out in subsections 2.3.1 and 2.3.2 and shall become due to the professional engineer, unless otherwise agreed, as follows, provided that when partial services only are required the partial fee shall be as set out in subsection 2.2.1.1.3:

2.2.1.1.2.1 PRELIMINARY DESIGN STAGE: SUBSECTION 2.1.1.2.

Twenty per cent of the fee when the developed proposals for the construction of the works have been prepared and submitted to the client, subject to the professional engineer allowing an appropriate credit for the value of such design work related to the accepted proposals and carried out under subsection 2.1.1.1 as can be or is utilised in the development of the preliminary proposals.

2.2.1.1.2.2 DETAILED DESIGN STAGE: SUBSECTION 2.1.1.3.

A further 40 per cent of the fee when the drawings and other documents necessary to enable the works to be tendered for or otherwise placed by the client have been prepared and submitted to the client, provided that if the professional engineer shall have prepared such drawings and documents as part of the development of the preliminary proposals, the fee under subsection 2.2.1.1.2.1 shall be increased to 50 per cent and the fee under subsection 2.2.1.1.2.2 shall be reduced to 10 per cent.

2.2.1.1.2.3 CONSTRUCTION STAGE: SUBSECTION 2.1.1.4.**(a) CIVIL AND STRUCTURAL.**

A further 15 per cent (or pro rata) of the fee on completion of detailed drawings, provided that if the professional engineer has prepared all or some such detailed drawings as part of the tender documents or prior to the placing of the works then all or the appropriate portion of the fee, as may be applicable under subsection 2.2.1.1.2.3, shall be added to the fee under subsection 2.2.1.1.2.2 and deducted from the fee under subsection 2.2.1.1.2.3. The remaining 25 per cent of the fee as and when the construction and/or installation work proceeds in proportion to the cost of work done.

(b) MEGANIES EN ELEKTRIES.

Die restant van 40 persent van die gelde na gelang die konstruksie- en/of installeringswerk vorder in verhouding tot die koste van die werk verrig.

2.2.1.1.3 GEDEELTELIKE DIENSTE.

Indien van die professionele ingenieur verlang word om slegs 'n gedeelte van die dienste genoem in subartikels 2.1.1.2, 2.1.1.3 en 2.1.1.4 te verrig, word die gelde soos volg toegeedeel:

2.2.1.1.3.1 Slegs voorlopige ontwerpstadium—30 persent van die gelde; onderworpe aan 'n toepaslike krediet soos in subartikel 2.2.1.1.2.1 genoem.

2.2.1.1.3.2 Slegs voorlopige ontwerp- en gedetailleerde ontwerpstadium:

(a) Siviël en struktureel, uitgesonderd die voltooiing van uitvoerige tekeninge: 70 persent van die gelde, onderworpe aan 'n toepaslike krediet soos in subartikel 2.2.1.1.2.1 genoem.

(b) Siviël en struktureel met inbegrip van die voltooiing van gedetailleerde tekeninge: 85 persent van die gelde, onderworpe aan 'n toepaslike krediet soos in subartikel 2.2.1.1.2.1 genoem.

(c) Meganies en elektries: 70 persent van die gelde onderworpe aan 'n toepaslike krediet soos in subartikel 2.2.1.1.2.1 genoem.

2.2.1.1.3.3 Slegs konstruksiestadium, maar uitgesonderd die voltooiing van gedetailleerde tekeninge:

(a) Siviël en struktureel: 35 persent van die gelde.

(b) Meganies en elektries: 50 persent van die gelde.

2.2.1.2 BYKOMENDE DIENSTE.

Die gelde vir bykomende dienste verrig ingevolge subartikel 2.1.2 is soos volg:

2.2.1.2.1 LEIER VAN DIE PROFESSIONELE SPAN.

Die gelde vir die bykomende dienste van die professionele ingenieur as leier van die professionele span ingevolge subartikel 2.1.2.1 is dié vervat in subartikel 2.3.3.1, toegeedeel soos vir gewone dienste ingevolge subartikel 2.2.1.1.

2.2.1.2.2 REGSGEDINGE.

Die gelde vir die dienste wat deur die professionele ingenieur kragtens subartikel 2.1.2.2 verrig word, word bereken op 'n tydbasis teen die tariewe in subartikel 2.3.3.2 vervat. Die gelde vir die dienste van ander tegniese personeel word bereken op 'n tydbasis teen die tariewe in subartikel 2.3.4 vervat.

2.2.1.2.3 DIVERSE BYKOMENDE DIENSTE.

Die gelde vir diverse bykomende dienste wat deur die professionele ingenieur kragtens subartikel 2.1.2.3 verrig word, word bereken op 'n tydbasis teen die tariewe in subartikel 2.3.4 vervat.

2.2.1.3 WAAR TERREINPERSONEEL NIE AANGESTEL WORD NIE.

Waar bevoegde terreinpersoneel nie ingevolge subartikel 2.1.3 aangestel is nie, hef die professionele ingenieur vir die nodige bykomende dienste deur hom of sy personeel, en vir terreinbesoeke bo en behalwe die besoeke waarna in subartikel 2.1.1.4.7 verwys word, 'n geld op 'n tydbasis teen die tariewe in subartikel 2.3.4 vervat.

2.2.1.4 WERKE VAN VERSKILLENDIGE KATEGORIEË.

Waar 'n enkele globale opdrag verskillende soorte werke behels, word dit in die een of ander van die ondergenoemde kategorieë ingedeel en die gelde afsonderlik bereken vir elke kategorie teen die toepaslike tariewe uiteengesit in

(b) MECHANICAL AND ELECTRICAL.

The remaining 40 per cent of the fee as and when the construction and/or installation work proceeds in proportion to the cost of work done.

2.2.1.1.3 PARTIAL SERVICES.

When the professional engineer is required to perform only part of the services set out in subsection 2.1.1.2, 2.1.1.3 and 2.1.1.4 then fees shall be apportioned as follows:

2.2.1.1.3.1 Preliminary design stage only—30 per cent of the fee subject to an appropriate credit as set out in subsection 2.2.1.1.2.1.

2.2.1.1.3.2 Preliminary design stage and detailed design stage only:

(a) Civil and structural excluding completion of detailed drawings—70 per cent of the fee subject to an appropriate credit as set out in subsection 2.2.1.1.2.1.

(c) Mechanical and electrical—70 per cent of the fee subject to an appropriate credit as set out in subsection 2.2.1.1.2.1.

2.2.1.1.3.3 Construction stage only, but excluding the completion of detailed drawings:

(a) Civil and structural—35 per cent of the fee.

(b) Mechanical and electrical—50 per cent of the fee.

2.2.1.2 ADDITIONAL SERVICES.

The fees for additional services carried out under subsection 2.1.2 shall be as follows:

2.2.1.2.1 LEADER OF THE PROFESSIONAL TEAM.

The fees for the additional services performed by the professional engineer as leader of the professional team under subsection 2.1.2.1 shall be in accordance with subsection 2.3.3.1, apportioned as for normal services under subsection 2.2.1.1.

2.2.1.2.2 LITIGATION PRECEEDINGS.

The fees for the services performed by the professional engineer under subsection 2.1.2.2 shall be calculated on a time basis at the rates set out in subsection 2.3.3.2. Fees for the services of other technical staff shall be calculated on a time basis at the rates set out in subsection 2.3.4.

2.2.1.2.3 DIVERSE ADDITIONAL SERVICES.

The fees for diverse additional services performed by the professional engineer under subsection 2.1.2.3 shall be calculated on a time basis at the rates set out in subsection 2.3.4.

2.2.1.3 RESIDENT STAFF NOT APPOINTED.

When competent resident staff is not appointed the professional engineer shall charge for the necessary additional services rendered by himself or his staff and for site visits additional to those referred to in subsection 2.1.1.4.7 on a time basis at the rates set out in subsection 2.3.4.

2.2.1.4 WORKS OF DIFFERENT CATEGORIES.

Where a single overall appointment includes works of different types they shall be classified into one or other of the categories as listed below and fees shall be separately calculated for each category at the appropriate rates.

subartikel 2.3 gebaseer op die totale koste binne elke kategorie:

Spoorbaanwerk.
Padwerk.
Padwerk in dorpsgebiede en stormwaterdreinerings.
Rioolnetwerk.
Waternetwerk.
Siviele ingenieursdienste vir onontwikkelde dorpsgebiede wat deur 'n enkele kontrakteur uitgevoer word.
Toerusting vir behandeling van water en pompstasies.
Toerusting vir behandeling van afvalwater en pompstasies.
Ander siviele en strukturele ingenieurswerk.
Meganiese ingenieurswerk.
Elektriese ingenieurswerk (sterkstroom).
Elektriese ingenieurswerk (swakstroom).

2.2.1.5 WERKE OP VERSKILLENDE PLEKKE EN WERKE IN STADIUMS OF AFDELINGS.

2.2.1.5.1 Gelde vir werke wat op verskillende nie-aangrensende terreine verrig word, selfs waar sodanige werke deel uitmaak van een omvattende opdrag, word afsonderlik bereken as afsonderlike opdragte teen die toepaslike tariewe vervat in subartikel 2.3.

2.2.1.5.2 Indien die werke met die toestemming of op versoek van die kliënt onderbreek word, of indien die werke gefragmenteer word deurdat dit in afsonderlik gedokumenteerde stadiums of afdelings uitgevoer word, word die gelde vir elke stadium of afdeling afsonderlik bereken as afsonderlike opdragte teen die toepaslike tariewe vervat in subartikel 2.3.

2.2.2 TUSSENTYDSE BETALINGS AAN DIE PROFESSIONELE INGENIEUR.

2.2.2.1 Ten einde die tussentydse betalings ingevolge subartikel 2.2.1.1.2 te bereken, word die koste van die werk geag die volgende te wees:

2.2.2.1.1 Die bedrag van die aanvaarde tender; of
2.2.2.1.2 indien geen tender aanvaar is nie, die bedrag van die tender wat deur die professionele ingenieur as die geskikste aanbeveel is; of
2.2.2.1.3 indien die kontrak deur onderhandelings toegestaan is, die onderhandelde prys; of
2.2.2.1.4 indien geen tenders gevra word of indien geen geskikte tenders ontvang is of indien geen onderhandelings aangegaan is nie, die beraming waaroor onderling ooreengekom is.

2.2.2.2 Sodanige tussentydse betalings maak slegs deel uit van die totale gelde uiteindelik betaalbaar wat bereken word op die finale koste van die werke, soos uiteengesit in subartikel 2.2.3.

2.2.3 KOSTE VAN DIE WERKE.

2.2.3.1 Ten einde die totale gelde te bereken wat uiteindelik betaalbaar is ingevolge subartikel 2.2.2.2 is die koste van die werke, of enige deel daarvan, die volgende:

2.2.3.1.1 Die bedrag wat gesertifiseer is vir uitbetaling aan die kontrakteur ten opsigte van werke wat ontwerp, gesertifiseer of geadmineistreer is deur die professionele ingenieur, voor aftrekking van gelikwiderde skadevergoeding of boetes (indien enige); en

2.2.3.1.2 waar die kliënt materiaal, arbeid, gehuurde of verhuurde toerusting, vervaardigde goedere of masjinerie verskaf, 'n regstreekse en billike waardasie gegrond op die normale tariewe van kontrakteurs vir soortgelyke items met inbegrip van waardevermindering, verspilling en herstelwerk, bedryfskoste en winste; en

2.2.3.1.3 die markwaarde, asof nuut aangekoop, van enige halfslyt materiaal, vervaardigde goedere en masji-

set out in the applicable subsections of subsection 2.3, on the basis of the total cost within each category:

Railway trackwork.
Roadwork.
Township roadwork and stormwater drainage.
Sewer reticulation.
Water reticulation.
Civil engineering services for undeveloped townships carried out by a single contractor.
Water treatment plant and pumping stations.
Waste water treatment plant and pumping stations.
Other civil and structural engineering work.
Mechanical engineering work.
Electrical engineering work (heavy current).
Electrical engineering work (light current).

2.2.1.5 WORKS AT DIFFERENT SITES AND WORKS IN STAGES OR SECTIONS.

2.2.1.6.1 The fees for works undertaken at separate non-contiguous sites, even if such works form part of one overall appointment, shall be separately calculated as separate assignments at the appropriate rates set out in subsection 2.3.

2.2.1.6.2 When with the agreement or at the request of the client, the continuity of the works is interrupted or the works are fragmented by being constructed in separately documented stages or sections, then the fees for each stage or section shall be separately calculated as separate assignments at the appropriate rates set out in subsection 2.3.

2.2.2 INTERIM PAYMENTS TO THE PROFESSIONAL ENGINEER.

2.2.2.1 For the purpose of ascertaining the interim payments due under subsection 2.2.1.1.2, the cost of the works shall be—

2.2.2.1.1 the amount of the accepted tender; or
2.2.2.1.2 if no tender is accepted, the amount of the tender recommended as the most suitable by the professional engineer; or
2.2.2.1.3 if the contract is awarded by negotiation, the negotiated price; or
2.2.2.1.4 if no tenders are invited or if no suitable tenders are received or if no negotiation is concluded, the mutually agreed estimate.

2.2.2.2 Such interim payments shall rank solely towards the total fee ultimately payable which shall be calculated on the final cost of the works as defined in subsection 2.2.3.

2.2.3 COST OF THE WORKS.

2.2.3.1 For the purpose of calculating the total fee ultimately payable in terms of subsection 2.2.2.2, the cost of the works or any part thereof shall be—

2.2.3.1.1 the amount certified for payment to contractors in respect of works designed, specified or administered by the professional engineer, before deduction of liquidated damages or penalties (if any); and

2.2.3.1.2 where the client provides materials, labour, hired or rented plant, manufactured goods or machinery, a direct and fair valuation based on normal charges by contractors for similar items including depreciation, waste and repairs, overhead and profit; and

2.2.3.1.3 the market value, as though they were purchased new, of any second-hand materials, manufactured goods and machinery incorporated in the works.

2.2.3.2 Die koste van die werke sluit die koste in van enige proefboorwerk, proefheiwark, die meet van grondweerstand, grawe van tunnels ensomeer, waarvoor die professionele ingenieur kontrakdokumente moet opstel en/of wat hy moet inspekteer of administreer.

2.2.3.3 Die koste van die werke sluit nie die volgende in nie:

2.2.3.3.1 Administratiewe uitgawes deur die kliënt aangegaan.

2.2.3.3.2 Professionele gelde en verhaalbare uitgawes.

2.2.3.3.3 Opmetingskoste.

2.2.3.3.4 Salarisse, reistoelae, toevallige en kantooruitgawes van die terreinpersoneel.

2.2.3.3.5 Rente op kapitaal gedurende konstruksie en die heffingskoste op geld wat nodig is om die werke uit te voer.

2.2.3.3.6 Koste van grond en deurgangsregte.

2.2.4 SKADE AAN OF VERNIETIGING VAN WERKE.

Indien enige gedeelte van die werke of die toerusting daarvoor te enige tyd beskadig of vernietig word weens oorlog, brand, storms of ander oorsake buite die beheer van die professionele ingenieur voordat die werke voltooid is, betaal die kliënt die professionele ingenieur die toepaslike geld vir enige bykomende werk wat deur hom ontiwerp, geïnspekteer en/of geadministreer moet word as gevolg van sodanige skade of vernietiging.

2.2.5 UITSTEL, KANSELLERING, VERMINDERING OF VERLATING VAN DIE WERKE.

2.2.5.1 Indien nadat die kliënt opdrag aan die professionele ingenieur gegee het om voort te gaan met enige van die fases waarna in subartikels 2.1.1.2, 2.1.1.3 en 2.1.1.4 verwys word, die werk in die geheel of 'n gedeelte daarvan uitgestel, gekanselleer of verlaat word, word die professionele ingenieur se gelde vir dienste verrig ten opsigte van daardie deel van die werk wat aldus uitgestel, gekanselleer of verlaat is, bereken ingevolge subartikel 2.2.1.1.2, plus 'n toeslag van een-tiende, en ingevolge sodanige ander toepaslike subartikels, in verhouding tot die dienste verrig voordat die werke uitgestel, gekanselleer of verlaat is. Indien die uitgestelde werke, of 'n gedeelte daarvan, binne twee jaar daarna hervat word, word enige betalings, uitgesonderd die toeslag, wat ingevolge voornoemde artikel gemaak is, geag betalings te wees op rekening van die totale gelde werklik betaalbaar en bereken op die koste van die werke soos uiteengesit in subartikel 2.2.3. Indien bykomende dienste van die professionele ingenieur verlang word in verband met die hervatting van die uitgestelde werke, is die professionele ingenieur geregtig op verdere gelde vir sodanige bykomende dienste bereken op 'n tydskedule teen die tariewe vervat in subartikel 2.3.4.

2.2.5.2 In geval die werke, of 'n gedeelte daarvan, vir langer as twee jaar uitgestel word, word dit geag verlaat te wees.

2.2.5.3 Betalings kragtens hierdie artikel word bereken op die onderling ooreengekome beraming van die koste van die betrokke gedeelte van die werke wat klaar was ten tyde van die uitstel, kansellering of verlating daarvan.

2.2.6 VERANDERING OF WYSIGINGS AAN ONTWERPE.

Indien omstandighede hulle voordoende wat redelikerwys nie voorsien kon gewees het nie, of as die kliënt die ontwerpvereiste wysig wat veranderings noodsaak aan voltooid ontwerpe, of veranderings aan ontwerpe waaraan gewerk word en wat ook die verandering of heropstel vereis van enige spesifikasie, tekening of ander dokument wat in die geheel of gedeeltelik deur die professionele ingenieur opgestel is, is die werk verbonden aan sodanige hersiening, wysiging of reproduksie van sodanige

2.2.3.2 The cost of the works shall include the cost of any work in exploratory drilling, test piling, soil resistivity measurement, excavation of adits, etc., for which the professional engineer is required to prepare contract documents and/or which he is required to inspect or administer.

2.2.3.3 The cost of the works shall not include—

2.2.3.3.1 administrative expenses incurred by the client;

2.2.3.3.2 professional fees and disbursements;

2.2.3.3.3 cost of surveys;

2.2.3.3.4 salaries, travelling, out-of-pocket and office expenses of resident staff;

2.2.3.3.5 interest on capital during construction and the cost of raising monies required for carrying out the construction of the works;

2.2.3.3.6 cost of land and wayleaves.

2.2.4 DAMAGE OR DESTRUCTION OF WORKS.

If, at any time before the completion of the works, any part of the works or of the equipment therefor is damaged or destroyed by operations of war, fire, storm or other cause beyond the control of the professional engineer, the client shall pay to the professional engineer the appropriate fee for any additional work which may be required to be designed, inspected and/or administered by him as a result of such damage or destruction.

2.2.5 POSTPONEMENT, CANCELLATION, REDUCTION OR ABANDONMENT OF WORKS.

2.2.5.1 If, instructions having been given by the client to the professional engineer to proceed with any of the stages referred to in subsections 2.1.1.2, 2.1.1.3 and 2.1.1.4, the whole or any part of the works is postponed, cancelled or abandoned, then the payment to be made to the professional engineer for services performed in respect of that part of the works so postponed, cancelled or abandoned, shall be determined in accordance with subsection 2.2.1.1.2, plus a surcharge of one-tenth, and in accordance with such other subsections as may be applicable, in proportion to the services performed prior to the works being postponed, cancelled or abandoned. If, within two years, the postponed works, or any part thereof, shall again proceed, then any relevant payments made under this section, excluding the surcharge, shall rank as payments on account towards the total fee actually payable and calculated on the cost of the works as defined in subsection 2.2.3. Should additional services by the professional engineer be required in connection with resumption of the postponed works, the professional engineer shall charge for such additional services on a time basis at the rates set out in subsection 2.3.4.

2.2.5.2 In the event of the works, or any part thereof, being postponed for a period longer than two years, such works shall be considered as having been abandoned.

