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ALGEMENE KENNISGEWING

KENNISGEWING 657 VAN 1981
DEPARTEMENT VAN GEMEENSKAPS-
ONTWIKKELING

KENNISGEWING INGEVOLGE ARTIKEL 7 (4) VAN
DIE WET OP PROFESSIONELE INGENIEURS, 1968
(WET 81 VAN 1968)

Kragtens artikel 7 (4) van die Wet op Professionele Ingenieurs, 1968 (Wet 81 van 1968), maak ek, Stephanus Francois Kotzé, Minister van Gemeenskapsontwikkeling, hierby bekend dat ek van voorneme is om, kragtens artikel 7 (3) (b) van die genoemde Wet, die voorsienings te maak wat in die Bylae hiervan vervat is.

Die voorsienings tree in werking binne 10 maande vanaf die datum van publikasie hiervan. Belanghebbendes word versoek om besware teen of verhoë aangaande enige van die voorgestelde voorsienings binne ses weke vanaf die datum van hierdie kennisgewing skriftelik te rig aan die Direkteur-generaal: Gemeenskapsontwikkeling, Privaatsak X65, Pretoria, 0001.

BYLAE

GELDETARIEF WAARVOLGENS 'N PROFESSIONELE INGENIEUR
DIE BEDRAG KAN BEREKEN TEN OPSIGTE VAN DIE LEWERING
VAN PROFESSIONELE DIENSTE: SIVIELE-, MEGANIESE-, ELEK-
TRIESE- EN STRUKTURELE INGENIEURSWESE

INHOUDSOPGAWE

	Bladsy
1. ALGEMEEN	3
2. INGENIEURSDIENSTE WAT NIE MET BOUPRO-	
JEKTE IN VERBAND STAAN NIE	5
2.1 Dienste deur die professionele ingenieur verrig te word	5
2.1.1 Normale dienste	5
2.1.1.1 Verslagstadium	5
2.1.1.2 Voorlopige ontwerpstadium	5
2.1.1.3 Gedetailleerde ontwerp- en tenderstadium	6
2.1.1.4 Konstruksiestadium	6
2.1.2 Bykomende dienste	7
2.1.2.1 Verskaffing van terreinpersoneel	7
2.1.2.2 Leier van die professionele span	7
2.1.2.3 Regsgedinge en soortgelyke dienste	8
2.1.2.4 Diverse bykomende dienste	8
2.2 Vergoeding van en basis van betaling aan die profes-	
sionele ingenieur vir ingenieursdienste wat nie met bouprojekte in	
verband staan nie	9
2.2.1 Vergoeding	9
2.2.1.1 Volledige normale dienste	9
2.2.1.1.1 Verslagstadium	9
2.2.1.1.2 Daaropvolgende stadiums	9

792—A

GENERAL NOTICE

NOTICE 657 OF 1981
DEPARTMENT OF COMMUNITY
DEVELOPMENT

NOTICE IN TERMS OF SECTION 7 (4) OF THE PRO-
FESSIONAL ENGINEERS' ACT, 1968 (ACT 81 OF
1968)

Notice is hereby given that, in terms of section 7 (4) of the Professional Engineers' Act, 1968 (Act 81 of 1968), I, Stephanus Francois Kotzé, Minister of Community Development, in terms of section 7 (3) (b) of the said Act, intend to make the provisions as set out in the Schedule hereto.

These provisions will become applicable within 10 months after the date of publication of this notice. Interested persons who wish to comment on or object to any of the proposed provisions are invited to submit their comments or objections, in writing, to the Director-General: Community Development, Private Bag X65, Pretoria, 0001, not later than six (6) weeks after the date of publication of this notice.