2.2.5.3 Payments under this section shall be calculated on the mutually agreed estimate of the cost of the relevant part of the works having been completed at the time of its postponement, cancellation or abandonment.

2.2.6 ALTERATIONS OR MODIFICATIONS TO DESIGNS.

In the event of circumstances arising which could not have been reasonably foreseen, or in the event of the client modifying the design requirements necessitating alterations to completed designs or alterations to designs in progress and which also require the alteration or remaking of any specification, drawing, or other document prepared in whole or in part by the professional engineer, the whole of the cost of such alterations or modifications shall be payable by the client.

ontwerpe, tekenings of dokumente om die werke te bring tot by 'n stadium waar dit gewysig is, onderworpe aan bykomende betalings, welke bykomende betalings bereken word op 'n tydbasis teen die tariewe vervat in subartikel 2.3.4.

2.3 GELDETARIEF VIR INGENIEURSWERK NIE IN VERBAND MET BOUPROJEKTE NIE.

2.3.1 WERK VAN NORMALE AARD.

Vir werk wat normale eise aan die professionele ingenieur se tyd stel, is die gelde dié voorgeskryf in subartikels 2.3.1.1, 2.3.1.2, 2.3.1.3 en 2.3.1.4.

2.3.1.1 SIVIELE EN BOUKUNDIGE INGENIEURSWERK; UITGESONDERD SPOORBAANWERK EN PADWERK.

2.3.1.1.1 BASIESE GELDE.

reproducing such designs, drawings or documents to bring the work up to the stage at which it was modified shall the work up to additional payment, calculated on a time basis at the rates set out in subsection 2.3.4.

2.3 TARIFF OF FEES FOR ENGINEERING WORK NOT PERTAINING TO BUILDING PROJECTS.

2.3.1 WORK OF NORMAL CHARACTER.

In respect of works making normal demands on the time of the professional engineer, the fees shall be as provided in subsections 2.3.1.1, 2.3.1.2, 2.3.1.3 and 2.3.1.4.

2.3.1.1 CIVIL AND STRUCTURAL ENGINEERING WORK EXCLUDING RAILWAY TRACKWORK AND ROADWORK.

2.3.1.1.1 BASIC FEE.

	Waar die koste van die werk		Die gelde is die som van die primêre gelde genoem in kolom 3 en die sekondêre gelde bereken kragtens kolom 4	
	meer is as (kolom 1)	maar nie meer nie as (kolom 2)	Primêre geld (kolom 3)	Persentasie van sekondêre gelde bereken op totale koste van die werk (kolom 4)
	R	R	R	%
(a).....	—	40 000	50	10,00
(b).....	40 000	60 000	550	9,00
(c).....	60 000	100 000	850	8,50
(d).....	100 000	150 000	1 350	8,00
(e).....	150 000	200 000	2 100	7,50
(f).....	200 000	400 000	3 100	7,00
(g).....	400 000	600 000	5 100	6,50
(h).....	600 000	1 000 000	8 100	6,00
(i).....	1 000 000	2 000 000	13 100	5,50
(j).....	2 000 000	3 000 000	23 100	5,00
(k).....	3 000 000	4 000 000	38 100	4,50
(l).....	4 000 000	8 000 000	48 100	4,25
(m).....	8 000 000	—	68 100	4,00

	Where the cost of the works—		The fee shall be the sum of the primary fee stated in column 3 and the secondary fee calculated in terms of column 4	
	exceeds— (column 1)	but does not exceed (column 2)	Primary fee (column 3)	Percentage for secondary fee calculated on the total cost of the works (column 4)
	R	R	R	%
(a).....	—	40 000	150	10,00
(b).....	40 000	60 000	550	9,00
(c).....	60 000	100 000	850	8,50
(d).....	100 000	150 000	1 350	8,00
(e).....	150 000	200 000	2 100	7,50
(f).....	200 000	400 000	3 100	7,00
(g).....	400 000	600 000	5 100	6,50
(h).....	600 000	1 000 000	8 100	6,00
(i).....	1 000 000	2 000 000	13 100	5,50
(j).....	2 000 000	3 000 000	23 100	5,00
(k).....	3 000 000	4 000 000	38 100	4,50
(l).....	4 000 000	8 000 000	48 100	4,25
(m).....	8 000 000	—	68 100	4,00

2.3.1.1.2 BYKOMENDE GELD VIR GEWAPENDE BETONWERK.

Vir die gewapende betongedeelte van die werk, met inbegrip van die beton, bewapening en bekisting, wat boukundige ontwerp aan die kant van die professionele ingenieur behels, tesame met die betrokke gedeelte van

2.3.1.1.2 ADDITIONAL FEE FOR REINFORCED CONCRETE WORK.

The additional fee on the reinforced concrete portion of the works, including the concrete, reinforcement and formwork, which involves structural design on the part of the professional engineer, together with the relevant pro-

die items onder die opskrif "voorlopig en algemeen" in die hoeveelheidslys ten opsigte van die werke, is die bykomende geld soos volg:

portion of the items under the heading preliminary and general in the schedule of quantities relating to the works, shall be:

	Waar die koste van die gewapende betongedeelte van die werke, tesame met die koste van die betrokke deel van die voorlopige en algemene items—		Die bykomende geld is die som van die primêre geld genoem in kolom 3 en die sekondêre geld bereken kragtens kolom 4	
	meer is as— (Kolom 1)	maar nie meer is nie as— (Kolom 2)	Primêre geld (Kolom 3)	Persentasie vir sekondêre gelde bereken op die totale koste van die gewapende betongedeelte van die werke (Kolom 4)
	R	R	R	%
(a).....	—	400 000	—	3,25
(b).....	400 000	600 000	1 000	3,00
(c).....	600 000	800 000	2 500	2,75
(d).....	800 000	1 200 000	4 500	2,50
(e).....	1 200 000	2 000 000	10 500	2,00
(f).....	2 000 000	—	20 500	1,50

	Where the cost of the reinforced concrete portion of the works including the cost of the relevant proportion of the preliminary and general items		The additional fee shall be the sum of the primary fee stated in column 3 and the secondary fee calculated in terms of column 4	
	Exceeds (column 1)	but does not exceed (column 2)	Primary fee (column 3)	Percentage for secondary fee calculated on the total cost of the reinforced concrete portion of the works (column 4)
	R	R	R	%
(a).....	—	400 000	—	3,25
(b).....	400 000	600 000	1 000	3,00
(c).....	600 000	800 000	2 500	2,75
(d).....	800 000	1 200 000	4 500	2,50
(e).....	1 200 000	2 000 000	10 500	2,00
(f).....	2 000 000	—	20 500	1,50

2.3.1.1.3 BYKOMENDE GELD VIR STRUKTURELE STAALWERK.

Die bykomende geld vir die strukturele staalwerk-gedeelte van die werke, tesame met die betrokke gedeelte van die voorlopige en algemene items, word bereken teen een helfte van die tariewe van die bykomende geld vir die gewapende betongedeelte van die werke, soos vervat in subartikel 2.3.1.1.2.

2.3.1.2 SPOORBAANWERK.

Die gelde vir spoorbaanwerk word bereken soos bepaal vir siviele en strukturele ingenieurswerk ingevolge subartikel 2.3.1.1, behalwe dat—

2.3.1.2.1 die koste van die permanente baanmateriaal ten opsigte van spoorbaanwerk, uitgesonderd ballas en toerusting van spesiale ontwerp, uitgesluit word van die koste van die werke soos vervat in subartikel 2.2.3;

2.3.1.2.2 die gelde op permanente baanmateriaal, behalwe voornoemde, as volg bereken word in ooreenstemming met die lengte van die trajek:

2.3.1.1.3 ADDITIONAL FEE FOR STRUCTURAL STEELWORK.

The additional fee on the structural steelwork portion of the works together with the relevant proportion of the preliminary and general items shall be calculated at one half the rates of the additional fee for the reinforced concrete portion of the works as set out in subsection 2.3.1.1.2.

2.3.1.2 RAILWAY TRACKWORK.

The fees for railway trackwork shall be calculated in the manner set out for civil and structural engineering work under subsection 2.3.1.1 except that—

2.3.1.2.1 the cost of permanent way materials in respect of railway trackwork, excepting ballast and equipment of special design, shall be excluded from the cost of the work as defined in subsection 2.2.3;

2.3.1.2.2 fees on permanent way materials, excepting as aforesaid, shall be calculated in accordance with the length of track as follows:

	Waar die trajek—		Die geld is die som van die primêre geld aangegee in kolom 3 en die sekondêre geld bereken kragtens kolom 4	
	langer is as— (Kolom 1)	maar nie langer is nie as— (Kolom 2)	Primêre geld (Kolom 3)	Tarief vir sekondêre geld bereken op die totale lente van trajek (Kolom 4)
	m	m	R	R/m
(a).....	—	500	50	1,00
(b).....	500	1 000	250	0,60
(c).....	1 000	2 000	350	0,50
(d).....	2 000	3 000	450	0,45
(e).....	3 000	5 000	600	0,40
(f).....	5 000	10 000	850	0,35
(g).....	10 000	20 000	1 350	0,30
(h).....	20 000	50 000	2 350	0,25
(i).....	50 000	—	4 850	0,20

	Where the length of track—		The fee shall be the sum of the primary fee stated in column 3 and the secondary fee calculated in terms of column 4	
	exceeds— (column 1)	but does not exceed— (column 2)	Primary fee (column 3)	Rate for secondary fee calculated on the total length of track (column 4)
	m	m	R	R/m
(a).....	—	500	50	1,00
(b).....	500	1 000	250	0,60
(c).....	1 000	2 000	350	0,50
(d).....	2 000	3 000	450	0,45
(e).....	3 000	5 000	600	0,40
(f).....	5 000	10 000	850	0,35
(g).....	10 000	20 000	1 350	0,30
(h).....	20 000	50 000	2 350	0,25
(i).....	50 000	—	4 850	0,20

2.3.1.2.3 die gelde ten opsigte van keerblokke, wisseltonge, ruitkruisings en enkel- en dubbelslippe van standaardontwerp word bereken ingevolge subartikel 2.3.1.2.2 op die basis van die volgende gelyke baanlengtes:

Item	Gelyke baanlengte
2.3.1.2.3.1 Keerblokke.....	10 m
2.3.1.2.3.2 Wisseltonge.....	100 m
2.3.1.2.3.3 Ruitkruisings.....	50 m
2.3.1.2.3.4 Enkelslippe.....	150 m
2.3.1.2.3.5 Dubbelslippe.....	250 m

2.3.1.3 PADWERK.

Die gelde vir alle padwerk word bereken soos neergelê in subartikel 2.3.1.1 vir siviele en boukundige ingenieurswerk, met dien verstande dat die geld vir die padwerkgedeelte van die projek (d.w.s. uitgesonderd die geld vir die strukturele gedeelte) persentasiegewys verminderd word, soos volg:

	Tipe padwerk	Persentasievermindering van geld vir padwerkgedeelte
(a).....	Plattelandse paaie.....	15%
(b).....	Plattelandse deurpaaie...	5%
(c).....	Buitestedelike deurpaaie.	5%
(d).....	Stedelike strate.....	nul
(e).....	Stedelike deurpaaie.....	nul

2.3.1.4 MEGANIESE EN ELEKTRIESE INGENIEURSWERK.

2.3.1.2.3 fees on stopblocks, turnouts, diamond crossings and single and double slips of standard design shall be calculated in accordance with subsection 2.3.1.2.2 on the basis of the following equivalent track lengths:

Item	Equivalent track length
2.3.1.2.3.1 Stopblocks.....	10 m
2.3.1.2.3.2 Turnouts.....	100 m
2.3.1.2.3.3 Diamond crossings.....	50 m
2.3.1.2.3.4 Single slips.....	150 m
2.3.1.2.3.5 Double slips.....	250 m

2.3.1.3 ROADWORK.

The fees for all roadwork shall be calculated in the manner set out for civil and structural engineering work under subsection 2.3.1.1 except that the fee for the roadwork element of the project (that is, excluding the fee for the structural element) shall be reduced by the appropriate percentage as listed below:

	Type of roadwork	Percentage reduction in fee for roadwork element
(a).....	Rural roads.....	15%
(b).....	Rural freeways.....	5%
(c).....	Peri-urban freeways.....	5%
(d).....	Urban streets.....	nil
(e).....	Urban freeways.....	nil

2.3.1.4 MECHANICAL AND ELECTRICAL ENGINEERING WORK.

	Waar die koste van die werke—		Die geld is die som van die primêre geld aangegee in kolom 3 en die sekondêre geld bereken kragtens kolom 4	
	meer is as— (Kolom 1)	maar nie meer is nie as— (Kolom 2)	Primêre geld (Kolom 3)	Persentasie vir sekondêre geld bereken op totale koste van werke (Kolom 4)
	R	R	R	%
(a).....	—	40 000	150	10,0
(b).....	40 000	60 000	550	9,0
(c).....	60 000	100 000	850	8,5
(d).....	100 000	150 000	1 350	8,0
(e).....	150 000	200 000	2 100	7,5
(f).....	200 000	400 000	3 100	7,0
(g).....	400 000	600 000	5 100	6,5
(h).....	600 000	1 000 000	8 100	6,0
(i).....	1 000 000	2 000 000	13 100	5,5
(j).....	2 000 000	—	23 100	5,0

	Where the cost of the works—		The fee shall be the sum of the primary fee stated in column 3 and the secondary fee calculated in terms of column 4	
	exceeds— (column 1)	but does not exceed— (column 2)	Primary fee (column 3)	Percentage for secondary fee calculated on the total cost of the works (column 4)
	R	R	R	%
(a).....	—	40 000	150	10,0
(b).....	40 000	60 000	550	9,0
(c).....	60 000	100 000	850	8,5
(d).....	100 000	150 000	1 350	8,0
(e).....	150 000	200 000	2 100	7,5
(f).....	200 000	400 000	3 100	7,0
(g).....	400 000	600 000	5 100	6,5
(h).....	600 000	1 000 000	8 100	6,0
(i).....	1 000 000	2 000 000	13 100	5,5
(j).....	2 000 000	—	23 100	5,0

2.3.2 WERK NIE VAN NORMALE AARD NIE.

Ten opsigte van werke of gedeeltes van werke wat buitengewone hoë eise stel aan die professionele ingenieur se tyd in verhouding tot die koste van die werke, word die gelde genoem in subartikel 2.3.1 of die gedeelte van sodanige gelde ooreenstemmend met die koste van sodanige gedeelte van die werke, na gelang van die geval, met die volgende persentasies verhoog:

2.3.2.1 Vir Stedelike deurpaaie: 25 persent.

2.3.2.2 Vir wysigings aan bestaande werke: 25 persent.

2.3.2.3 Vir ingewikkelde beheerbane of: -stelsels en enige soortgelyke werk 50 persent.

2.3.2.4 Vir alle ander tipes werk wat oormatig tydrowend van aard is: Ingevolge subartikel 1.6.

2.3.3 BYKOMENDE DIENSTE.

2.3.3.1 LEIER VAN DIE PROFESSIONELE SPAN.

Die bykomende geld vir dienste as leier van die professionele span ingevolge subartikel 2.1.2.1 is 'n bedrag gelykstaande aan 10 persent van die gelde betaalbaar vir die ander dissiplines en professies, uitgesonderd die gelde betaalbaar aan die leier van die professionele span kragtens subartikel 2.3.1 en 2.3.2 ten aansien van daardie gedeelte van die projek waarvoor slegs hy verantwoordelik is.

2.3.3.2 REGSGEDINGE EN SOORTGELYKE DIENSTE.

Die volgende gelde is betaalbaar aan die professionele ingenieur vir dienste gelewer:

	Hoof, vennoot of direkteur	Ander professionele ingenieurs
2.3.3.2.1 Voorlopige werk: Tarief per uur.....	R 35	R 25
2.3.3.2.2 Verskyning in hof: Tarief per dag:		
2.3.3.2.2.1 Eerste dag..	500	350
2.3.3.2.2.2 Daaropvolgende dae...	300	200

2.3.4 GELDE OP TYDBASIS.

Die geldtarief op 'n tydbasis is soos volg:

2.3.4.1 'n Hoof, vennoot of direkteur: R25 per uur:

2.3.4.2 Tegnieëse personeel: Teen 'n tarief van 15c per uur per R100, of gedeelte daarvan, van die jaarsalaris, plus bonus, indien enige:

Met dien verstande dat hierdie tariewe geag word vestigingsgeld en tyd deur klerklike personeel bestee, in te sluit wat dus nie afsonderlik vorderbaar is nie.

2.3.2 WORK NOT OF NORMAL CHARACTER.

In respect of works or parts of works which make demands on the time of the professional engineer which are unusually high in relation to the cost of the works the fees stated in subsection 2.3.1 or the portion of such fee corresponding to the cost of such part of the works, as the case may be, shall be increased by the following percentages:

2.3.2.1 For urban freeways: 25 per cent.

2.3.2.2 For alterations to existing works: 25 per cent.

2.3.2.3 For complex control circuits or systems: 50 per cent.

2.3.2.4 For all other types of disproportionately time consuming work: In accordance with subsection 1.6.

2.3.3 ADDITIONAL SERVICES.

2.3.3.1 LEADER OF THE PROFESSIONAL TEAM.

The additional fee for services performed under subsection 2.1.2.1 as leader of the professional team shall be an amount equal to 10 per cent of the fees payable for the other disciplines and professions, excluding the fees payable to the leader of the professional team in terms of subsections 2.3.1 and 2.3.2 in respect of that part of the project for which he is solely responsible.

2.3.3.2 LITIGATION PROCEEDINGS AND SIMILAR SERVICES.

The professional engineer's fee for services performed shall be:

	Principal, partner or director R	Other professional engineers R
2.3.3.2.1 Preliminary work: Rate per hour.....	35	25
2.3.3.2.2 Court appearances: Rate per day:		
2.3.3.2.2.1 First day.....	500	350
2.3.3.2.2.2 Subsequent days	300	200

2.3.4 TIME BASIS FEES.

The scale of fees on a time basis shall be as follows:

2.3.4.1 A principal, partner or director: R25 per hour;

2.3.4.2 technical staff: At a rate of 15c per hour per R100 or part thereof of the annual salary plus bonus, if any:

Provided that these rates shall be deemed to include establishment charges and for time expended by clerical staff which shall, therefore, not be chargeable separately.

2.3.5 BYKOMENDE BETALINGS.

Die volgende geld word aan die professionele ingenieur betaal vir tyd bestee aan reis deur hom en sy personeel in die loop van hul werk:

2.3.5.1 REISTYD.

'n Vordering teen die tarief neergelê in subartikel 2.3.4 vir die tyd, agt ure per dag nie te bowegaande nie, deur die professionele ingenieur en/of lede van sy personeel aan reis bestee. Indien die retoerrit van en na sy kantoor nie meer as 50 km is nie, word die professionele ingenieur nie vergoed vir die tyd aan reis bestee nie, behalwe waar hy op 'n tydbasis vergoed word.

3. STRUKTURELE EN SIVIELE INGENIEURSWERK IN VERBAND MET BOUPROJEKTE.**3.1 WERK DEUR DIE PROFESSIONELE INGENIEUR VERRIG TE WORD.****3.1.1 NORMALE DIENSTE.**

Die dienste wat normaalweg deur die professionele ingenieur verrig word, behels die volgende:

3.1.1.1 VERSLAG-STADIUM.

Die opstel en voorlegging van 'n verslag met voorlopige voorstelle of gangbaarheidstudies en kosteberekenings vir oowering deur die kliënt en, indien nodig, met inbegrip van—

3.1.1.1.1 samesprekings met die kliënt en/of sy gemagtigde verteenwoordiger, en/of enige ander professionele raadgewer deur die kliënt vir die werke aangestel;

3.1.1.1.2 besigtiging van die terrein van die werke;

3.1.1.1.3 voorlopige ondersoek, beplanning en ontwerp waar nodig om gangbaarheid te bepaal;

3.1.1.1.4 samesprekings met plaaslike owerhede;

3.1.1.1.5 raad aan die kliënt oor die noodsaaklikheid vir opmetings van enige aard, ontledings, toetse en/of terrein- of ander ondersoeke waar nodig vir afhandeling van die verslag, en die tref van reëlins om dit op koste van die kliënt uit te voer.

3.1.1.2 VOORLOPIGE ONTWERPSTADIUM.

In opvolging van die kliënt se opdragte om voort te gaan, die ontwikkeling van die voorlopige voorstelle of die basiese beplanning van die werke, soos deur die kliënt verlang en, indien nodig, met inbegrip van—

3.1.1.2.1 voorlegging van 'n basiese beplanningsverslag, indien deur die kliënt verlang;

3.1.1.2.2 bepaling van finale ontwerpmaatstawwe;

3.1.1.2.3 raad aan die kliënt oor die noodsaaklikheid vir verdere opmetings van enige aard, ontledings, toetse en/of terrein- of ander ondersoeke waar nodig, en die tref van reëlins om dit op koste van die kliënt uit te voer;

3.1.1.2.4 raad aan die kliënt, indien nodig, oor die aanstelling en die omvang van die dienste van ander professionele ingenieurs, argitekte en deskundige raadgewers, en die tref van reëlins vir sodanige aanstellings en samesprekings met sodanige raadgewers oor sake rakende die werke;

3.1.1.2.5 opstel en voorlegging van sketsplanne of lyndiagramme en aangesuiwerde beramings.

3.1.1.3 GEDETAILEERDE ONTWERPSTADIUM.

Die ontwikkeling van die voorlopige ontwerpe tot gedetailleerde ontwerpe en, indien nodig, met inbegrip van—

3.1.1.3.1 voorbereiding van algemene ooreengekome tekenings en beramings van staalmassas benodig vir hoeveelheidslyste;

3.1.1.3.2 verskaffing van inligting in die breë wat nodig is vir die ontwerp van ander professionele dienste;

3.1.1.3.3 verskaffing van voldoende inligting vir voorbereiding van werkwinkeltekeninge deur die vervaar-

2.3.5 ADDITIONAL PAYMENTS.

The fee for time spent in travelling by the professional engineer and his staff in performing their services shall be as follows:

2.3.5.1 TRAVELLING TIME.

A charge at the rate set out in subsection 2.3.4 for all time spent by the professional engineer and/or members of his staff in travelling, such time not exceeding eight hours per day. When the return journey does not exceed 50 km recorded to and from his office, the professional engineer shall not be reimbursed for time spent in travelling unless payment of fees is being made on 'n time basis.

3. STRUCTURAL AND CIVIL ENGINEERING WORK PERTAINING TO BUILDING PROJECTS.**3.1 SERVICES TO BE PERFORMED BY THE PROFESSIONAL ENGINEER.****3.1.1 NORMAL SERVICES.**

The normal services to be performed by the professional engineer are:

3.1.1.1 REPORT STAGE.

The preparation and submission of a report embodying preliminary proposals or feasibility studies and estimates of cost for consideration by the client, including as may be necessary:

3.1.1.1.1 Consultation with the client and/or his authorised representatives and/or any other professional adviser appointed by the client in connection with the project.

3.1.1.1.2 Inspection of the site of the works.

3.1.1.1.3 Preliminary investigation, planning and design where this is required for determination of feasibility.

3.1.1.1.4 Consultation with local authorities.

3.1.1.1.5 Advising the client as to the need for surveys of any kind, analyses, tests and/or site or other investigations where such are required for the completion of the report and arranging for these to be carried out at the client's expense.

3.1.1.2 PRELIMINARY DESIGN STAGE.

Following the client's instruction to proceed, the development of the preliminary proposals, or the basic planning of the works, as may be required by the client, including as may be necessary:

3.1.1.2.1 Submission of a basic planning report if required by the client.

3.1.1.2.2 Establishment of final design criteria.

3.1.1.2.3 Advising the client as to the need for any further surveys of any kind, analyses, tests and/or site or other investigations which may be required and arranging for these to be carried out at the client's expense.

3.1.1.2.4 Advising the client upon the appointment and delineation of the services of other professional engineers, architects and specialist advisers, arranging such appointments and consultation with such advisers in matters affecting the works.

3.1.1.2.5 Preparation and submission of sketch plans or line diagrams and updated estimates.

3.1.1.3 DETAILED DESIGN STAGE.

The development of the preliminary designs into detailed designs including as may be necessary:

3.1.1.3.1 Preparation of general arrangement drawings and estimates of weights of steel required for the bills of quantity.

3.1.1.3.2 Provision of outline information necessary for the design of other professional services.

3.1.1.3.3 Provision of adequate information to enable the shop detail drawings to be prepared by the structural steel

3.1.1.3.4. opstel of wysiging van advertensies vir die vra van tenders, tendervoorwaardes, tendervorms en kontrakvoorwaardes;

3.1.1.3.5 ontleding van tenders en voorlegging van aanbevelings by die aanvaarding van tenders.

3.1.1.4 KONSTRUKSIESTADIUM.

Die algemene administrasie van en ander dienste in verband met die uitvoering van die ingenieurswerke en, indien nodig, met inbegrip van—

3.1.1.4.1 plasing van bestellings vir die ingenieurswerke namens die kliënt;

3.1.1.4.2 raad aan die kliënt oor die opstel van die kontrakdokumente of voorbereiding van die kontrakdokumente;

3.1.1.4.3 raad aan die kliënt oor die aanstelling van terreinpersoneel kragtens subartikel 3.1.3;

3.1.1.4.4 opstel van bewapeningbesonderhede, buigskedules en ander inligting, soos benodig. (Hierdie diens kan by die gedetailleerde ontwerp stadium ingesluit word indien volledige dokumentasie voor die konstruksiestadium benodig word);

3.1.1.4.5 nagaan van die kontrakteur se tekeninge vir die permanente werke om voldoening aan die ontwerpvereistes te verseker, maar uitgesonderd die uitvoerige nagaan van werkwinkeltekeninge met die oog op oprigtingsjuistheid;

3.1.1.4.6 raad aan die kliënt oor alternatiewe ontwerpe en tenders, maar uitgesonderd die uitvoerige bestudering, hersiening en/of die nagaan van alternatiewe ontwerpe en/of tekeninge wat nie deur die professionele ingenieur opgestel is nie, maar deur 'n kontrakteur of voornemende kontrakteur voorgelê is;

3.1.1.4.7 periodieke besoeke aan die terrein soos nodig geag deur die professionele ingenieur om homself tevrede te stel dat die ingenieurswerke oor die algemeen volgens sy ontwerpe en spesifikasies uitgevoer word, en andersins volgens goeie ingenieurspraktyke, maar uitgesonderd toesig, uitvoerige en daaglikse inspeksie van die werke en terreinadministrasie, soos neergelê in subartikel 3.1.3;

3.1.1.4.8 bywoning van terreinvergaderings tydens die duur van die ingenieurswerke, maar nie meer as eenkeer elke veertien dae nie;

3.1.1.4.9 afhandeling van, of bystand aan die kliënt se gevolmagtigde waar hy uitsluitel moet gee in geskille of verskille wat tussen die kliënt en kontrakteurs ontstaan, maar uitgesonderd regsdinge en arbitrasie;

3.1.1.4.10 die uitreik van wysigingsopdragte of inligting sodat wysigingsopdragte deur ander uitgereik kan word;

3.1.1.4.11 raad aan die kliënt oor die inspeksie en toets van sodanige materiaal wat normaalweg nagegaan en getoets word, en die tref van reëlins vir sodanige inspeksie en toetsing om op die kliënt se koste uitgevoer te word;

3.1.1.4.12 die tref van reëlins namens die kliënt vir die verskaffing en reproduksie van sodanige tekening en dokumente wat deur die kontrakteur en terreinpersoneel benodig mag word vir die uitvoering van die ingenieurswerke.

3.1.2 BYKOMENDE DIENSTE.

Werk in verband met onderstaande items is bykomend tot die normale dienste van die professionele ingenieur wat die kliënt moet inlig oor die noodsaaklikheid dat sodanige werk verrig word.

3.1.1.3.4 Drafting or adapting invitations to tender, tender conditions, forms of tender and conditions of contract.

3.1.1.3.5 Analysis of tenders and submission of recommendations on the acceptance of tenders.

3.1.1.4 CONSTRUCTION STAGE.

The general administration and other services in connection with the carrying out of the engineering works, including as may be necessary:

3.1.1.4.1 Placing orders for the engineering works on behalf of the client.

3.1.1.4.2 Advising the client as to the preparation of the contract documents, or preparation of the contract documents.

3.1.1.4.3 Advising the client as to the appointment of site staff in accordance with subsection 3.1.3.

3.1.1.4.4 Preparation of reinforcing details, bending schedules and other information as may be necessary. (This service may be included in the detailed design stage if full documentation is required before the construction stage).

3.1.1.4.5 Checking contractors' drawings for the permanent works for conformity with design requirements but excluding detailed checking of shop details for erection fit.

3.1.1.4.6 Advising the client on alternative designs and tenders but excluding detailed inspection, reviewing and/or checking of alternative designs and/or drawings not prepared by the professional engineer and submitted by any contractor or potential contractor.

3.1.1.4.7 Periodical visits to the site as considered necessary by the professional engineer to satisfy himself that the engineering works are executed generally in accordance with his designs and specifications and otherwise in accordance with good engineering practice but excluding supervision, detailed and day-to-day inspection of the works and site administration as provided for under subsection 3.1.3.

3.1.1.4.8 Attendance at site meetings during the construction of the engineering works at a frequency not exceeding once per fortnight.

3.1.1.4.9 Deciding on or assisting the principal agent of the client to decide on disputes or differences that may arise between the client and contractors, excepting litigation and arbitration.

3.1.1.4.10 Issuing variation orders or information to enable variation orders to be issued by others.

3.1.1.4.11 Advising the client regarding the inspection and testing of such materials as are usually inspected and tested and arranging for such inspection and testing to be carried out at the client's expense.

3.1.1.4.12 Making arrangements on behalf of the client for the provision and reproduction of such drawings and documents as may be required by contractors and resident staff for the performance of the engineering works.

3.1.2 ADDITIONAL SERVICES.

Work in connection with the items listed hereunder is additional to the normal services of the professional engineer who will advise the client as to the necessity for such work to be carried out.

3.1.2.1 HOOFAGENT VAN KLIËNT.

Waar die professionele ingenieur as hoofagent van die kliënt aangestel word, bestaan sy bykomende dienste uit die volgende:

3.1.2.1.1 Raad aan die kliënt oor die aanstelling en die omvang van die dienste van ander professionele raadgevers.

3.1.2.1.2 Leierskap van die professionele span.

3.1.2.1.3 Voorlegging van voorlopige en ontwikkelde voorstelle in die vorm van verslae, tekeninge en spesifikasies, tesame met kosteberamings vir die projek in die geheel.

3.1.2.1.4 Verantwoordelikheid vir die algehele administrasie van daardie afdelings van die projek wat binne die bestek van die ander professionele raadgevers val.

3.1.2.1.5 Verantwoordelikheid vir al die koördinerende, programmering van die ontwerp en die finansiële beheer oor die projek.

3.1.2.1.6 Beslegting van geskille wat tussen kliënt en die kontrakteurs kan ontstaan, uitgesonderd regsdinge en arbitrasie.

3.1.2.1.7 Goedkeuring van betaalsertifikate aan kontrakteurs wat deur die ander professionele raadgevers uitgereik is, voordat dit vir betaling aan die kliënt voorgelê word.

3.1.2.1.8 Goedkeuring van die finale rekening vir die projek in die geheel.

3.1.2.2 REGSGEDINGE EN SOORTGELYKE DIENSTE.

Indien die kliënt die volgende pligte aan die professionele ingenieur opdra, moet die betrokke partye tot 'n ooreenkoms geraak oor die omvang daarvan.

3.1.2.2.1 Verkryging van Parlementêre goedkeuring of die verkryging van statutêre magte, lisensie en permitte.

3.1.2.2.2 Bystand met voorgenome of werklike regsdinge of arbitrasieverrigtinge.

3.1.2.2.3 Voorsit by of bywoning van geregshoue en kommissies van ondersoek, gekose komitees en soortgelyke liggame wat kragtens wet, regulasie of verordening ingestel is.

3.1.2.3 DIVERSE BYKOMENDE DIENSTE.

3.1.2.3.1 Onderhandeling met owerhede anders as plaaslike owerhede.

3.1.2.3.2 Opmetings, ondersoeke, ensameer, van bestaande strukture.

3.1.2.3.3 Die tref van reëlins vir deurgangsregte of servitude.

3.1.2.3.4 Aanbring van sodanige hersienings as wat nodig mag wees ten einde die formele toestemming van belanghebbende Staatsdepartemente of openbare owerhede te verseker voortspruitende uit besluite van sodanige departemente of owerhede as gevolg van beleidsveranderinge, of uit ander oorsake buite die beheer van die professionele ingenieur.

3.1.2.3.5 Uitvoer van spesiale ondersoeke of toetse.

3.1.2.3.6 Opstel van of uitvoerige nagaan van werkwinkeltekeninge.

3.1.2.3.7 Uitvoerige bestudering, hersiening en/of nagaan van ontwerpe en/of tekeninge wat nie deur die professionele ingenieur opgestel is nie, maar deur 'n kontrakteur of voornemende kontrakteurs voorgelê is as alternatief vir dié wat by die tender ingesluit is of soortgelyke dokumente wat deur die professionele ingenieur opgestel is.

3.1.2.3.8 Bywoning van terreinvergaderings, benewens die waarna in subartikel 3.1.1.4.8 verwys word.

3.1.2.3.9 Werk wat ontstaan indien 'n kontrakteur in 'n kontrak te voltooi.

3.1.2.1 PRINCIPAL AGENT OF THE CLIENT.

The additional services of the professional engineer when appointed as principal agent of the client shall be—

3.1.2.1.1 advising as to the appointment and delineation of services of other professional advisers by the client;

3.1.2.1.2 leadership of the professional team;

3.1.2.1.3 submission of preliminary and developed proposals in the form of reports, drawings and specifications together with estimates of costs for the project as a whole;

3.1.2.1.4 responsibility for the overall administration of those sections of the project which fall within the ambit of the other professional advisers.

3.1.2.1.5 responsibility for the overall co-ordination, programming of design and financial control of the project;

3.1.2.1.6 deciding on differences that may arise between the client and contractors, excepting litigation and arbitration;

3.1.2.1.7 approval of certificates of payment to contractors issued by the other professional advisers prior to their presentation to the client for settlement;

3.1.2.1.8 approval of the final account for the project as a whole.

3.1.2.2 LITIGATION PROCEEDINGS AND SIMILAR SERVICES.

When the client instructs the professional engineer to undertake the services listed hereunder the extent thereof shall be subject to agreement between the two parties.

3.1.2.2.1 Dealing with Parliamentary approval or obtaining of statutory powers, licences or permits.

3.1.2.2.2 Assisting with contemplated or actual litigation or arbitration proceedings.

3.1.2.2.3 Officiating at or attending courts and Commissions of Enquiry, Select Committees and similar bodies convened by statute, regulation or decree.

3.1.2.3 DIVERSE ADDITIONAL SERVICES.

3.1.2.3.1 Dealing with authorities other than local authorities.

3.1.2.3.2 Surveys, investigations, etc., of existing structures.

3.1.2.3.3 Making arrangements for wayleaves or servitudes.

3.1.2.3.4 Making of such revisions as may be required to obtain the formal approval of the appropriate Government Departments or Public Authorities, resulting from decisions of such authorities arising out of changes in policy and other causes beyond the professional engineer's control.

3.1.2.3.5 Carrying out special investigations or tests.

3.1.2.3.6 Preparation or detailed checking of shop details.

3.1.2.3.7 Detailed inspection, reviewing and/or checking of designs and/or drawings not prepared by the professional engineer and submitted by any contractor or potential contractor as alternative to those embodied in tender or similar documents prepared by the professional engineer.

3.1.2.3.8 Attendance at site meetings in addition to those referred to in section 3.1.1.4.8.

3.1.2.3.9 Work arising from the failure of any contractor to perform his contract.

3.1.2.3.10 Werk deur die professionele ingenieur verrig wat gebruiklik of kontraktueel die plig van die kontrakteur is, waar die kontrakteur vanweë spesiale kontraktuele voorwaardes van sy gebruiklike verpligtings onthef is, of omdat die kontrakteur in gebreke gebly het om sy gebruiklike of kontraktuele verpligtings na te kom.

3.1.2.3.11 Inspeksie van die ingenieurswerk en administrasie van kontrakte vir bykomende tydperke waar die kontrakteur nie sy kontrak binne die vasgestelde tyd voltooi het nie.

3.1.2.3.12 Nagaan en koördineren van, of raadgewing oor enige deel van die projek wat nie deel van die ingenieurswerke is nie.

3.1.2.3.13 Versameling, ontleding en vergelyking van wesentlike gegewens wat nie aan die professionele ingenieur beskikbaar gestel is nie.

3.1.2.3.14 Bykomende dienste soos vervat in—

subartikel 3.2.1.4—nie-aangestelde terreinpersoneel;
subartikel 3.2.5—skade aan of vernietiging van die werke;

subartikel 3.2.6—uitstel, kansellering, vermindering of verlating van die werke;

subartikel 3.2.7—veranderings of wysigings aan ontwerpe.

3.1.2.3.15 Enige ander dienste wat nie spesifiek omskryf is nie.

3.1.3 ADMINISTRASIE EN TERREININSPEKSIE.

Die professionele ingenieur belas met die dienste omskryf in subartikel 3.1.1.4 moet, indien verlang, die nodige en bevoegde terreinpersoneel aanstel vir die doeltreffende kontroliering van die uiteensetting en die daaglikse administrasie en inspeksie van die ingenieurswerke.

3.2 VERGOEDING EN BASIS VAN BETALING VAN DIE PROFESSIONELE INGENIEUR VIR STRUKTURELE EN SIVIELE INGENIEURSWERK WAT MET BOUPROJEKTE IN VERBAND STAAN.

3.2.1 VERGOEDING.

3.2.1.1 NORMALE DIENSTE.

Die vergoeding van die professionele ingenieur vir die normale dienste deur hom gelewer ingevolge subartikel 3.1.1 word op die basis en wyse soos in subartikels 3.3.1 en 3.3.2 uiteengesit, bereken en word, tensy anders ooreengekom, soos volg betaalbaar met dien verstande dat waar slegs 'n gedeeltelike diens verlang word, die gedeeltelike gelde bereken word soos in subartikel 3.2.1.1.5 uiteengesit:

3.2.1.1.1 VERSLAGSTADIUM: SUBARTIKEL 3.1.1.1.

Tien persent van die geld sodra sodanige dienste wat ingevolge die verslagstadium nodig is, afgehandel is.

3.2.1.1.2 VOORLOPIGE ONTWERPSTADIUM: SUBARTIKEL 3.1.1.2.

'n Verdere 10 persent van die geld sodra sodanige dienste wat ingevolge die voorlopige ontwerpstadium nodig is, afgehandel is.

3.2.1.1.3 GEDETAILLEERDE ONTWERPSTADIUM: SUBARTIKEL 3.1.1.3.

'n Verdere 35 persent van die geld by voltooiing van die algemene ooreengekome tekeninge en ander dokumente wat nodig is ten einde tenders vir die ingenieurswerke te vra of om dit deur die kliënt op 'n ander wyse te laat uitbestee.

3.2.1.1.4 KONSTRUKSIESTADIUM: SUBARTIKEL 3.1.1.4.

3.2.1.1.4.1 'n Verdere 30 persent van die geld (of pro rata) by voltooiing van alle werkstekeninge en skedules.

3.2.1.1.4.2 'n Verdere 12½ persent van die geld na gelang met die konstruksiewerk gevorder word, in verhouding tot die koste van die werk verrig.