SCHEDULE

TARIFF OF FEES ACCORDING TO WHICH A PROFESSIONAL
ENGINEER MAY CALCULATE THE AMOUNT CHARGEABLE BY
HIM IN RESPECT OF PROFESSIONAL SERVICES: CIVIL,
MECHANICAL, ELECTRICAL AND STRUCTURAL ENGINEERING

INDEX

	Page
1. GENERAL	3
2. ENGINEERING SERVICES NOT PERTAINING TO	
BUILDING PROJECTS	5
2.1 Services to be performed by the professional engineer	5
2.1.1 Normal services	5
2.1.1.1 Report stage	5
2.1.1.2 Preliminary design stage	5
2.1.1.3 Detailed design and tender stage	6
2.1.1.4 Construction stage	6
2.1.2 Additional services	7
2.1.2.1 Provision of site staff	7
2.1.2.2 Leader of the professional team	7
2.1.2.3 Litigation proceedings and similar services	8
2.1.2.4 Diverse additional services	8
2.2 Remuneration and basis of payment of the professional	
engineer in respect of engineering services not pertaining to	
building projects	9
2.2.1 Remuneration	9
2.2.1.1 Full normal services	9
2.2.1.1.1 Report stage	9
2.2.1.1.2 Subsequent stages	9

7750—1

	Bladsy		Page
2.2.1.1.2.1 Voorlopige ontwerpstadium	9	2.2.1.1.2.1 Preliminary design stage	9
2.2.1.1.2.2 Gedetailleerde ontwerp- en tenderstadium	9	2.2.1.1.2.2 Detailed design and tender stage	9
2.2.1.1.2.3 Konstruksiestadium	10	2.2.1.1.2.3 Construction stage	10
(a) Siviel en struktureel	10	(a) Civil and structural	10
(b) Meganies en elektries	10	(b) Mechanical and electrical	10
2.2.1.2 Gedeeltelike normale dienste	10	2.2.1.2 Partial normal services	10
2.2.1.3 Bykomende dienste	10	2.2.1.3 Additional services	10
2.2.1.3.1 Verskaffing van terreinpersoneel	10	2.2.1.3.1 Provision of site staff	10
2.2.1.3.2 Leier van die professionele span	10	2.2.1.3.2 Leader of the professional team	10
2.2.1.3.3 Regsgedinge en soortgelyke dienste	10	2.2.1.3.3 Litigation proceedings and similar services	10
2.2.1.3.4 Diverse bykomende dienste	11	2.2.1.3.4 Diverse additional services	11
2.2.1.3.5 Terreinpersoneel nie aangestel nie	11	2.2.1.3.5 Site staff not appointed	11
2.2.2 Tussentydse betalings aan die Professionele Ingenieur	11	2.2.2 Interim payments to the professional engineer	11
2.2.3 Koste van die ingenieurswerke	11	2.2.3 Cost of the engineering works	11
2.2.4 Skade aan of vernietiging van die werke	12	2.2.4 Damage to or destruction of the works	12
2.2.5 Uitstel, kansellering of abandonnering van die werke	12	2.2.5 Postponement, cancellation or abandonment of the works	12
2.2.6 Veranderings of wysigings aan ontwerpe	13	2.2.6 Alterations or modifications to designs	13
2.3 Geldetarief vir ingenieursdienste nie in verband met bouprojekte nie	13	2.3 Tariff of fees for engineering services not pertaining to building projects	13
2.3.1 Dienste van normale aard	13	2.3.1 Services of normal character	13