3.2.1.1.4.3 Die restant van 2½ persent van die geld by afhandeling van die finale kontrakrekening.

3.1.2.3.10 Work done by the professional engineer which it is customarily or contractually incumbent upon the contractor to perform, whether by virtue of special contractual provisions relieving the contractor of customary obligations or in consequence of the contractor's failure to meet customary or contractual obligations.

3.1.2.3.11 Inspection of the engineering works and administration of contracts for additional periods of time in consequence of any contractor failing to complete his contract within the stipulated time.

3.1.2.3.12 Checking, co-ordinating or advising upon any part of the project not forming part of the engineering works.

3.1.2.3.13 Collection, investigation and collation of pertinent data not made available to the professional engineer.

3.1.2.3.14 Additional services as defined in—

subsection 3.2.1.4: resident staff not appointed;
subsection 3.2.5: damage or destruction of the works;
subsection 3.2.6: postponement, cancellation, reduction or abandonment of the works;

subsection 3.2.7: alterations or modifications to designs.

3.1.2.3.15 Any other services not specifically listed.

3.1.3 ADMINISTRATION AND INSPECTION ON SITE.

The professional engineer charged with the services in subsection 3.1.1.4 shall, if required, appoint such competent resident staff as is necessary for the efficient checking of setting out and day-to-day administration and inspection of construction of the engineering works.

3.2 REMUNERATION AND BASIS OF PAYMENT OF THE PROFESSIONAL ENGINEER IN RESPECT OF STRUCTURAL AND CIVIL ENGINEERING WORK PERTAINING TO BUILDING PROJECTS.

3.2.1 REMUNERATION.

3.2.1.1 NORMAL SERVICES.

The remuneration of the professional engineer for the normal services performed by him under subsection 3.1.1 shall be calculated on the basis and in the manner set out in subsections 3.3.1 and 3.3.2 and shall become due to the professional engineer, unless otherwise agreed, as follows, provided that when partial services only are required the partial fee shall be as set out in subsection 3.2.1.1.5.

3.2.1.1.1 REPORT STAGE: SUBSECTION 3.1.1.1.

Ten per cent of the fee when such services as may be necessary under the report stage have been completed.

3.2.1.1.2 PRELIMINARY DESIGN STAGE: SUBSECTION 3.1.1.2.

A further 10 per cent of the fee when such services as may be necessary under the preliminary design stage have been completed.

3.2.1.1.3 DETAILED DESIGN STAGE: SUBSECTION 3.1.1.3.

A further 35 per cent of the fee on completion of the general arrangement drawings and other documents necessary to enable the engineering works to be tendered for or otherwise placed by the client.

3.2.1.1.4 CONSTRUCTION STAGE: SUBSECTION 3.1.1.4.

3.2.1.1.4.1 A further 30 per cent of the fee (or pro rata) on completion of all working drawings and schedules.

3.2.1.1.4.2 A further 12½ per cent of the fee as and when the construction work proceeds in proportion to the cost of work done.

3.2.1.1.4.3 The remaining 2½ per cent of the fee on completion of the contract final account.

3.2.1.1.5 GEDEELTELIKE DIENSTE.

Indien van die professionele ingenieur verlang word om slegs 'n gedeelte van die dienste genoem in subartikels 3.1.1.1, 3.1.1.2 en 3.1.1.3 te verrig, word die gelde soos volg toegeedeel:

3.2.1.1.5.1 Slegs verslag- en voorlopige ontwerpstadium: 30 persent van die geld.

3.2.1.1.5.2 Slegs verslag- en voorlopige ontwerp- en gedetailleerde ontwerpstadium, insluitende voorbereiding van bewapeningsbesonderhede en buigskedules: 95 persent van die geld.

3.2.1.1.5.3 Slegs konstruksiestadium, maar uitgesonderd die voorbereiding van bewapeningsbesonderhede en buigskedules: 25 persent van die geld.

3.2.1.2 BYKOMENDE DIENSTE.

Die gelde vir bykomende dienste verrig ingevolge subartikel 3.1.2 is soos volg:

3.2.1.2.1 HOOAGENT VAN DIE KLIËNT.

Die gelde vir die bykomende dienste verrig deur die professionele ingenieur as hoofagent van die kliënt ingevolge subartikel 3.1.2.1 word bereken ingevolge subartikel 3.3.3.1 toegeedeel soos vir normale dienste ingevolge subartikel 3.2.1.1.

3.2.1.2.2 REGSGEDINGE

Die gelde vir die dienste wat deur die professionele ingenieur kragtens subartikel 3.1.2.2 verrig word, word bereken op 'n tydskedule teen die tariewe in subartikel 3.3.3.2 vervat. Die gelde vir die dienste van ander tegniese personeel word bereken op 'n tydskedule teen die tariewe in subartikel 3.3.4 vervat.

3.2.1.2.3 DIVERSE BYKOMENDE DIENSTE.

Die gelde vir diverse bykomende dienste wat deur die professionele ingenieur kragtens subartikel 3.1.2.3 verrig word, word op 'n tydskedule teen die tariewe in subartikel 3.3.4 vervat.

3.2.1.3 WAAR TERREINPERSONEEL NIE AANGESTEL WORD NIE.

Waar bevoegde terreinpersoneel nie ingevolge subartikel 3.1.3 aangestel is nie, hef die professionele ingenieur vir die nodige bykomende dienste deur hom of sy personeel gelewer, en vir terreinbesoeke bo en behalwe die besoeke waarna in subartikel 3.1.1.4.7 verwys word, 'n geld op 'n tydskedule teen die tariewe in subartikel 3.3.4 vervat.

3.2.1.4 WERKE OP VERSKILLENDE PLEKKE EN WERKE IN STADIUMS OF AFDELINGS.

3.2.1.4.1 Gelde vir werk wat op verskillende nie-aangrensende terreine verrig word, selfs waar sodanige werk deel uitmaak van een omvattende opdrag, word afsonderlik bereken as afsonderlike opdragte teen die toepaslike tariewe vervat in subartikel 3.3.

3.2.1.4.2 Indien ingenieurswerke met die toestemming of op versoek van die kliënt onderbreek word, of indien die ingenieurswerke gefragmenteer sou word deurdat dit in afsonderlik gedokumenteerde stadiums of afdelings uitgevoer word, word die gelde vir elke stadium of afdeling afsonderlik bereken as afsonderlike opdragte teen die toepaslike tariewe vervat in subartikel 3.3.

3.2.1.5 GELDE VIR HERGEBRUIK VAN VOLTOOIDE ONTWERPE, ENSOMEER.

Waar 'n kliënt verlang om een of meer herhalings van 'n besondere aanleg op te rig waarvoor die professionele ingenieur sy ondersoeke, ontwerpe, tekeninge en spesifikasies ensomeer, kragtens 'n vorige ooreenkoms voltooi het en waarvoor hy reeds betaal is, is die professionele ingenieur se geld vir die hergebruik van sodanige dokumente onderhandelbaar tussen die professionele ingenieur en die kliënt op voorwaarde dat sodanige geld nie minder is nie

3.2.1.1.5 PARTIAL SERVICES.

When the professional engineer is required to perform only part of the services set out in subsections 3.1.1.1, 3.1.1.2, 3.1.1.3 and 3.1.1.4, then fees shall be apportioned as follows:

3.2.1.1.5.1 Report stage and preliminary design stage only—30 per cent of the fee.

3.2.1.1.5.2 Report stage, preliminary design stage and detailed design stage only, including preparation of reinforcing details and bending schedules—95 per cent of the fee.

3.2.1.1.5.3 Construction stage only, but excluding the preparation of reinforcing details and bending schedules—25 per cent of the fee.

3.2.1.2 ADDITIONAL SERVICES.

The fees for additional services carried out under subsection 3.1.2 shall be as follows:

3.2.1.2.1 PRINCIPAL AGENT OF THE CLIENT.

The fees for the additional services performed by the professional engineer as principal agent of the client under subsection 3.1.2.1 shall be in accordance with subsection 3.3.3.1 apportioned as for normal services under subsection 3.2.1.1.

3.2.1.2.2 LITIGATION PROCEEDINGS.

The fees for the services performed by the professional engineer under subsection 3.1.2.2 shall be calculated on a time basis at the rates set out in subsection 3.3.3.2. Fees for the services of other technical staff shall be calculated on a time basis at the rates set out in subsection 3.3.4.

3.2.1.2.3 DIVERSE ADDITIONAL SERVICES.

The fees for diverse additional services performed by the professional engineer under subsection 3.1.2.3 shall be calculated on a time basis at the rates set out in subsection 3.3.4.

3.2.1.3 RESIDENT STAFF NOT APPOINTED.

When competent resident staff is not appointed then the professional engineer shall charge for the necessary additional services rendered by himself or his staff and for site visits additional to those referred to in subsection 3.1.1.4.7 on a time basis at the rates set out in subsection 3.3.4.

3.2.1.4 WORKS AT DIFFERENT SITES AND WORKS IN STAGES OR SECTIONS.

3.2.1.4.1 The fees for engineering works undertaken at separate non-contiguous sites, even if such works form part of one overall appointment, shall be separately calculated as separate assignments at the appropriate rates set out in subsection 3.3.

3.2.1.4.2 When, with the agreement or at the request of the client, the continuity of the engineering works is interrupted or the engineering works are fragmented by being constructed in separately documented stages or sections, then the fees for each stage or section shall be separately calculated as separate assignments at the appropriate rates set out in subsection 3.3.

3.2.1.5 FEES FOR RE-USE OF COMPLETED DESIGNS, ETC.

Where the client wishes to erect one or more duplicates of a particular works for which the professional engineer has completed investigations, designs, drawings and specifications, etc., under a prior agreement and for which he has already been remunerated, then the fee to be charged by the professional engineer for the re-use of such documents shall be negotiable between the professional engineer and the client provided that such fee shall not be less than one-quarter of the apportioned fee for normal and additional services carried out in the report, preliminary design and detailed design stages based on the undated

dienste wat verrig word in die verslag-, voorlopige ontwerp- en gedetailleerde ontwerpstadium bereken op die aangesuiwerde koste van die werke wat herhaal word: Met dien verstande dat die professionele ingenieur bykomend vergoed word vir sodanige nuwe werk wat hy noodgedwonge moet verrig en vir alle herhaalbare uitgawes. Indien die professionele ingenieur se dienste behou word vir die konstruksiestadium, is die geld vir sy dienste en enige bykomende werk verrig gedurende die konstruksiestadium die volle toegedeelde geld vir die diens bereken op die aangesuiwerde koste van die werke wat herhaal is.

3.2.2 TUSSENTYDSE BETALINGS AAN DIE PROFESSIONELE INGENIEUR.

3.2.2.1 Ten einde die tussentydse betalings ingevolge subartikel 3.2.1.1 te bereken, word die koste van die ingenieurswerke geag die volgende te wees:

3.2.2.1.1 Die bedrag van die aanvaarde tender; of

3.2.2.1.2 indien geen tender aanvaar is nie, die bedrag van die tender wat deur die hoofagent van die kliënt in oorleg met die professionele ingenieur as die geskikste aanbeveel is; of

3.2.2.1.3 indien die kontrak deur onderhandeling toegestaan is, die onderhandelde prys; of

3.2.2.1.4 indien geen tenders gevra word of indien geen geskikte tenders ontvang is of indien geen onderhandeling aangegaan is nie, die beraming waaroor onderling ooreengekom is.

3.2.2.2 Sodanige tussentydse betalings geskied in die rangorde van die totale geld uiteindelik betaalbaar en word bereken op die finale koste van die werke, soos vervat in subartikel 3.2.3.

3.2.3 KOSTE VAN DIE INGENIEURSWERKE.

3.2.3.1 Ten einde die totale gelde te bereken wat uiteindelik betaalbaar is ingevolge subartikel 3.2.2.2, is die koste van die ingenieurswerke, of enige gedeelte daarvan, die volgende:

3.2.3.1.1 Die bedrag wat gesertifiseer is vir uitbetaling aan die kontrakteurs ten opsigte van werke wat ontwerp, gesertifiseer of geadministreer is deur die professionele ingenieur, voor aftrekking van gelikwideerde skadevergoeding of boetes (indien enige); en

3.2.3.1.2 waar ingenieurswerke as deel van 'n kontrak uitgevoer word, word die koste van die items in die voorlopige en algemene afdeling van die hoeveelheidslys soos volg aangesuiwer:

3.2.3.1.2.1 Items uitsluitend gekoppel aan die koste van die struktuur, word uit die voorlopige en algemene afdeling gehaal en by die koste van die ingenieurswerke gevoeg en; daarna

3.2.3.1.2.2 word die koste van alle items in die voorlopige en algemene afdeling ingesluit in die verhouding van die koste van die ingenieurswerke tot die totale koste van die projek nadat alle voorlopige en algemene items in hierdie subartikel afgetrek is; en

3.2.3.1.3 waar die kliënt materiaal, arbeid, gehuurde of verhuurde toerusting, vervaardigde goedere of masjinerie verskaf, 'n regstreekse en billike waardasie gegrond op die normale tariewe van kontrakteurs vir soortgelyke items, met inbegrip van waardevermindering, verspilling en herstelwerk, bedryfskoste en winste; en

3.2.3.1.4 die markwaarde, asof nuut aangekoop, van enige halfslyt materiaal, vervaardigde goedere en masjinerie ingebou in die ingenieurswerke.

3.2.3.2 Die koste van die ingenieurswerke sluit die volgende in:

3.2.3.2.1 Alle tydelike werke verbonde aan die gedeeltes van die projek in hierdie subartikel omskryf

cost of the works as duplicated or repeated provided that the professional engineer shall, in addition, be remunerated for such new work as it may be necessary for him to perform and that he shall be paid for all disbursements and expenses. Should the professional engineer's services be retained for the construction stage, the fee to be charged by the professional engineer for services and any additional services carried out during the construction stage shall be the full apportioned fee for this service based on the updated cost of the works as duplicated or repeated.

3.2.2 INTERIM PAYMENTS TO THE PROFESSIONAL ENGINEER.

3.2.2.1 For the purpose of ascertaining the interim payments due under subsection 3.2.1.1 the cost of the engineering works shall be—

3.2.2.1.1 the amount of the accepted tender; or

3.2.2.1.2 if no tender is accepted, the amount of the tender recommended as the most suitable by the principal agent of the client in consultation with the professional engineer; or

3.2.2.1.3. if the contract is awarded by negotiation, the negotiated price; or

3.2.2.1.4 if no tenders are invited or if no suitable tenders are received or if no negotiation is concluded, the mutually agreed estimate.

3.2.2.2. Such interim payments shall rank solely towards the total fee ultimately payable which shall be calculated on the final cost of the works as defined in subsection 3.2.3.

3.2.3 COST OF THE ENGINEERING WORKS.

3.2.3.1 For the purpose of calculating the total fee ultimately payable in terms of subsection 3.2.2.2, the cost of the engineering works or any part thereof, shall be—

3.2.3.1.1 the amount certified for payment to contractors in respect of works designed, specified or administered by the professional engineer, before deduction of liquidation damages or penalties (if any); and

3.2.3.1.2 where the engineering works are carried out as a portion of a contract, the cost of items under the preliminary and general section of the contract bill of quantities adjusted as follows:

3.2.3.1.2.1 Items uniquely related to the cost of the structure shall be removed from the preliminary and general section and added to the cost of the engineering works; and thereafter,

3.2.3.1.2.2 the cost of all other items under the preliminary and general section shall be included in the proportion that the costs of the engineering works bears to the total cost of the project after deducting all preliminary and general items in this subsection 3.2.3.1.2.2; and

3.2.3.1.3 where the client provides materials, labour, hired or rented plant, manufactured goods or machinery, a direct and fair valuation based on normal charges by contractors for similar items including depreciation, waste and repairs, overhead and profit; and

3.2.3.1.4 the market value, as though they were purchased new, of any second-hand materials, manufactured goods and machinery incorporated in the engineering works.

3.2.3.2 The cost of the engineering works shall include—

3.2.3.2.1 all temporary works associated with the

3.2.3.2.2 Alle uitgravings wat volgens die professionele ingenieur se tekeninge of onder sy toesig uitgevoer is.

3.2.3.2.3 Alle beton, bewapeningstaal, boustaalwerk, timmerhout, aluminium en enige ander strukturele materiaal aangedui op die professionele ingenieur se tekening en waarvoor hy verantwoordelik is.

3.2.3.2.4 Bekisting vir beton.

3.2.3.2.5 Een-derde, of ander toepaslike verhouding van die koste van die draaierwerk wat deur die professionele ingenieur ontwerp en op sy tekeninge aangedui is.

3.2.3.2.6 Fondamente vir mure deur die professionele ingenieur ontwerp en gedetailleer.

3.2.3.2.7 Pantsering van strukturele raamwerk wat deur die professionele ingenieur ontwerp en op sy tekeninge aangedui is.

3.2.3.2.8 Invoegsels in beton of deur strukturele staalwerk wat deur die professionele ingenieur op sy tekeninge aangedui en in sy ontwerp in ag geneem is.

3.2.3.2.9 Bouerswerk en dekoratiewe behandeling van strukturele raamdele wat 'n ontwerp en/of tekening van die professionele ingenieur vereis.

3.2.3.2.10 Die koste van enige werk in verband met proefboorwerk, proefheiwark, die meet van grondweerstand, graaf van tunnels, ensomeer, waarvoor die professionele ingenieur kontrakdokumente moet opstel en/of wat hy moet inspekteer of administreer.

3.2.3.3 Die koste van die ingenieurswerke sluit nie die volgende in nie:

3.2.3.3.1 Administratiewe uitgawes deur die kliënt aangegaan.

3.2.3.3.2 Professionele gelde en verhaalbare uitgawes.

3.2.3.3.3 Opmetingskoste.

3.2.3.3.4 Salarisse, reistoelae, toevallige en kantooruitgawes van die terreinpersoneel.

3.2.3.3.5 Rente op kapitaal gedurende konstruksie en die heffingskoste op geld wat nodig is om die ingenieurswerke uit te voer.

3.2.3.3.6 Koste van grond en deurgangsregte.

3.2.4 SKADE AAN OF VERNIETIGING VAN WERKE.

Indien enige gedeelte van die werke of die toerusting daarvoor te enige tyd beskadig of vernietig word weens corlog, brand, storms, vloedwater of ander oorsake buite die beheer van die professionele ingenieur voordat die werke voltooi is, betaal die kliënt die professionele ingenieur die toepaslike geld vir enige bykomende werk wat deur hom ontwerp, geïnspekteer en/of geadministreer moet word as gevolg van sodanige skade of vernietiging.

3.2.5 UITSTEL, KANSELLERING, VERMINDERING OF VERLATING VAN DIE WERKE.

3.2.5.1 Indien, nadat die kliënt opdrag aan die professionele ingenieur gegee het om voort te gaan met enige van die fases waarna in subartikels 3.1.1.1, 3.1.1.2, 3.1.1.3 en 3.1.1.4 verwys word, die werke in die geheel of 'n gedeelte daarvan uitgestel, gekanselleer of verlaat word, word die professionele ingenieur se gelde vir dienste verrig ten opsigte van daardie deel van die werke wat aldus uitgestel, gekanselleer of verlaat is, bereken ingevolge subartikel 3.2.1.1, plus 'n toeslag van een-tiende, en ingevolge enige ander toepaslike subartikels in verhouding tot die dienste verrig voordat die werke uitgestel, gekanselleer of verlaat is. Indien die uitgestelde werke, of 'n gedeelte daarvan, binne twee jaar daarna hervat word, word enige betalings uitgesonderd die toeslag, wat ingevolge hierdie voornoemde artikel gemaak is, geag betalings te wees

3.2.3.2.2 all excavations carried out in accordance with the professional engineer's drawings or under his direction;

3.2.3.2.3 all concrete, reinforcing steel, structural steelwork, timber, aluminium and any other structural material shown on the professional engineer's drawings and for which he is responsible;

3.2.3.2.4 formwork to concrete;

3.2.3.2.5 one-third, or other appropriate proportion, of the cost of load-bearing brickwork designed by the professional engineer and shown on his drawings;

3.2.3.2.6 wall foundations designed and detailed by the professional engineer;

3.2.3.2.7 cladding to structural frames designed by the professional engineer and shown on his drawings;

3.2.3.2.8 inserts in concrete or through structural steelwork which the professional engineer has to indicate on his drawings and take into account in his design;

3.2.3.2.9 builder's work and decorative treatment to structural members requiring design and/or drawings by the professional engineer;

3.2.3.2.10 the cost of any work in exploratory drilling, test piling, soil resistivity measurement, excavation of adits, etc., for which the professional engineer is required to prepare contract documents and/or which he is required to inspect or administer.

3.2.3.3 The cost of the engineering works shall not include—

3.2.3.3.1 Administrative expenses incurred by the client;

3.2.3.3.2 professional fees and disbursements;

3.2.3.3.3 cost of surveys;

3.2.3.3.4 salaries, travelling, out-of-pocket and office expenses of resident staff;

3.2.3.3.5 interest on capital during construction and the cost of raising moneys required for carrying out the construction of the engineering works;

3.2.3.3.6 cost of land and wayleaves.

3.2.4 DAMAGE OR DESTRUCTION OF WORKS.

If, at any time before the completion of the engineering works, any part of the works or of the equipment therefor is damaged or destroyed by operations of war, fire, storm, flood or other cause beyond the control of the professional engineer, the client shall pay to the professional engineer the appropriate fee for any additional work which may be required to be designed, inspected and/or administered by him as a result of such damage or destruction.

3.2.5 POSTPONEMENT, CANCELLATION, REDUCTION OR ABANDONMENT OF WORKS.

3.2.5.1 If, instructions having been given by the client to the professional engineer to proceed with any of the stages referred to in subsections 3.1.1.1, 3.1.1.2, 3.1.1.3 and 3.1.1.4, the whole or any part of the engineering work is postponed, cancelled or abandoned, then the payment to be made to the professional engineer for services performed in respect of that part of the works so postponed, cancelled or abandoned, shall be determined in accordance with subsection 3.2.1.1, plus a surcharge of one-tenth, and in accordance with such other subsection as may be applicable, in proportion to the services performed prior to the works being postponed, cancelled or abandoned. If, within two years, the postponed works, or any part thereof, shall again proceed, then any relevant payments made under this section,

bereken op die koste van die werke soos vervat in subartikel 3.2.3. Indien bykomende dienste van die professionele ingenieur verlang word ten opsigte van die hervatting van die uitgestelde werke, is die professionele ingenieur geregtig op verdere gelde bereken op 'n tydbasis vir sodanige bykomende dienste en teen die tariewe vervat in subartikel 3.3.4.

3.2.5.2 In geval die ingenieurswerke, of 'n gedeelte daarvan, vir langer as twee jaar uitgestel word, word sodanige werke beskou as verlaat te wees.

3.2.5.3 Betalings kragtens hierdie artikel word bereken op die onderling ooreengekome beraming van die koste van die betrokke gedeelte van die werke wat voltooi was ten tyde van die uitstel, kansellering of verlating daarvan.

3.2.6 VERANDERING OF WYSIGINGS AAN ONTWERPE.

Indien omstandighede hulle voordoen wat redelikerwys nie voorsien kon gewees het nie, of as die kliënt of sy hoofagent die ontwerpvereiste wysig wat verandering noodsaak aan voltooië ontwerpe, of veranderinge aan ontwerpe waaraan gewerk word en wat ook die verandering of heropstel vereis van enige spesifikasie, tekening of ander dokument wat in die geheel of gedeeltelik deur die professionele ingenieur opgestel is, is die werk verbode aan sodanige hersiening, wysiging of reproduksie van sodanige ontwerpe, tekenings of dokumente om die werk te bring tot in die stadium waar dit gewysig is, onderworpe aan bykomende betalings welke bykomende betaling bereken word op 'n tydbasis teen die tariewe vervat in subartikel 3.3.4.

3.2.7 GEGEWENS AAN PROFESSIONELE INGENIEUR VERSKAF TE WORD.

Die kliënt moet óf regstreeks óf deur tussenkoms van sy hoofagent die volgende kosteloos aan die professionele ingenieur verskaf:

3.2.7.1 Alle planne en profiele van die projek (op 'n skaal nie minder nie as 1 tot 100) en alle sodanige terreinplanne op 'n praktiese skaal met hoogtes, en alle sodanige tersaaklike detailtekeninge as wat die professionele ingenieur redelikerwys nodig mag hê.

3.2.7.2 Alle tersaaklike gegewens en inligting tesame met sodanige hulp wat redelikerwys nodig is vir die professionele ingenieur om sy werk te verrig.

3.2.7.3 Afskrifte van alle kontrakdokumente, tekeninge en ondersteunende dokumente wat betrekking het op daardie dele van die projek waarmee die ingenieurswerke in verband staan, met inbegrip van die algemene kontrakvoorwaardes waar dit van toepassing is.

3.2.7.4 Afskrifte van alle wysigingstekeninge en -opdragte wat die ingenieurswerke raak.

3.3 GELDETARIEF VIR SIVIELE EN BOUKUNDIGE INGENIEURSWERK IN VERBAND MET BOUPROJEKTE.

3.3.1 WERK VAN NORMALE AARD.

Vir werk wat normale eise aan die professionele ingenieur se tyd stel, is die gelde soos volg:

towards the total fee actually payable and calculated on the cost of the works as defined in subsection 3.2.3. Should additional services by the professional engineer be required in connection with resumption of the postponed works, the professional engineer shall charge for such additional services on a time basis at the rates set out in subsection 3.3.4.

3.2.5.2 In the event of the engineering works, or any part thereof, being postponed for a period longer than two years, such works shall be considered as having been abandoned.

3.2.5.3 Payments under this section shall be calculated on the mutually agreed estimate of the cost of the relevant part of the works having been completed at the time of its postponement, cancellation or abandonment.

3.2.6 ALTERATIONS OR MODIFICATIONS TO DESIGNS.

In the event of circumstances arising which could not have been reasonably foreseen, or in the event of the client or principal agent of the client modifying the design requirements necessitating alterations to completed designs or alterations to designs in progress and which also require the alteration or remaking of any specification, drawing, or other document prepared in whole or in part by the professional engineer, the whole of the cost of revising, amending or reproducing such designs, drawings or documents to bring the work up to the stage at which it was modified shall be subject to additional payment, calculated on a time basis at the rates set out in subsection 3.3.4.

3.2.7 DATA TO BE SUPPLIED TO THE PROFESSIONAL ENGINEER.

The client either directly or through his principal agent shall supply free of charge to the professional engineer—

3.2.7.1 all such plans and sections of the project (to a scale of not less than 1 to 100) and all such site plans to a practical scale giving levels and all such relevant detail drawings as the professional engineer may reasonably require;

3.2.7.2 all pertinent data and information together with such assistance as shall reasonably be required to enable the professional engineer to perform his services;

3.2.7.3 copies of all contract documents, drawings and supporting documents relating to those parts of the project which are relevant to the engineering works including the general conditions of contract where applicable;

3.2.7.4 copies of all variation drawings and orders affecting the engineering works.

3.3 TARIFF OF FEES FOR CIVIL AND STRUCTURAL ENGINEERING WORK PERTAINING TO BUILDING PROJECTS.

3.3.1 WORK OF NORMAL CHARACTER.

In respect of works making normal demands on the time of the professional engineer the fees shall be:

	Waar die koste van die werk is		Die geld is die som van die primêre geld genoem in kolom 3 en die sekondêre geld bereken kragtens kolom 4	
	meer is as (Kolom 1)	maar nie meer nie as (Kolom 2)	Primêre geld (Kolom 3)	Persentasie van sekondêre geld bereken op totale koste van die werk (Kolom 4)
(a).....	R	R	R	%
(b).....	40 000	40 000	150	10,00
(c).....	80 000	80 000	550	9,00
(d).....	200 000	200 000	1 350	8,00
(e).....	400 000	400 000	2 350	7,50
(f).....	800 000	800 000	4 350	7,00
(g).....	2 000 000	2 000 000	8 350	6,50
(h).....	4 000 000	4 000 000	12 350	6,00

	Where the cost of the works—		The fee shall be the sum of the primary fee stated in column 3 and the secondary fee calculated in terms of column 4	
	Exceeds— (column 1)	but does not exceed (column 2)	Primary fee (column 3)	Percentage for secondary fee calculated on the total cost of the works (column 4)
	R	R	R	%
(a).....	—	40 000	150	10,0
(b).....	40 000	80 000	550	9,0
(c).....	80 000	200 000	1 350	8,0
(d).....	200 000	400 000	2 350	7,5
(e).....	400 000	800 000	4 350	7,0
(f).....	800 000	2 000 000	8 350	6,5
(g).....	2 000 000	—	18 350	6,0

3.3.2 WERK NIE VAN NORMALE AARD NIE.

Ten opsigte van werke op gedeeltes van werke wat buitengewone hoë eise stel aan die professionele ingenieur se tyd in verhouding tot die koste van die werke, word die gelde genoem in subartikel 3.3.1 of die gedeelte van sodanige gelde ooreenstemmend met die koste van sodanige gedeelte van die werke, na gelang van die geval, met die volgende persentasies verhoog:

3.3.2.1 Vir wysigings aan bestaande werke: 25 persent.

3.3.2.2 Vir alle ander tipes werk wat oormatig tydrowend is: Ingevolge subartikel 1.6.

3.3.3 BYKOMENDE DIENSTE.

3.3.3.1 HOOAGENT VAN DIE KLIËNT.

Die bykomende geld vir die dienste wat kragtens subartikel 3.1.2.1 as die hoofagent van die kliënt gelewer word, is een persent van die totale koste van die projek.

3.3.3.2 REGSGEDINGE EN SOORTGELYKE DIENSTE.

Die volgende geld is aan die professionele ingenieur betaalbaar vir dienste gelewer:

	Hoof, vennoot of direkteur R	Ander professionele ingenieurs R
3.3.3.2.1 Voorlopige werk:		
Tarief per uur.....	35	25
3.3.3.2.2 Verskyning in hof:		
Tarief per dag:		
3.3.3.2.2.1 Eerste dag....	500	350
3.3.3.2.2.2 Daaropvolgende dae	300	200

3.3.4 GELDE OP TYDBASIS.

Die geldetarief op 'n tydbasis is soos volg:

3.3.4.1 'n Hoof, vennoot of direkteur: R25 per uur.

3.3.4.2 Tegniese personeel: Teen 'n tarief van 15c per uur per R100, of gedeelte daarvan, van die jaarsalaris, plus bonus, indien enige:

Met dien verstande dat hierdie tariewe geag word vestigingsgeld en tyd deur klerklike personeel bestee, in te sluit wat dus nie afsonderlik vorderbaar is nie.

3.3.5 BYKOMENDE BETALINGS.

Die volgende geld word aan die professionele ingenieur betaal vir tyd bestee aan reise deur hom en sy personeel in die loop van hul werk:

3.3.5.1 REISTYD.

'n Vordering teen die tarief neergelê in subartikel 3.3.4 vir die tyd, agt ure per dag nie te bowegaande nie, deur die professionele ingenieur en/of lede van sy personeel aan reis bestee. Indien die retoerrit van en na sy kantoor nie meer as 50 km is nie, word die professionele ingenieur nie vergoed vir die tyd aan reis bestee nie, behalwe waar hy op 'n tydbasis vergoed word.

3.3.2 WORK NOT OF NORMAL CHARACTER.

In respect of works or parts of works which make demands on the time of the professional engineer which are unusually high in relation to the cost of the works, the fees stated in subsection 3.3.1 or the portion of such fee corresponding to the cost of such part of the works, as the case may be, shall be increased by the following percentages:

3.3.2.1 For alterations to existing works: 25 per cent.

3.3.2.2 For all other types of disproportionately time-consuming work: In accordance with subsection 1.6.

3.3.3 ADDITIONAL SERVICES.

3.3.3.1 PRINCIPAL AGENT OF THE CLIENT.

The additional fee for services performed under subsection 3.1.2.1 as principal agent of the client shall be the amount of one per cent of the total project cost.

3.3.3.2 LITIGATION PROCEEDINGS AND SIMILAR SERVICES.

The professional engineer's fees for services performed shall be:

	Principal, partner or director R	Other professional engineers R
3.3.3.2.1 Preliminary work:		
Rate per hour.....	35	25
3.3.3.2.2 Court appearances:		
Rate per day:		
3.3.3.2.2.1 First day.....	500	350
3.3.3.2.2.2 Subsequent days	300	200

3.3.4 TIME BASIS FEE.

The scale of fees on a time basis shall be as follows:

3.3.4.1 A principal, partner or director: R25 per hour;

3.3.4.2 technical staff: At a rate of 15c per hour per R100 or part thereof of the total annual salary plus bonus, if any:

Provided that these rates shall be deemed to include establishment charges and for time expended by clerical staff which shall, therefore, not be chargeable separately.

3.3.5 ADDITIONAL PAYMENTS.

The fee for time spent in travelling by the professional engineer and his staff in performing their services shall be as follows:

3.3.5.1 TRAVELLING TIME.

A charge at the rate set out in subsection 3.3.4 for all time spent in travelling by the professional engineer and/or members of his staff not exceeding eight hours per day. When the journey does not exceed 50 km recorded to and from his office, the professional engineer shall not be reimbursed for time spent in travelling unless payment of fees is being made on a time basis.

4. MEGANIESE EN ELEKTRIESE INGENIEURSWERK IN VERBAND MET BOUPROJEKTE.

4.1 WERK DEUR DIE PROFESSIONELE INGENIEUR VERRIG TE WORD.

4.1.1 NORMALE DIENSTE.

Die dienste wat normaalweg deur die professionele ingenieur verrig word, behels die volgende:

4.1.1.1 VERSLAGSTADIUM.

Die opstel en voorlegging van 'n verslag met voorlopige voorstelle of gangbaarheidstudies en kostebereamings vir oorweging deur die kliënt en, indien nodig, met inbegrip van—

4.1.1.1.1 samesprekings met die kliënt en/of sy gemagtigde verteenwoordiger, en/of enige ander professionele raadgewer deur die kliënt vir die werke aangestel;

4.1.1.1.2 besigtiging van die terrein van die werke;

4.1.1.1.3 voorlopige ondersoek, beplanning en ontwerp waar nodig om gangbaarheid te bepaal;

4.1.1.1.4 samesprekings met plaaslike owerhede;

4.1.1.1.5 raad aan die kliënt oor die noodsaaklikheid vir opmetings van enige aard, ontledings, toetse en/of terrein- of ander ondersoeke waar nodig vir afhandeling van die verslag, en die tref van reëlins om dit op koste van die kliënt uit te voer.

4.1.1.2 VOORLOPIGE ONTWERPSTADIUM.

In opvolging van die kliënt se opdragte om voort te gaan, die ontwikkeling van die voorlopige voorstelle, of die basiese beplanning van die werke, soos deur die kliënt verlang en, indien nodig, met inbegrip van—

4.1.1.2.1 voorlegging van 'n basiese beplanningsverslag, indien deur die kliënte verlang;

4.1.1.2.2 bepaling van finale ontwerpmaatstawwe;

4.1.1.2.3 raad aan die kliënt oor die noodsaaklikheid vir verdere opmetings van enige aard, ontledings, toetse en/of terrein- of ander ondersoeke waar nodig, en die tref van reëlins om dit op koste van die kliënt uit te voer;

4.1.1.2.4 raad aan die kliënt, indien nodig, oor die aanstelling en die omvang van die dienste van ander professionele ingenieurs, argitekte en deskundige raadgewers en die tref van reëlins vir sodanige aanstellings en samesprekings met sodanige raadgewers oor sake rakende die werke;

4.1.1.2.5 opstel en voorlegging van voorlopige ontwerp-tekeninge en aangesuiwerde beramings.

4.1.1.3 GEDETAILLEERDE ONTWERPSTADIUM.

Die ontwikkeling van die voorlopige ontwerpe tot gedetailleerde ontwerpe en, indien nodig, met inbegrip van—

4.1.1.3.1 voorbereiding van ontwerpe, tenderteekeninge, dokumente en hoeveelheidslyste;

4.1.1.3.2 verskaffing van inligting in die breë wat nodig is vir die ontwerp van ander professionele dienste;

4.1.1.3.3 opstel of wysiging van advertensies vir die vra van tenders, tendervoorwaardes, tendervorms en kontrakvoorwaardes;

4.1.1.3.4 ontleding van tenders en voorlegging van aanbevelings by die aanvaarding van tenders.

4.1.1.4 KONSTRUKSIESTADIUM.

Die algemene administrasie van en ander dienste in verband met die uitvoering van die ingenieurswerke en, indien nodig, met inbegrip van—

4.1.1.4.1 plasing van bestellings vir die ingenieurswerke namens die kliënt;

4.1.1.4.2 raad aan die kliënt oor die opstel van die kontrakdokumente of voorbereiding van die kontrak-

4. MECHANICAL AND ELECTRICAL ENGINEERING WORK PERTAINING TO BUILDING PROJECTS.

4.1 SERVICES TO BE PERFORMED BY THE PROFESSIONAL ENGINEER.

4.1.1 NORMAL SERVICES.

The normal services to be performed by the professional engineer are:

4.1.1.1 REPORT STAGE.

The preparation and submission of a report embodying preliminary proposals or feasibility studies and estimates of cost for consideration by the client including as may be necessary:

4.1.1.1.1 Consultation with the client and/or his authorised representative and/or any other professional adviser appointed by the client in connection with the project.

4.1.1.1.2 Inspection of the site of the works.

4.1.1.1.3 Preliminary investigation, planning and design where this is required for determination of feasibility.

4.1.1.1.4 Consultation with local authorities.

4.1.1.1.5 Advising the client as to the need for surveys of any kind, analyses, tests and/or site or other investigations where such are required for the completion of the report and arranging for these to be carried out at the client's expense.

4.1.1.2 PRELIMINARY DESIGN STAGE.

Following the client's instruction to proceed, the development of the preliminary proposals, or the basic planning of the works, as may be required by the client including as may be necessary:

4.1.1.2.1 Submission of a basic planning report if required by the client.

4.1.1.2.2 Establishment of final design criteria.

4.1.1.2.3 Advising the client as to the need for any further surveys of any kind, analyses, tests and/or site or other investigations which may be required and arranging for these to be carried out at the client's expense.

4.1.1.2.4 Advising the client upon the appointment and delineation of the services of other professional engineers, architects and specialist advisers, arranging such appointments and consulting with such advisers in matters affecting the works.