2.3.1.1 Siviele en Strukturele ingenieursdienste	13	2.3.1.1 Civil and structural engineering services	13
2.3.1.1.1 Basiese geld	13	2.3.1.1.1 Basic fee	13
2.3.1.1.2 Bykomende geld vir die gewapendebetongedeelte van die werke	13	2.3.1.1.2 Additional fee for reinforced concrete portion of the works	13
2.3.1.1.3 Bykomende geld vir die strukturele staalwerkgedeelte van die werke	14	2.3.1.1.3 Additional fee for structural steelwork portion of the works	14
2.3.1.1.4 Bykomende geld vir die strukturele gedeelte van die werke in ander materiale	14	2.3.1.1.4 Additional fee for structural portion of the works in other materials	14
2.3.1.2 Siviele en Strukturele ingenieursdienste waarvoor spesiale gelde voorsien word	14	2.3.1.2 Civil and Structural engineering services for which special fees are provided	14
2.3.1.2.1 Spoorbaanwerk	14	2.3.1.2.1 Railway trackwork	14
2.3.1.2.2 Padwerke	15	2.3.1.2.2 Roadworks	15
2.3.1.3 Meganiese en elektriese ingenieursdienste	15	2.3.1.3 Mechanical and electrical engineering services	15
2.3.2 Dienste van nie-normale aard	15	2.3.2 Services not of normal character	15
2.3.2.1 Werke wat buitengewoon hoë eise stel	15	2.3.2.1 Works making unusually high demands	15
2.3.2.2 Werke wat buitengewoon lae eise stel	16	2.3.2.2 Works making unusually low demands	16
2.3.3 Bykomende dienste	16	2.3.3 Additional services	16
2.3.3.1 Verskaffing van terreinpersoneel	16	2.3.3.1 Provision of site staff	16
2.3.3.2 Leier van die professionele span	16	2.3.3.2 Leader of the professional team	16
2.3.3.3 Regsgedinge en soortgelyke dienste	16	2.3.3.3 Litigation proceedings and similar services	16
2.3.3.3.1 Allerlei dienste	17	2.3.3.3.1 Miscellaneous services	16
2.3.3.3.2 Arbitrasie	17	2.3.3.3.2 Arbitration	17
2.3.4 Geld op 'n tyd basis	17	2.3.4 Time basis fee	17
2.3.5 Reistyd	17	2.3.5 Travelling time	17
3. SIVIELE EN STRUKTURELE INGENIEURSDIENSTE IN VERBAND MET BOUPROJEKTE	17	3. CIVIL AND STRUCTURAL ENGINEERING SERVICES PERTAINING TO BUILDING PROJECTS	17
3.1 Dienste deur die professionele ingenieur verrig te word	17	3.1 Services to be performed by the professional engineer	17
3.1.1 Normale dienste	17	3.1.1 Normal services	17
3.1.1.1 Verslagstadium	17	3.1.1.1 Report stage	17
3.1.1.2 Voorlopige ontwerpstadium	17	3.1.1.2 Preliminary design stage	17
3.1.1.3 Gedetailleerde ontwerp- en tenderstadium	18	3.1.1.3 Detailed design and tender stage	18
3.1.1.4 Konstruksiestadium	18	3.1.1.4 Construction stage	18
3.1.2 Bykomende dienste	19	3.1.2 Additional services	19
3.1.2.1 Verskaffing van terreinpersoneel	19	3.1.2.1 Provision of site staff	19
3.1.2.2 Hoofagent van die klient	19	3.1.2.2 Principal agent of the client	19