4.1.1.2.5 Preparation and submission of preliminary design drawings and updated estimates.

4.1.1.3 DETAILED DESIGN STAGE.

The development of the preliminary designs into detailed designs including as may be necessary:

4.1.1.3.1 Preparation of designs, tender drawings, documents and specifications.

4.1.1.3.2 Provision of outline information necessary for the design of other professional services.

4.1.1.3.3 Drafting or adapting invitations to tender, tender conditions, forms of tender and conditions of contract.

4.1.1.3.4 Analysis of tenders and submission of recommendations on the acceptance of tenders.

4.1.1.4 CONSTRUCTION STAGE.

The general administration of any other services in connection with the carrying out of the engineering works, including as may be necessary:

4.1.1.4.1 Placing orders for the engineering works on behalf of the client.

4.1.1.4.2 Advising the client as to the preparation of the contract documents, or preparation of the contract

4.1.1.4.3 raad aan die kliënt oor die aanstelling van terreinpersoneel kragtens subartikel 4.1.3;

4.1.1.4.4 verskaffing van ander sodanige inligting, tekeninge en ontwerpe as wat die professionele ingenieur nodig mag ag om die kontrakteur in staat te stel om die installasietekeninge op te stel;

4.1.1.4.5 ondersoek van kontrakteur se tegniese voorstelle en nagaan van kontrakteur se tekeninge, om voldoening aan die ontwerp- en spesifikasievereistes te verseker maar uitgesonderd die uitvoerige nagaan van tekeninge met die oog op koördinasie of oprigtingsjuistheid;

4.1.1.4.6 raad aan die kliënt oor alternatiewe ontwerpe en tenders, maar uitgesonderd die uitvoerige bestudering, hersiening en/of die nagaan van alternatiewe ontwerpe en/of tekeninge wat nie deur die professionele ingenieur opgestel is nie, maar deur 'n kontrakteur of voornemende kontrakteur voorgelê is;

4.1.1.4.7 periodieke besoeke aan die terrein soos nodig geag deur die professionele ingenieur om homself tevrede te stel dat die ingenieurswerke oor die algemeen volgens sy ontwerpe en spesifikasies uitgevoer word, en andersins volgens goeie ingenieurspraktyke, maar uitgesonderd toesig, uitvoerige en daaglikse inspeksie van die werke en terreinadministrasie, soos neergelê in subartikel 4.1.3;

4.1.1.4.8 bywoning van terreinvergaderings tydens die duur van die ingenieurswerke, maar nie meer as eenkeer elke 14 dae nie;

4.1.1.4.9 periodieke waardering van afgehandelde werk met die oog op die uitreiking van betaalsertifikate aan kontrakteurs;

4.1.1.4.10 afhandeling van, of bystand aan kliënt se hoofagent waar hy uitsluitel moet gee oor geskille of verskille wat tussen kliënt en kontrakteurs ontstaan, maar uitgesonderd regsgedinge en arbitrasie;

4.1.1.4.11 die uitreik van wysigingsopdragte, of inligting sodat wysigingsopdragte deur ander uitgereik kan word;

4.1.1.4.12 opmeet of waardasie van wysigings en onderhandeling met die kontrakteur oor die koste daarvan;

4.1.1.4.13 nagaan van kontrakteur se eise ten opsigte van toelaatbare fluktuasies in die koste van die kontrak;

4.1.1.4.14 raad aan die kliënt oor die inspeksie en toets van sodanige materiaal en toerusting wat normaalweg nagegaan en getoets word, en die tref van reëlins dat sodanige inspeksie en toetsing op die kliënt se koste uitgevoer word;

4.1.1.4.15 nagaan van kontrakteur se bedryfsprosedures en aanwesigheid by prestasie- of aanvaardings-toetse op die terrein, maar uitgesonderd daaglikse roetine-toetse;

4.1.1.4.16 die tref van reëlins namens die kliënt vir die verskaffing en reproduksie van sodanige tekeninge en dokumente wat deur die kontrakteurs en terreinpersoneel benodig mag word vir die uitvoering van die ingenieurswerke;

4.1.1.4.17 die tref van reëlins om by voltooiing van die ingenieurswerke die kliënt te voorsien van sodanige rekordtekeninge en handleidings wat nodig mag wees vir die bedryf en instandhouding van die ingenieurswerke;

4.1.1.4.18 opstel van finale rekening.

4.1.2 BYKOMENDE DIENSTE.

Werk in verband met onderstaande items is bykomend tot die normale dienste van die professionele ingenieur wat die kliënt moet inlig oor die noodsaaklikheid dat sodanige werk verrig word.

4.1.1.4.3 Advising the client as to the appointment of site staff in accordance with subsection 4.1.3.

4.1.1.4.4 Provisions of such further information, drawings and designs as may be necessary in the opinion of the professional engineer to enable the installation drawings to be prepared by the contractors.

4.1.1.4.5 Examining contractors' technical proposals and checking contractors' drawings for conformity with design and specification requirements but excluding detailed checking of drawings for co-ordination, erection or installation fit.

4.1.1.4.6 Advising the client on alternative designs and tenders but excluding detailed inspection, reviewing and/or checking of alternative designs and/or drawings not prepared by the professional engineer and submitted by any contractor or potential contractor.

4.1.1.4.7 Periodical visits to the site as considered necessary by the professional engineer to satisfy himself that the engineering works are executed generally in accordance with his designs and specifications and otherwise in accordance with good engineering practice but excluding supervision, detailed and day-to-day inspection of the works and site administration as provided for under subsection 4.1.3.

4.1.1.4.8 Attendance at site meetings during the construction of the engineering works at a frequency not exceeding once per fortnight.

4.1.1.4.9 Periodic valuing of work completed for the purpose of issuing certificates for payment to contractors.

4.1.1.4.10 Deciding on or assisting the principal agent of the client to decide on disputes or differences that may arise between the client and contractors, excepting litigation and arbitration.

4.1.1.4.11 Issuing variation orders or information to enable variation orders to be issued by others.

4.1.1.4.12 Measurement or assessment of variations and negotiation with contractors on the value thereof.

4.1.1.4.13 Checking contractors' claims in respect of allowable fluctuations in the cost of the contract.

4.1.1.4.14 Advising the client regarding the inspection and testing of such materials and plant as are usually inspected and tested and arranging for such inspection and testing to be carried out at the client's expense.

4.1.1.4.15 Checking contractors' commissioning procedures and witnessing performance or acceptance tests on site but excluding day-to-day routine tests.

4.1.1.4.16 Making arrangements on behalf of the client for the provision and reproduction of such drawings and documents as may be required by contractors and resident staff for the performance of the engineering works.

4.1.1.4.17 Making arrangements to provide the client on completion of the engineering works with such record drawings and manuals as may be required for the operation and maintenance of the engineering works.

4.1.1.4.18 Preparation of final account.

4.1.2 ADDITIONAL SERVICES.

Work in connection with the items listed hereunder is additional to the normal services of the professional engineer, who will advise the client as to the necessity for such work to be carried out.

4.1.2.1 HOOFAGENT VAN KLIËNT.

Waar die professionele ingenieur as hoofagent van die kliënt aangestel word, bestaan sy bykomende dienste uit die volgende:

4.1.2.1.1 Raad oor die aanstelling en die omskrywing van dienste van ander professionele raadgewers deur die kliënt.

4.1.2.1.2 Leierskap van die professionele span.

4.1.2.1.3 Voorlegging van voorlopige en ontwikkelde voorstelle in die vorm van verslae, tekeninge en spesifikasies, tesame met kosteberamings vir die projek in die geheel.

4.1.2.1.4 Verantwoordelikheid vir die algehele administrasie van daardie afdelings van die projek wat binne die bestek van die ander professionele raadgewers val.

4.1.2.1.5 Verantwoordelikheid vir al die koördinerings, programmering van die ontwerp en finansiële beheer oor die projek.

4.1.2.1.6 Beslegting van geskille wat tussen kliënt en kontrakteurs mag ontstaan, uitgesonderd regsdinge en arbitrasie.

4.1.2.1.7 Goedkeuring van betaalsertifikate aan kontrakteurs wat deur ander professionele raadgewers uitgereik is, voordat dit vir betaling aan die kliënt voorgelê word.

4.1.2.1.8 Goedkeuring van die finale rekening vir die projek in die geheel.

4.1.2.2 HOEVEELHEIDSLYSTE.

Die professionele ingenieur bedien die kliënt van raad oor die noodsaaklikheid vir die opstel van die dokumente, waarna in subartikels 4.1.1.3.1 en 4.1.1.3.3 verwys word, in die vorm van hoeveelheidslyste ten opsigte van die ingenieurswerke sodat kontrakte op 'n gemete basis geadminestreer kan word en, indien goedgekeur deur die kliënt en uitgevoer deur die professionele ingenieur, word die volgende as bykomende dienste beskou:

4.1.2.2.1 Opstel van uitvoerige hoeveelheidslyste vir die ingenieurswerke of, as die projekontwerp nie ver genoeg gevorder het nie, voorlopige hoeveelheidslyste. Voorlopige hoeveelheidslyste moet later reggestel en nuwe pryse ingevul word.

4.1.2.2.2 Meet van die hoeveelhede, voorbereiding en nagaan van pryse in die finale rekening en onderhandeling met die kontrakteur oor die wyse van betaling.

4.1.2.3 REGSGEDINGE EN SOORTGELYKE DIENSTE.

Indien die kliënt die volgende pligte aan die professionele ingenieur opdra, moet die betrokke partye tot 'n ooreenkoms geraak oor die omvang daarvan.

4.1.2.3.1 Verkryging van Parlementêre goedkeuring of die verkryging van statutêre magte, lisensies en permitte.

4.1.2.3.2 Bystand met voorgenome of werklike regsdinge of arbitrasieverrigtinge.

4.1.2.3.3 Voorsit by of bywoning van geregshoue en kommissies van ondersoek, gekose komitees en soortgelyke liggame wat kragtens wet, regulasie of verordeninge ingestel is.

4.1.2.4 DIVERSE BYKOMENDE DIENSTE.

4.1.2.4.1 Onderhandelinge met owerhede anders as plaaslike owerhede.

4.1.2.4.2 Opmetings, ondersoeke, koste-analise, ensomeer, van bestaande installasies.

4.1.2.4.3 Die tref van reëlins vir deurgangsregte of servitute.

4.1.2.4.4 Onderhandeling oor en/of reëlins vir die verskaffing of verskuiwing van utiliteitsdienste wat nie deel van die ingenieurswerke is nie.

4.1.2.4.5 Aanbring van sodanige hersienings as wat nodig mag wees ten einde die formele toestemming van die belanghebbende staatsdepartemente of openbare owerhede

4.1.2.1 PRINCIPAL AGENT OF THE CLIENT.

The additional services of the professional engineer when appointed as principal agent of the client shall be—

4.1.2.1.1 advising as to the appointment and delineation of services of other professional advisers by the client;

4.1.2.1.2 leadership of the professional team;

4.1.2.1.3 submission of preliminary and developed proposals in the form of reports, drawings and specifications together with estimates of costs for the project as a whole;

4.1.2.1.4 responsibility for the overall administration of those sections of the project which fall within the ambit of the other professional advisers;

4.1.2.1.5 responsibility for the overall co-ordination, programming of design and financial control of the project;

4.1.2.1.6 deciding on differences that may arise between the client and contractors, excepting litigation and arbitration;

4.1.2.1.7 approval of certificates of payment to contractors issued by the other professional advisers prior to their presentation to the client for settlement;

4.1.2.1.8 approval of the final account for the project as a whole.

4.1.2.2 SCHEDULES OF QUANTITIES.

The professional engineer shall advise the client on the need for preparing the documents referred to in subsections 4.1.1.3.1 and 4.1.1.3.3 in the form of schedules of quantities in respect of the engineering works to enable contracts to be administered on a measured basis and, if agreed to by the client and carried out by the professional engineer, the additional services are as set out hereunder:

4.1.2.2.1 Preparation of detailed schedules of quantities for the engineering works or, if the design of the project is not sufficiently advanced, provisional schedules of quantities. Where provisional schedules of quantities are prepared, these shall subsequently be corrected and re-priced.

4.1.2.2.2 Measurement of quantities, preparation and pricing of the final account and negotiation of settlement with contractors.

4.1.2.3 LITIGATION PROCEEDINGS AND SIMILAR SERVICES.

When the client instructs the professional engineer to undertake the services listed hereunder the extent thereof shall be subject to agreement between the two parties.

4.1.2.3.1 Dealing with Parliamentary approval or obtaining of statutory powers, licences or permits.

4.1.2.3.2 Assistance with contemplated or actual litigation or arbitration proceedings.

4.1.2.3.3 Officiating at or attending courts and Commissions of Enquiry, Select Committees and similar bodies convened by statute, regulation or decree.

4.1.2.4 DIVERSE ADDITIONAL SERVICES.

4.1.2.4.1 Dealing with authorities other than local authorities.

4.1.2.4.2 Surveys, investigations, cost analyses, etc., of existing installations.

4.1.2.4.3 Making arrangements for wayleaves or servitudes.

4.1.2.4.4 Negotiating and/or arranging for the provision or diversion of utility services not forming part of the engineering works.

4.1.2.4.5 Making of such revisions as may be required to obtain the formal approval of the appropriate Govern-

te verkry voortspruitend uit besluite van sodanige departemente of owerhede as gevolg van beleidsveranderingen en ander oorsake buite die beheer van die professionele ingenieur.

4.1.2.4.6 Uitvoer van spesiale ondersoeke of toetse.

4.1.2.4.7 Opstel van of uitvoerige nagaan van tekeninge vir terreinkoördinerings, installasietekeninge en werkwinkeltekeninge met die oog op koördinerings, installering of oprigtingsjuistheid.

4.1.2.4.8 Uitvoerige bestudering, hersiening en/of nagaan van ontwerpe en/of tekeninge wat nie deur die professionele ingenieur opgestel is nie, maar deur 'n kontrakteur of voornemende kontrakteur voorgelê is as alternatief vir dié wat by die tender ingesluit is of soortgelyke dokumente wat deur die professionele ingenieur opgestel is.

4.1.2.4.9 Bywoning van terreinvergaderings, benewens die waarna in subartikel 4.1.1.4.8 verwys word.

4.1.2.4.10 Werk wat ontstaan indien 'n kontrakteur in gebreke bly om sy kontrak te voltooi.

4.1.2.4.11 Werk deur die professionele ingenieur verrig wat gebruikelik of kontraktueel die plig van die kontrakteur is, waar die kontrakteur vanweë spesiale kontraktuele voorwaardes van sy gebruikelike verpligtings onthef is, of omdat die kontrakteur in gebreke gebly het om sy gebruikelike of kontraktuele verpligtings na te kom.

4.1.2.4.12 Inspeksie van die ingenieurswerk en administrasie van kontrakte vir bykomende tydperke waar die kontrakteur nie sy kontrak binne die vasgestelde tyd voltooi het nie.

4.1.2.4.13 Nagaan, koördinerings van, of raadgeving oor enige deel van die projek wat nie deel van die ingenieurswerke is nie.

4.1.2.4.14 Reëlins vir periodieke kontrolierings en aanpassing van die ingenieurswerke om behoorlike funksionering van enige proses of stelsel te verseker of vol te hou.

4.1.2.4.15 Ondersoek na en verslaggewing oor tariewe of vorderings wat deur die kliënt gehef kan word.

4.1.2.4.16 Vooruitbestelling of reservering van materiale, die verkryging van lisensies en permitte en die voorlegging van feitelike arbeids- en materiaalopgawes, ensameer.

4.1.2.4.17 Inspeksie en toets (uitgesonderd die op die terrein) van materiale en masjinerie, met inbegrip van inspeksie en werktoetsing gedurende en na vervaardiging.

4.1.2.4.18 Onderhandelings met leweransieowerhede vir spesiale tariewe.

4.1.2.4.19 Versameling, nagaan en vergelyking van wesentlike gegewens wat nie aan die professionele ingenieur beskikbaar gestel is nie.

4.1.2.4.20 Onderhandelings met 'n gekeurde kontrakteur oor 'n kontrak waarvoor openbare tenders nie gevra is nie en wat die nagaan van en ooreenstemming oor die hoeveelhede en netto koste van materiaal en arbeid behels, en as ooreengekom word, byvoeging van persentasies vir oorhoofse uitgawes en vir winste.

4.1.2.4.21 Bykomende werk as gevolg van die gebruik van halfslyt materiaal of toerusting, of materiaal of toerusting wat deur die kliënt verskaf is.

4.1.2.4.22 Uitvoering van bedryfsprosedures of prestatietoetse.

4.1.2.4.23 Opstel van handleidings en ander dokumente waarin die ontwerp, bedryf en die instandhouding van die werke omskryf word.

4.1.2.4.24 Bykomende dienste soos vervat in—

subartikel 4.2.1.4—nie-aangestelde terreinpersoneel;

subartikel 4.2.5—skade aan of vernietiging van die werke;

subartikel 4.2.6—uitstel, kansellering, vermindering of verlating van die werke;

subartikel 4.2.7—veranderinge of wysigings aan ont-

decisions of such authorities arising out of changes in policy and other causes beyond the professional engineer's control.

4.1.2.4.6 Carrying out special investigations or tests.

4.1.2.4.7 Preparation or detailed checking of site co-ordination drawings, installation drawings and shop drawings for co-ordination, erection or installation fit.

4.1.2.4.8 Detailed inspection, reviewing and/or checking of designs and/or drawings not prepared by the professional engineer and submitted by any contractor or potential contractor as alternative to those embodied in tender or similar documents prepared by the professional engineer.

4.1.2.4.9 Attendance at site meetings in addition to those referred to in subsection 4.1.1.4.8.

4.1.2.4.10 Work arising from the failure of any contractor to perform his contract.

4.1.2.4.11 Work done by the professional engineer which it is customarily or contractually incumbent upon the contractor to perform, whether by virtue of special contractual provisions relieving the contractor of customary obligations or in consequence of the contractor's failure to meet customary or contractual obligations.

4.1.2.4.12 Inspection of the engineering works and administration of contracts for additional periods of time in consequence of any contractor failing to complete his contract within the stipulated time.

4.1.2.4.13 Checking, co-ordinating or advising upon any part of the project not forming part of the engineering works.

4.1.2.4.14 Executing or arranging for the periodic monitoring and adjustment of the engineering works in order to establish or maintain proper functioning of any process or system.

4.1.2.4.15 Investigating or reporting upon tariffs or charges leviable by the client.

4.1.2.4.16 Advance ordering or reservation of materials, the obtaining of licences and permits and the submission of actual labour and material returns, etc.

4.1.2.4.17 Inspection and testing (other than on site) of materials and plant, including inspection and works testing during and after manufacture.

4.1.2.4.18 Negotiating with supply authorities for special tariffs.

4.1.2.4.19 Collection, investigation and collation of pertinent data not made available to the professional engineer.

4.1.2.4.20 Negotiating any contract with a contractor selected otherwise than by competitive tendering, involving checking and agreeing quantities and net costs of material and labour and checking and agreeing added percentages to cover overheads and profit.

4.1.2.4.21 Additional work arising out of use of second-hand materials or equipment or of materials or equipment provided by the client.

4.1.2.4.22 Carrying out commissioning procedures or performance tests.

4.1.2.4.23 The preparation of manuals and other documents describing the design, operation and maintenance of the works.

4.1.2.4.24 Additional services as defined in—

subsection 4.2.1.4—resident staff not appointed;

subsection 4.2.5—damage or destruction of the works;

subsection 4.2.6—postponement, cancellation, reduction or abandonment of the works.

subsection 4.2.7—alterations or modifications to designs

4.1.2.4.25 Enige ander dienste wat nie spesifiek omskryf is nie.

4.1.3 ADMINISTRASIE EN TERREININSPEKSIE.

Die professionele ingenieur belas met die dienste omskryf in subartikel 4.1.1.4 moet, indien verlang, die nodige en bevoegde terreinpersoneel aanstel vir die doeltreffende kontrolering van die uitsetting, die daaglikse administrasie en inspeksie van die ingenieurswerke, opmeet van die werke op die terrein en om met kontrakteurs se verteenwoordigers oor hoeveelhede ooreen te kom.

4.2 VERGOEDING EN BASIS VAN BETALING VAN DIE PROFESSIONELE INGENIEUR VIR MECHANIESE EN ELEKTRIESE INGENIEURSWERK IN VERBAND MET BOUPROJEKTE.

4.2.1 VERGOEDING.

4.2.1.1 NORMALE DIENSTE.

Die vergoeding van die professionele ingenieur vir die normale dienste deur hom gelewer ingevolge subartikel 4.1.1, word op die basis en wyse soos in subartikels 4.3.1 en 4.3.2 uiteengesit, bereken en word, tensy anders ooreengekom, soos volg betaalbaar, met dien verstande dat waar slegs gedeeltelike diens verlang word, die gedeeltelike gelde bereken word soos in subartikel 4.2.1.1.5 uiteengesit.

4.2.1.1.1 VERSLAGSTADIUM: SUBARTIKEL 4.1.1.1.

Tien persent van die geld sodra sodanige dienste wat ingevolge die verslagstadium nodig is, afgehandel is.

4.2.1.1.2 VOORLOPIGE ONTWERPSTADIUM: SUBARTIKEL 4.1.1.2.

'n Verdere 10 persent van die geld sodra sodanige dienste wat ingevolge die voorlopige ontwerpstadium nodig is, afgehandel is.

4.2.1.1.3 GEDETAILLEERDE ONTWERPSTADIUM: SUBARTIKEL 4.1.1.3.

'n Verdere 40 persent van die geld sodra sodanige dienste wat ingevolge die gedetailleerde ontwerpstadium nodig is, afgehandel is.

4.2.1.1.4 KONSTRUKSIESTADIUM: SUBARTIKEL 4.1.1.4.

4.2.1.1.4.1 'n Verdere 35 persent van die geld na gelang met die installeringswerk gevorder word, in verhouding tot die koste van die werk verrig.

4.2.1.1.4.2 Die restant van 5 persent van die geld by afhandeling van die finale rekening van die kontrak.

4.2.1.1.5 GEDEELTELIKE DII

Indien van die professionele ingenieur verwag word om slegs 'n gedeelte van die dienste genoem in subartikels 4.1.1.1, 4.1.1.2 en 4.1.1.3 te verrig, word die gelde soos volg toegedeel:

4.2.1.1.5.1 Slegs verslag- en voorlopige ontwerpstadium: 30 persent van die geld.

4.2.1.1.5.2 Slegs verslag-, voorlopige ontwerp- en gedetailleerde ontwerpstadium: 70 persent van die geld.

4.2.1.1.5.3 Slegs konstruksiestadium: 50 persent van die geld.

4.2.1.2 BYKOMENDE DIENSTE.

Die gelde vir bykomende dienste verrig ingevolge subartikel 4.1.2 is soos volg:

4.2.1.2.1 HOOFAGENT VAN DIE KLIËNT.

Die gelde vir die bykomende dienste verrig deur die professionele ingenieur as hoofagent van die kliënt ingevolge subartikel 4.1.2.1 word bereken ingevolge subartikel 4.3.3.1, toegedeel soos vir normale dienste ingevolge subartikel 4.2.1.1.

4.1.2.4.25 Any other services not specifically listed.

4.1.3 ADMINISTRATION AND INSPECTION ON SITE.

The professional engineer charged with the services in subsection 4.1.1.4 shall, if required, appoint such competent resident staff as is necessary for the efficient checking of setting out, day-to-day administration and inspection of construction of the engineering works, measuring up of work on site and agreeing quantities with contractors' representatives.

4.2 REMUNERATION AND BASIS OF PAYMENT OF THE PROFESSIONAL ENGINEER IN RESPECT OF MECHANICAL AND ELECTRICAL ENGINEERING WORK PERTAINING TO BUILDING PROJECTS.

4.2.1 REMUNERATION.

4.2.1.1 NORMAL SERVICES.

The remuneration of the professional engineer for the normal services performed by him under subsection 4.1.1 shall be calculated on the basis and in the manner set out in subsections 4.3.1 and 4.3.2 and shall become due to the professional engineer, unless otherwise agreed, as follows, provided that when partial services only are required the partial fee shall be as set out in subsection 4.2.1.1.5.

4.2.1.1.1 REPORT STAGE: SUBSECTION 4.1.1.1.

Ten per cent of the fee when such services as may be necessary under the report stage have been completed.

4.2.1.1.2 PRELIMINARY DESIGN STAGE: SUBSECTION 4.1.1.2.

A further 10 per cent of the fee when such services as may be necessary under the preliminary design stage have been completed.

4.2.1.1.3 DETAILED DESIGN STAGE: SUBSECTION 4.1.1.3.

A further 40 per cent of the fee when such services as may be necessary under the detailed design stage have been completed.

4.2.1.1.4 CONSTRUCTION STAGE: SUBSECTION 4.1.1.4.

4.2.1.1.4.1 A further 35 per cent of the fee as and when the installation work proceeds in proportion to the cost of work done.

4.2.1.1.4.2 The remaining 5 per cent of the fee on completion of the contract final account.

4.2.1.1.5 PARTIAL SERVICES.

When the professional engineer is required to perform only part of the services set out in subsection 4.1.1.1, 4.1.1.2, 4.1.1.3 and 4.1.1.4 then fees shall be apportioned as follows:

4.2.1.1.5.1 Report stage and preliminary design stage only—30 per cent of the fee.

4.2.1.1.5.2 Report stage, preliminary design stage and detailed design stage only—70 per cent of the fee.

4.2.1.1.5.3 Construction stage only—50 per cent of the fee.

4.2.1.2 ADDITIONAL SERVICES.

The fees for additional services carried out under subsection 4.1.2 shall be as follows:

4.2.1.2.1 PRINCIPAL AGENT OF THE CLIENT.

The fees for the additional services performed by the professional engineer as principal agent of the client under subsection 4.1.2.1 shall be in accordance with subsection 4.3.3.1 apportioned as for normal services under subsection 4.2.1.1.

4.2.1.2.2 HOEVEELHEIDSLYSTE.

Die gelde vir die bykomende dienste wat die professionele ingenieur ingevolge subartikel 4.1.2.2 verrig, word bereken ingevolge subartikel 4.3.3.2 toegedeel soos volg:

4.2.1.2.2.1 Sewentig persent van die geld sodra hoeveelheidslyste voltooi is.

4.2.1.2.2.2 'n Verdere 10 persent van die geld na gelang die werke vorder in verhouding tot die koste van die werke voltooi.

4.2.1.2.2.3 Die restant van 20 persent van die geld by afhandeling van die finale rekening van die kontrak.

4.2.1.2.3 REGSGEDINGE.

Die gelde vir die dienste wat deur die professionele ingenieur kragtens subartikel 4.1.2.3 verrig word, word bereken op 'n tydbasis teen die tariewe in subartikel 4.3.3.3 vervat. Die gelde vir die dienste van ander tegniese personeel word bereken op 'n tydbasis teen die tariewe in subartikel 4.3.4 vervat.

4.2.1.2.4 DIVERSE BYKOMENDE DIENSTE.

Die gelde vir diverse bykomende dienste wat deur die professionele ingenieur kragtens subartikel 4.1.2.4 verrig word, word bereken op 'n tydbasis teen die tariewe in subartikel 4.3.4 vervat.

4.2.1.3 WAAR TERREINPERSONEEL NIE AAN- GESTEL IS NIE.

Waar bevoegde terreinpersoneel nie ingevolge subartikel 4.1.3 aangestel is nie, hef die professionele ingenieur vir die nodige bykomende dienste deur hom of sy personeel gelewer, en vir terreinbesoeke bo en behalwe die besoeke waarna in subartikel 4.1.1.4.7 verwys word, 'n geld op 'n tydbasis teen die tariewe in subartikel 4.3.4 vervat.

4.2.1.4 WERKE VAN VERSKILLENDE KATEGORIEË.

Waar 'n enkele globale opdrag verskillende soort werke behels, word dit in die een of ander van die ondergenoemde kategorieë ingedeel en die gelde afsonderlik bereken vir elke kategorie teen die toepaslike tariewe uiteengesit in die betrokke subartikels van subartikel 4.3, en wel op die basis van die totale koste binne elke kategorie:

Meganiese ingenieurswerk;
elektriese ingenieurswerk:

Met dien verstande dat elektriese werk wat deel uitmaak van die kontrakte vir meganiese werke (bv. stoomketel-toerusting of aansluitings vir lugbeheertoerusting en motorbeheertoestelle, ensomeer) nie afsonderlik onder elektriese ingenieurswerk ingedeel word nie.

4.2.1.5 WERKE OP VERSKILLENDE PLEKKE EN EN WERKE IN STADIUMS OF AFDELINGS.

4.2.1.5.1 Gelde vir werk wat op verskillende nie-aangrensende terreine verrig word, selfs waar sodanige werk deel uitmaak van een omvattende opdrag, word afsonderlik bereken as afsonderlike opdragte teen die toepaslike tariewe vervat in subartikel 4.3.

4.2.1.5.2 Indien ingenieurswerk met die toestemming of op versoek van die kliënt onderbreek word, of indien die ingenieurswerke opgebreek word deurdat dit in afsonderlik gedokumenteerde stadiums of afdelings afgehandel word, word die gelde vir elke stadium of afdeling afsonderlik bereken as afsonderlike opdragte teen die toepaslike tariewe vervat in subartikel 4.3.

4.2.1.6 GELDE VIR HERGEBRUIK VAN VOLTOOIDE ONTWERPE, ENSOMEER.

Waar 'n kliënt verlang om een of meer herhalings van 'n besondere aanleg op te rig waarvoor die professionele ingenieur sy ondersoek, ontwerpe, tekeninge, spesifikasies, ensomeer, kragtens 'n vorige ooreenkoms

4.2.1.4.2.12.2 SCHEDULES OF QUANTITIES.

The fees for the additional services performed by the professional engineer under subsection 4.1.2.2 shall be in accordance with subsection 4.3.3.2 apportioned as follows:

4.2.1.2.2.1 Seventy per cent of the fee when schedules of quantities have been completed.

4.2.1.2.2.2 A further 10 per cent of the fee as and when the work proceeds in proportion to the cost of the work done.

4.2.1.2.2.3 The remaining 20 per cent of the fee on completion of the contract final account.

4.2.1.2.3 LITIGATION PROCEEDINGS.

The fees for the services performed by the professional engineer under subsection 4.1.2.3 shall be calculated on a time basis at the rates set out in subsection 4.3.3.3. Fees for the services of other technical staff shall be calculated on a time basis at the rates set out in subsection 4.3.4.

4.2.1.2.4 DIVERSE ADDITIONAL SERVICES.

The fees for diverse additional services performed by the professional engineer under subsection 4.1.2.4 shall be calculated on a time basis at the rates set out in subsection 4.3.4.

4.2.1.3 RESIDENT STAFF NOT APPOINTED.

When competent resident staff is not appointed in terms of subsection 4.1.3 then the professional engineer shall charge for the necessary additional services rendered by himself or his staff and for site visits additional to those referred to in subsection 4.1.1.4.7 on a time basis at the rates set out in subsection 4.3.4.

4.2.1.4 WORKS OF DIFFERENT CATEGORIES.

Where a single overall appointment includes works of different types they shall be classified into one or other of the categories as listed below and fees shall be separately calculated for each category at the appropriate rates set out in the applicable subsections of subsection 4.3, on the basis of the total cost within each category:

Mechanical engineering work;
electrical engineering work:

Provided that electrical work forming part of mechanical works contracts (e.g. boiler plant or air-conditioning plant connections and motor control equipment, etc.) shall not be separately classified as electrical engineering work.

4.2.1.5 WORKS AT DIFFERENT SITES AND WORKS IN STAGES OR SECTIONS.

4.2.1.5.1 The fees for engineering works undertaken at separate non-contiguous sites, even if such works form part of one overall appointment, shall be separately calculated as separate assignments at the appropriate rates set out in subsection 4.3.

4.2.1.5.2 When, with the agreement or at the request of the client, the continuity of the engineering works is interrupted or the engineering works are fragmented by being constructed in separately documented stages or sections, then the fees for each stage or section shall be separately calculated as separate assignments at the appropriate rates set out in subsection 4.3.

4.2.1.6 FEES FOR RE-USE OF COMPLETED DESIGNS, ETC.

Where the client wishes to erect one or more duplicates of a particular works for which the professional engineer has completed investigations, designs, drawings and specifications, etc., under a prior agreement and for which he

voltooi het en waarvoor hy reeds betaal is, is die professionele ingenieur se gelde vir hergebruik van sodanige dokumente onderhandelbaar tussen die professionele ingenieur en die kliënt op voorwaarde dat sodanige geld nie minder is nie as eenkwart van die geld vir die gewone en bykomende dienste wat verrig word in die verslag-, voorlopige ontwerp- en uitvoerige ontwerpstadiums, bereken op die aangesuiwerde waarde van die werke wat herhaal word, met dien verstande dat die professionele ingenieur bykomend vergoed word vir sodanige nuwe werk wat hy noodgedwonge moet verrig, en vir alle verhaalbare uitgawes. Indien die professionele ingenieur se dienste behou word vir die konstruksiestadium, is die geld vir sy dienste en enige bykomende dienste gedurende die konstruksiestadium die volle toegedeelde geld vir hierdie diens, bereken op die aangesuiwerde koste van die werk wat herhaal is, plus alle uitbetalings en uitgawes.

4.2.2 TUSSENTYDSE BETALINGS AAN DIE PROFESSIONELE INGENIEUR.

4.2.2.1 Ten einde die tussentydse betalings ingevolge subartikels 4.2.2.1 en 4.2.1.2.2 te bepaal, word die koste van die ingenieurswerke geag die volgende te wees:

4.2.2.1.1 Die bedrag van die aanvaarde tender; of

4.2.2.1.2 indien geen tender aanvaar is nie, die bedrag van die tender wat deur die professionele ingenieur as die gesikste aanbeveel is; of

4.2.2.1.3 indien die kontrak deur onderhandeling toegestaan is, die onderhandelde prys; of

4.2.2.1.4 indien geen tenders gevra word nie, of indien geen gesikste tenders ontvang is nie, of indien geen onderhandeling aangegaan is nie, die beraming waarvoor onderling ooreengekom is.

4.2.2.2 Sodanige tussentydse uitbetalings geskied in die rangorde van die totale geld uiteindelik betaalbaar en word bereken op die finale koste van die werk, soos vervat in subartikel 4.2.3.

4.2.3 KOSTE VAN DIE INGENIEURSWERKE.

4.2.3.1 Ten einde die totale geld te bereken wat uiteindelik betaalbaar is ingevolge subartikel 4.2.2.2 is die koste van die ingenieurswerke, of enige deel daarvan, die volgende:

4.2.3.1.1 Die totale bedrag wat gesertifiseer is vir uitbetaling aan die kontrakteurs ten opsigte van werke wat ontwerp, gesertifiseer of geadministreer is deur die professionele ingenieur, voor aftrekking van gelikwiderde skadevergoeding of boetes (indien enige); en

4.2.3.1.2 waar ingenieurswerke as subkontrakte van 'n hoofkontrak verrig word, word die koste van die items in die voorlopige en algemene afdeling van die hoeveelhedslys as volg aangesuiwer:

4.2.3.1.2.1 Items uitsluitend gekoppel aan die koste van die ingenieurswerke, word uit die voorlopige en algemene afdeling verwyder en by die koste van die ingenieurswerke gevoeg en; daarna

4.2.3.1.2.2 word die koste van alle ander items ingesluit in die voorlopige en algemene afdeling in die verhouding waarin die koste van die ingenieurswerke en die toesig en winste en die bouer se werk ten opsigte van die ingenieurswerke tot die totale koste van die hoofkontrak staan, nadat alle voorlopige en algemene items in hierdie subartikel 4.2.3.1.2.2 afgetrek is; en

4.2.3.1.3 waar die ingenieurswerke uitgevoer word as subkontrakte onder die hoofkontrak, die voorsiening in die hoofkontrak om toesig en winste ten opsigte van die ingenieurswerke te dek, tesame met die koste van die items van die bouer se werk wat vir die ingenieurswerke nodig is; en

4.2.3.1.4 waar die kliënt materiaal, arbeid, gehuurde of verhuurde toerusting, vervaardigde goedere of masjinerie verskaf, 'n regstreekse en billike waardasie gegrond

has already been remunerated, then the fee to be charged by the professional engineer for the re-use of such documents shall be negotiable between the professional engineer and the client provided that such fee shall not be less than one-quarter of the apportioned fee for normal and additional services carried out in the report, preliminary design and detailed design stages based on the updated cost of the works as duplicated or repeated provided that the professional engineer shall, in addition, be remunerated for such new work as it may be necessary for him to perform and that he shall be paid for all disbursements and expenses. Should the professional engineer's services be retained for the construction stage the fee to be charged by the professional engineer for services and any additional services carried out during the construction stage shall be the full apportioned fee for this service based on the updated cost of the works as duplicated or repeated together with all disbursements and expenses.

4.2.2 INTERIM PAYMENTS TO THE PROFESSIONAL ENGINEER.

4.2.2.1 For the purpose of ascertaining the interim payments due under subsections 4.2.1.1 and 4.2.1.2.2, the cost of the engineering works shall be—

4.2.2.1.1 the amount of the accepted tender; or

4.2.2.1.2 if no tender is accepted, the amount of the tender recommended as the most suitable by the professional engineer; or

4.2.2.1.4 if no tenders are invited or if no suitable tenders are received or if no negotiation is concluded, the mutually agreed estimate.

4.2.2.2 Such interim payments shall rank solely towards the total fee ultimately payable which shall be calculated on the final cost of the works as defined in subsection 4.2.3.

4.2.3 COST OF THE ENGINEERING WORKS.

4.2.3.1 For the purpose of calculating the total fee ultimately payable in terms of subsection 4.2.2.2 the cost of the engineering works or any part thereof shall be—

4.2.3.1.1 the sum of all amounts certified for payment to contractors in respect of works designed, specified or administered by the professional engineer, before deduction of liquidated damages or penalties (if any); and

4.2.3.1.2 where the engineering works are carried out as subcontracts awarded under a main contract, the cost of items under the preliminary and general section in the contract bill of quantities adjusted as follows:

4.2.3.1.2.1 Items uniquely related to the cost of the engineering works shall be removed from the preliminary and general section and added to the cost of the engineering works; and thereafter;

4.2.3.1.2.2 the cost of all other items under the preliminary and general section shall be included in the proportion that the cost of the engineering works and the attendance and profit and builder's work relating to the engineering works bears to the total cost of the main contract after deducting all preliminary and general items in this subsection 4.2.3.1.2.2; and

4.2.3.1.3 where the engineering works are carried out as subcontracts awarded under a main contract, the allowance in the main contract to cover attendance and profit relating to the engineering works, together with the cost of items of builder's work required in connection with the engineering works; and

4.2.3.1.4 where the client provides materials, labour hired or rented plant, manufactured goods, equipment or machinery, a direct and fair valuation based on

op die normale tariewe van kontrakteurs vir soortgelyke items met inbegrip van waardevermindering, verspilling en herstelwerk, bedryfskoste en winste; en

4.2.3.1.5 die markwaarde, asof nuut aangekoop, van enige half-slyt materiaal, vervaardigde goedere en masjinerie ingebou in die ingenieurswerke.

4.2.3.2 Die koste van die ingenieurswerke sluit die volgende in:

4.2.3.2.1. Een-derde, of ander toepaslike verhouding, van die koste van enige skoorstene en lugreëling- en ventilasieleidings en die isolering daarvan soos deur die professionele ingenieur gespesifiseer of ontwerp, en wat deel uitmaak van die boustruktuur.

4.2.3.2.2 Die koste van enige werk in verband met proefboorwerk, die meet van grondweerstand, ensameer, waarvoor die professionele ingenieur kontrakdokumente moet opstel en/of wat hy moet inspekteer of administreer.

4.2.3.3 Die koste van die ingenieurswerke sluit nie die volgende in nie:

4.2.3.3.1 Administratiewe uitgawes deur die kliënt aangegaan.

4.2.3.3.2 Professionele gelde en verhaalbare uitgawes.

4.2.3.3.3 Opmetingskoste.

4.2.3.3.4 Salarisse, reistoelae, toevallige en kantooruitgawes van die terreinpersoneel

4.2.3.3.5 Rente op kapitaal gedurende konstruksie en die heffingskoste op geld wat nodig is om die ingenieurswerke uit te voer.

4.2.3.3.6 Koste van grond en deurgangsregte.

4.2.3.3.7 Die koste vir permanente onderdak vir masjinerie of toerusting, tensy uitdruklik ontwerp en gedetailleer deur die professionele ingenieur.