3.1.2.3 Regsgedinge en soortgelyke dienste	19	3.1.2.3 Litigation proceedings and similar services	19
3.1.2.4 Diverse bykomende dienste	20	3.1.2.4 Diverse additional services	20
3.2 Vergoeding van en basis van betaling aan die professionele ingenieur vir siviele en strukturele ingenieursdienste wat met bouprojekte in verband staan	20	3.2 Remuneration and basis of payment of the professional engineer in respect of civil and structural engineering services pertaining to building projects	20
3.2.1 Vergoeding	20	3.2.1 Remuneration	20
3.2.1.1 Volledige normale dienste	21	3.2.1.1 Full normal services	21
3.2.1.1.1 Verslagstadium	21	3.2.1.1.1 Report stage	21
3.2.1.1.2 Voorlopige ontwerpstadium	21	3.2.1.1.2 Preliminary design stage	21
3.2.1.1.3 Gedetailleerde ontwerp- en tenderstadium	21	3.2.1.1.3 Detailed design and tender stage	21
3.2.1.1.4 Konstruksiestadium	21	3.2.1.1.4 Construction stage	21
3.2.1.1.5 Gedeeltelike normale dienste	21	3.2.1.1.5 Partial normal services	21
3.2.1.2 Bykomende dienste	21	3.2.1.2 Additional services	21
3.2.1.2.1 Verskaffing van terreinpersoneel	21	3.2.1.2.1 Provision of site staff	21
3.2.1.2.2 Hoofagent van die klient	21	3.2.1.2.2 Principal agent of the client	21
3.2.1.2.3 Regsgedinge en soortgelyke dienste	21	3.2.1.2.3 Litigation proceedings and similar services	21
3.2.1.2.4 Diverse bykomende dienste	21	3.2.1.2.4 Diverse additional services	21
3.2.1.2.5 Terreinpersoneel nie aangestel nie	21	3.2.1.2.5 Site staff not appointed	21
3.2.1.3 Gelde vir hergebruik van voltooide ontwerpe, ens.	22	3.2.1.3 Fee for re-use of completed designs etc.	22
3.2.2 Tussentydse betalings aan die professionele ingenieur	22	3.2.2 Interim payments to the professional engineer	22
3.2.3 Koste van die ingenieurswerke	22	3.2.3 Cost of the engineering works	22
3.2.4 Skade aan of vernietiging van die werke	24	3.2.4 Damage to or destruction of the works	24
3.2.5 Uitstel, kansellering of abandonnering van die werke	24	3.2.5 Postponement, cancellation or abandonment of the works	24
3.2.6 Veranderings of wysigings aan ontwerpe	25	3.2.6 Alterations or modifications to designs	25
3.2.7 Gegewens aan professionele ingenieur verskaf te word	25	3.2.7 Data to be supplied to the professional engineer	25
3.3 Geldetarief vir siviele en strukturele ingenieursdienste in verband met bouprojekte	25	3.3 Tariff of fees for civil and structural engineering services pertaining to building projects	25
3.3.1 Dienste van normale aard	25	3.3.1 Services of normal character	25
3.3.2 Dienste van nie-normale aard	25	3.3.2 Services not of normal character	25
3.3.2.1 Werke wat buitengewoon hoë eise stel	25	3.3.2.1 Works making unusually high demands	25