4.2.4 SKADE AAN OF Vernietiging van werke.

Indien enige gedeelte van die werke of die toerusting daarvoor te enige tyd beskadig of vernietig word weens oorlog, brand, storms, vloedwater of ander oorsake buite die beheer van die professionele ingenieur voordat die werke voltooi is, betaal die kliënt die professionele ingenieur die toepaslike geld vir enige bykomende werk wat deur hom ontwerp, geïnspekteer en/of geadministreer moet word as gevolg van sodanige skade of vernietiging.

4.2.5 UITSTEL, KANSELLERING, VERMINDERING OF VERLATING VAN DIE WERKE.

4.2.5.1 Indien, nadat die kliënt opdrag aan die professionele ingenieur gegee het om voort te gaan met enige van die fases waarna in subartikels 4.1.1.1, 4.1.1.2, 4.1.1.3 en 4.1.1.4 verwys word, die ingenieurswerke in die geheel of 'n gedeelte daarvan uitgestel, gekanselleer of verlaat word, word die professionele ingenieur se geld vir dienste verrig ten opsigte van daardie gedeelte van die werke wat aldus uitgestel, gekanselleer of verlaat is, bereken ingevolge subartikel 4.2.1.1, plus 'n toeslag van een-tiende, en ingevolge enige ander toepaslike subartikels, in verhouding tot die dienste verrig voordat dit werke uitgestel, gekanselleer of verlaat is. Indien die uitgestelde werke, of 'n gedeelte daarvan, binne twee jaar daarna hervat word, word enige betalings, uitgesonderd die toeslag, wat ingevolge hierdie voornoemde artikel gemaak is, geag as betalings te wees op rekening van die totale geld werklik betaalbaar en bereken op die koste van die werke soos vervat in subartikel 4.2.3. Indien bykomende dienste van die professionele ingenieur verlang word ten opsigte van die hervatting van die uitgestelde werke is die professionele ingenieur geregtig op verdere gelde bereken op 'n tydbasis vir sodanige bykomende dienste en teen die tariewe vervat in subartikel 4.3.4.

normal charges by contractors for similar items including depreciation, waste and repairs, overhead and profit; and

4.2.3.1.5 the market value, as though they were purchased new, of any second-hand materials, manufactured goods and machinery incorporated in the engineering works.

4.2.3.2 The cost of the engineering works shall include—

4.2.3.2.1 one-third, or other appropriate proportion, of the cost of any chimneys and air-conditioning and ventilation ducts and their insulation specified or designed by the professional engineer and forming part of the building structure;

4.2.3.2.2 the cost of any work in exploratory drilling, soil resistivity measurement, etc., for which the professional engineer is required to prepare contract documents and/or which he is required to inspect or administer.

4.2.3.3 The cost of the engineering works shall not include—

4.2.3.3.1 administrative expenses incurred by the client;

4.2.3.3.2 professional fees and disbursements;

4.2.3.3.3 cost of surveys;

4.2.3.3.4 salaries, travelling, out-of-pocket and office expenses of resident staff;

4.2.3.3.5 interest on capital during construction and the cost of raising moneys required for carrying out the construction of the engineering works;

4.2.3.3.6 cost of land and wayleaves;

4.2.3.3.7 the cost of permanent accommodation for plant or equipment unless specifically designed and detailed by the professional engineer.

4.2.4 DAMAGE OR DESTRUCTION OF WORKS.

If, at any time before the completion of the engineering works, any part of the works or of the equipment therefor is damaged or destroyed by operations of war, fire, storm, flood or other cause beyond the control of the professional engineer, the client shall pay to the professional engineer the appropriate fee for any additional work which may be required to be designed, inspected and/or administered by him as a result of such damage or destruction.

4.2.5 POSTPONEMENT, CANCELLATION, REDUCTION OR ABANDONMENT OF WORKS.

4.2.5.1 If, instructions having been given by the client to the professional engineer to proceed with any of the stages referred to in subsections 4.1.1.1, 4.1.1.2, 4.1.1.3 and 4.1.1.4, the whole or any part of the engineering works is postponed, cancelled or abandoned, then the payment to be made to the professional engineer for services performed in respect of that part of the works so postponed, cancelled or abandoned, shall be determined in accordance with subsection 4.2.1.1, plus a surcharge of one-tenth, and in accordance with such other subsections as may be applicable, in proportion to the services performed prior to the works being postponed, cancelled or abandoned. If, within two years, the postponed works, as may be applicable, in proportion to the services per-
vant payments made under this section aforesaid, excluding the surcharge, shall rank as payments on account towards the total fee actually payable and calculated on the cost of the works as defined in subsection 4.2.3. Should additional services by the professional engineer be required in connection with resumption of the postponed works, the professional engineer shall charge for such additional services on a time basis at the rates set out in subsection 4.3.4.

4.2.5.2 In geval die ingenieurswerke, of 'n gedeelte daarvan, vir langer as twee jaar uitgestel word, word sodanige werk beskou as verlaat te wees.

4.2.5.3 Betalings ingevolge hierdie artikel word bereken op die onderling ooreengekome beraming van die koste van die betrokke gedeelte van die werke wat voltooi was ten tyde van die uitstel, kansellering of verlating daarvan.

4.2.6 VERANDERING OF WYSIGINGS AAN ONTWERPE.

Indien omstandighede hulle voordoen wat rederlikerwys nie voorsien kon gewees het nie, of as die kliënt of sy hoofagent die ontwerpvereistes wysig wat veranderings noodsaak aan voltooiende ontwerpe, of veranderings aan ontwerpe waaraan gewerk word en wat ook die verandering of heropstel vereis van enige spesifikasie, tekening of ander dokument wat in die geheel of gedeeltelik deur die professionele ingenieur opgestel is, is die werk verbonde aan sodanige hersiening, wysiging of reproduksie van sodanige ontwerpe, tekeninge of dokumente om die werk te bring tot in die stadium waar dit gewysig is onderworpe aan bykomende betalings, welke bykomende betaling bereken word op 'n tydbasis teen die tariewe vervat in subartikel 4.3.4.

4.2.7 GEGEWENS AAN PROFESSIONELE INGENIEUR VERSKAF TE WORD.

Die kliënt moet of regstreeks of deur tussenkoms van sy hoofagent die volgende kosteloos aan die professionele ingenieur verskaf:

4.2.7.1 Alle planne en profiele van die projek (op 'n skaal nie minder nie as 1 tot 100 nie) en alle sodanige terreinplanne op 'n praktiese skaal met hoogtes, en alle sodanige tersaaklike detailtekeninge wat die professionele ingenieur redelikerwys nodig mag hê.

4.2.7.2 Alle tersaaklike gegewens en inligting tesame met sodanige hulp wat redelikerwys nodig is vir die professionele ingenieur om sy werk te verrig.

4.2.7.3 Afskrifte van alle kontrakdokumente, tekeninge en ander ondersteunende dokumente wat betrekking het op daardie dele van die projek waarmee die ingenieurswerke in verband staan, met inbegrip van die algemene kontrakvoorwaardes waar dit van toepassing is.

4.2.7.4 Afskrifte van alle wysigingstekeninge en -opdragte wat die ingenieurswerke raak.

4.3 GELDETARIEF VIR MEGANIESE EN ELEKTRIESE INGENIEURSWERK IN VERBAND MET BOUPROJEKTE.

4.3.1 WERK VAN NORMALE AARD.

Vir werk wat normale eise aan die professionele ingenieur se tyd stel, is die gelde, voorgeskryf in subartikels 4.3.1.1 en 4.3.1.2 van toepassing.

4.3.1.1 BASIESE GELD.

4.2.5.2 In the event of the engineering works, or any part thereof, being postponed for a period longer than two years, such works shall be considered as having been abandoned.

4.2.5.3 Payments under this section shall be calculated on the mutually agreed estimate of the cost of the relevant part of the works having been completed at the time of its postponement, cancellation or abandonment.

4.2.6 ALTERATIONS OR MODIFICATIONS TO DESIGNS.

In the event of circumstances arising which could not have been reasonably foreseen, or in the event of the client or principal agent of the client modifying the design requirements necessitating alterations to completed designs or alterations to designs in progress, and which also require the alteration or remaking of any specification, drawing, or other document prepared in whole or in part by the professional engineer, the whole of the cost of revising, amending or reproducing such designs, drawings or documents to bring the work up to the stage at which it was modified shall be subject to additional payment, calculated on a time basis at the rates set out in subsection 4.3.4.

4.2.7 DATA TO BE SUPPLIED TO THE PROFESSIONAL ENGINEER.

The client either directly or through his principal agent shall supply free of charge to the professional engineer—

4.2.7.1 all such plans and sections of the project (to a scale of not less than 1 to 100) and all such site plans to a practical scale giving levels and all such relevant detail drawings as the professional engineer may reasonably require;

4.2.7.2 all pertinent data and information together with such assistance as shall reasonably be required to enable the professional engineer to perform his services;

4.2.7.3 copies of all contract documents, drawings and supporting documents, relating to those parts of the project which are relevant to the engineering works including the general conditions of contract where applicable;

4.2.7.4 copies of all variation drawings and orders affecting the engineering works.

4.3 TARIFF OF FEES FOR MECHANICAL AND ELECTRICAL ENGINEERING WORK PERTAINING TO BUILDING PROJECTS.

4.3.1 WORK OF NORMAL CHARACTER.

In respect of works making normal demands on the time of the professional engineer the fees shall be as provided in subsections 4.3.1.1 and 4.3.1.2.

4.3.1.1 BASIC FEE.

	Waar die koste van die werke—		Die geld is die som van die primêre geld aangegee in kolom 3 en die sekondêre geld bereken kragtens kolom 4	
	meer is as— (Kolom 1)	maar nie meer is nie as— (Kolom 2)	Primêre geld (Kolom 3)	Persentasie van sekondêre geld bereken op totale koste van die werke (Kolom 4)
	R	R	R	%
(a).....	—	20 000	100	10,0
(b).....	20 000	40 000	300	9,0
(c).....	40 000	80 000	700	8,0
(d).....	80 000	200 000	1 100	7,5
(e).....	200 000	400 000	2 100	7,0
(f).....	400 000	800 000	4 100	6,5
(g).....	800 000	—	8 100	6,0

	Where the cost of the works		The fee shall be the sum of the primary fee stated in column 3 and the secondary fee calculated in terms of column 4	
	Exceeds (column 1)	but does not exceed (column 2)	Primary fee (column 3)	Percentage for secondary fee calculated on the total cost of the works (column 4)
	R	R	R	%
(a).....	—	20 000	100	10,0
(b).....	20 000	40 000	300	9,0
(c).....	40 000	80 000	700	8,0
(d).....	80 000	200 000	1 100	7,5
(e).....	200 000	400 000	2 100	7,0
(f).....	400 000	800 000	4 100	6,5
(g).....	800 000	—	8 100	6,0

4.3.1.2 BYKOMENDE GELDE VIR VARIASIES.

Die bykomende geld vir die meting of waardebeoordeling van alle variasies in 'n kontrak van 'n ronde bedrag word soos volg bereken:

4.3.1.2.1 2,5 persent van die koste van die bykomende werk; en

4.3.1.2.2 2,5 persent van die koste van die weggelate werk;

Met dien verstande dat die bykomende geld nie geheword word nie waar hoeveelheidslyste deur die professionele ingenieur opgestel en waarvoor ingevolge subartikel 4.3.3.2 betaal is.

4.3.2 WERK NIE VAN NORMALE AARD NIE.

Ten opsigte van werke of gedeeltes van werke wat buitengewone eise stel aan die professionele ingenieur se tyd in verhouding tot die koste van die werke, word die gelde in subartikel 4.3.1 vervat, of die gedeelte van sodanige geld ooreenstemmend met die koste van sodanige gedeelte van die werke, na gelang van die geval, verhoog met volgende persentasies:

4.3.2.1 Vir wysiging aan bestaande werke: 25 persent.

4.3.2.2 Vir ingewikkelde beheerbane of -stelsels: 50 persent.

4.3.2.3 Vir alle ander soorte werk wat oormatig tydrowend is: Ingevolge subartikel 1.6.

4.3.3 BYKOMENDE DIENSTE.

4.3.3.1 HOOFAGENT VAN DIE KLIËNT.

Die bykomende geld vir die dienste wat kragtens subartikel 4.1.2.1 as hoofagent van die kliënt gelever word, is een persent van die totale koste van die projek.

4.3.3.2 HOEVEELHEIDSLYSTE.

Die bykomende geld bo en behalwe die basiese geld ingevolge subartikel 4.3.1.1 vir dienste verrig ingevolge subartikel 4.1.2.2 word bereken kragtens subartikel 4.3.3.2.1 of subartikel 4.3.3.2.2, na gelang van die prosedure wat gevolg is.

4.3.3.2.1 Vir die opstel van gedetailleerde hoeveelheidslyste:

4.3.1.2 ADDITIONAL FEE FOR VARIATIONS

The additional fee for the measurement or assessment of all variations to a lump sum contract shall be—

4.3.1.2.1 2,5 per cent of the cost of additional work; and

4.3.1.2.2 2,5 per cent of the value of omitted work;

Provided that the additional fee shall not be charged in cases where schedules of quantities are prepared by the professional engineer for which payment is made under subsection 4.3.3.2.

4.3.2 WORK NOT OF NORMAL CHARACTER.

In respect of works or parts of works which make demands on the time of the professional engineer which are unusually high in relation to the cost of the works, the fees stated in subsection 4.3.1 or the portion of such fee corresponding to the cost of such part of the works, as the case may be, shall be increased by the following percentages:

4.3.2.1 For alterations to existing works: 25 per cent.

4.3.2.2 For complex control circuits or systems: 50 per cent.

4.3.2.3 For all other types of disproportionately time-consuming work: In accordance with subsection 1.6.

4.3.3 ADDITIONAL SERVICES.

4.3.3.1 PRINCIPAL AGENT OF THE CLIENT.

The additional fee for services performed under subsection 4.1.2.1 as principal agent of the client shall be the amount of one per cent of the total project cost.

4.3.3.2 SCHEDULES OF QUANTITIES.

The additional fee, over and above the basic fee in subsection 4.3.1.1, for services performed under subsection 4.1.2.2, shall be based on either subsection 4.3.3.2.1 or subsection 4.3.3.2.2 according to the procedure adopted.

4.3.3.2.1 For the preparation of detailed schedules of quantities:

	Waar die koste van die werke in die skedules—		Die geld is die som van die primêre geld in kolom 3 en die sekondêre geld bereken kragtens kolom 4	
	meer is as— (Kolom 1)	maar nie meer is nie as— (Kolom 2)	Primêre geld (Kolom 3)	Persentasie vir sekondêre geld bereken op totale koste van werke in die skedules (Kolom 4)
	R	R	R	%
(a).....	—	40 000	—	3,000
(b).....	40 000	200 000	100	2,750
(c).....	200 000	500 000	600	2,500
(d).....	500 000	1 000 000	1 225	2,375
(e).....	1 000 000	1 500 000	2 475	2,250
(f).....	1 500 000	2 000 000	4 350	2,125
(g).....	2 000 000	—	6 850	2,000

	Where the cost of the works in the schedules		The fee shall be the sum of the primary fee stated in column 3 and the secondary fee calculated in terms of column 4	
	Exceeds (column 1)	but does not exceed (column 2)	Primary fee (column 3)	Percentage for secondary fee calculated on the total cost of the works in the schedules (column 4)
	R	R	R	%
(a).....	—	40 000	—	3,000
(b).....	40 000	200 000	100	2,750
(c).....	200 000	500 000	600	2,500
(d).....	500 000	1 000 000	1 225	2,375
(e).....	1 000 000	1 500 000	2 475	2,250
(f).....	1 500 000	2 000 000	4 350	2,125
(g).....	2 000 000	—	6 850	2,000

4.3.3.2.2 Vir die opstel van voorlopige hievelheidslyste:

4.3.3.2.2.1 Vir die opstel van die voorlopige hoevelheidslyste is die geld $1\frac{1}{2}$ persent van die tenderprys.

4.3.3.2.2.2 Vir die daaropvolgende aansuiwering en nuwe prysbepaling van die hoevelheidslyste is die geld benewens die in subartikel 4.3.3.2.2.1 hiervan genoem dieselfde as vir die opstel van gedetailleerde hoevelheidslyste soos genoem in subartikel 4.3.3.2.1.

4.3.3.3 REGSGEDINGE EN SOORTGELYKE DIENSTE.

Die volgende gelde is aan die professionele ingenieur betaalbaar vir dienste gelewer:

	Hoof, vennoot of direkteur R	Ander professionele ingenieurs R
4.3.3.3.1 Voorlopige werk:		
Tarief per uur.....	35	25
4.3.3.3.2 Verskyning in hof:		
Tarief per dag:		
4.3.3.3.2.1 Eerste dag...	500	350
4.3.3.3.2.2 Daaropvolgende dae.	300	200

4.3.4 GELDE OP TYDBASIS.

Die geldetarief op 'n tydbasis is soos volg:

4.3.4.1 'n Hoof, vennoot of direkteur: R25 per uur.

4.3.4.2 Tegniese personeel: Teen 'n tarief van 15c per uur per R100, of gedeelte daarvan, van die jaarsalaris, plus bonus, indien enige:

Met dien verstande dat hierdie tariewe geag word vestigingsgeld en tyd deur klerklike personeel bestee, in te sluit wat dus nie afsonderlik vorderbaar is nie.

4.3.5 BYKOMENDE BETALINGS.

Die volgende geld word aan die professionele ingenieur betaal vir tyd bestee aan reise deur hom en sy personeel in die loop van hul werk.

4.3.5.1 REISTYD.

'n Vordering teen die tarief neergelê in sub-artikel 4.3.4 vir die tyd, agt uur per dag nie te bowegaande nie, deur die professionele ingenieur en/of lede van sy personeel aan reis bestee. Indien die retoerit van en na sy kantoor nie verder as 50 kilometer is nie, word die professionele ingenieur nie vergoed vir die tyd aan reis bestee nie, behalwe waar hy op 'n tydbasis vergoed word.

4.3.3.2.2 For the preparation of provisional schedules of quantities:

4.3.3.2.2.1 For the preparation of the provisional schedules of quantities the fee shall be $1\frac{1}{2}$ per cent of the tender price.

4.3.3.2.2.2 For the subsequent correction and re-pricing of the schedules of quantities the fee in addition to that set out in subsection 4.3.3.2.2.1 shall be the fee for the preparation of detailed schedules of quantities as set out in subsection 4.3.3.2.1.

4.3.3.3 LITIGATION PROCEEDINGS AND SIMILAR SERVICES.

The professional engineer's fee for services performed shall be—

	Principal, partner or director R	Other professional engineer R
4.3.3.3.1 Preliminary work:		
Rate per hour.....	35	25
4.3.3.3.2 Court appearances:		
Rate per day		
4.3.3.3.2.1 First day.....	500	350
4.3.3.3.2.2 Subsequent days	300	200

4.3.4 TIME BASIS FEES.

The scale of fees on a time basis shall be as follows:

4.3.4.1 A principal, partner or director: R25 per hour;

4.3.4.2 technical staff: At a rate of 15c per hour per R100 or part thereof of the annual salary plus bonus, if any:

Provided that these rates shall be deemed to include establishment charges and for time expended by clerical staff which shall, therefore, not be chargeable separately.

4.3.5 ADDITIONAL PAYMENTS.

The fee for time spent by the professional engineer and his staff in performing their services shall be as follows:

4.3.5.1 TRAVELLING TIME.

A charge at the rate set out in subsection 4.3.4 for all time spent in travelling by the professional engineer and/or members of his staff not exceeding eight hours per day. When the return journey does not exceed 50 km recorded to and from his office, the professional engineer shall not be reimbursed for time spent in travelling unless payment of fees is being made on a time basis.

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Militaria is 'n militêr-historiese tydskrif wat deur die Dokumentasiediens van die Suid-Afrikaanse Weermag op 'n kwartaalbasis uitgegee word.

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Suid-Afrikaanse deelname aan beide Wêreldoorloë.

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