	Bladsy		Page
3.3.2.2 Werke wat buitengewoon lae eise stel	26	3.3.2.2 Works making unusually low demands	26
3.3.3 Bykomende dienste	26	3.3.3 Additional services	26
3.3.3.1 Verskaffing van terreinpersoneel	26	3.3.3.1 Provision of site staff	26
3.3.3.2 Hoofagent van die kliënt	26	3.3.3.2 Principal agent of the client	26
3.3.3.3 Regsgedinge en soortgelyke dienste	26	3.3.3.3 Litigation proceedings and similar services	26
3.3.3.3.1 Allerlei dienste	26	3.3.3.3.1 Miscellaneous services	26
3.3.3.3.2 Arbitrasie	26	3.3.3.3.2 Arbitration	26
3.3.4 Geld op 'n tyd basis	27	3.3.4 Time basis fee	27
3.3.5 Reistyd	27	3.3.5 Travelling time	27
4. MEGANIESE EN ELEKTRIESE INGENIEURS- DIENSTE IN VERBAND MET BOUPROJEKTE	27	4. MECHANICAL AND ELECTRICAL ENGINEERING SERVICES PERTAINING TO BUILDING PROJECTS	27
4.1 <i>Dienste deur die professionele ingenieur verrig te word</i>	27	4.1 <i>Services to be performed by the professional engineer</i>	27
4.1.1 Normale dienste	27	4.1.1 Normal services	27
4.1.1.1 Verslagstadium	27	4.1.1.1 Report stage	27
4.1.1.2 Voorlopige ontwerp stadium	27	4.1.1.2 Preliminary design stage	27
4.1.1.3 Gedetailleerde ontwerp- en tender stadium	28	4.1.1.3 Detailed design and tender stage	28
4.1.1.4 Konstruksiestadium	28	4.1.1.4 Construction stage	28
4.1.2 Bykomende dienste	29	4.1.2 Additional services	29
4.1.2.1 Verskaffing van terreinpersoneel	29	4.1.2.1 Provision of site staff	29
4.1.2.2 Hoofagent van die kliënt	29	4.1.2.2 Principal agent of the client	29
4.1.2.3 Hoeveelheidslyste	29	4.1.2.3 Schedules of quantities	29
4.1.2.4 Regsgedinge en soortgelyke dienste	30	4.1.2.4 Litigation proceedings and similar services	30
4.1.2.5 Diverse bykomende dienste	30	4.1.2.5 Diverse additional services	30
4.2 <i>Vergoeding van en basis van betaling aan die profes- sionele ingenieur vir meganiese en elektriese ingenieursdienste wat met bouprojekte in verband staan</i>	31	4.2 <i>Remuneration and basis of payment of the professional engineer in respect of mechanical and electrical engineering services pertaining to building projects</i>	31
4.2.1 Vergoeding	31	4.2.1 Remuneration	31
4.2.1.1 Volledige normale dienste	31	4.2.1.1 Full normal services	31
4.2.1.1.1 Verslagstadium	32	4.2.1.1.1 Report stage	32
4.2.1.1.2 Voorlopige ontwerp stadium	32	4.2.1.1.2 Preliminary design stage	32
4.2.1.1.3 Gedetailleerde ontwerp stadium	32	4.2.1.1.3 Detailed design stage	32
4.2.1.1.4 Konstruksiestadium	32	4.2.1.1.4 Construction stage	32
4.2.1.1.5 Gedeeltelike normale dienste	32	4.2.1.1.5 Partial normal services	32
4.2.1.2 Bykomende dienste	32	4.2.1.2 Additional services	32
4.2.1.2.1 Verskaffing van terreinpersoneel	32	4.2.1.2.1 Provision of site staff	32
4.2.1.2.2 Hoofagent van die kliënt	32	4.2.1.2.2 Principal agent of the client	32
4.2.1.2.3 Hoeveelheidslyste	32	4.2.1.2.3 Schedules of quantities	32
4.2.1.2.4 Regsgedinge en soortgelyke dienste	32	4.2.1.2.4 Litigation proceedings and similar services	32
4.2.1.2.5 Diverse bykomende dienste	32	4.2.1.2.5 Diverse additional services	32
4.2.1.2.6 Terreinpersoneel nie aangestel nie	32	4.2.1.2.6 Site staff not appointed	32
4.2.1.3 Gelde vir hergebruik van voltooide ontwerpe ens.	33	4.2.1.3 Fee for re-use of completed designs etc.	33
4.2.2 Tussentydse betalings aan die professionele ingenieur	33	4.2.2 Interim payments to the professional engineer	33
4.2.3 Koste van die ingenieurswerke	33	4.2.3 Cost of the engineering works	33
4.2.4 Skade aan of vernietiging van die werke	35	4.2.4 Damage to or destruction of the works	35
4.2.5 Uitstel, kansellering of abandonnering van die werke	35	4.2.5 Postponement, cancellation or abandonment of the works	35
4.2.6 Veranderings of wysigings aan ontwerpe	35	4.2.6 Alterations or modifications to designs	35
4.2.7 Gegewens aan professionele ingenieur verskaf te word	36	4.2.7 Data to be supplied to the professional engineer	36
4.3 <i>Geldetarief vir meganiese en elektriese ingenieursdienste in verband met bouprojekte</i>	36	4.3 <i>Tariff of fees for mechanical and electrical engineering services pertaining to building projects</i>	36
4.3.1 Dienste van normale aard	36	4.3.1 Services of normal character	36
4.3.1.1 Basiese geld	36	4.3.1.1 Basic fee	36
4.3.1.2 Bykomende geld vir variasies	36	4.3.1.2 Additional fee for variations	36
4.3.2 Dienste van nie-normale aard	36	4.3.2 Services not of normal character	36
4.3.2.1 Werke wat buitengewoon hoë eise stel	36	4.3.2.1 Works making unusually high demands	36
4.3.2.2 Werke wat buitengewoon lae eise stel	37	4.3.2.2 Works making unusually low demands	37
4.3.3 Bykomende dienste	37	4.3.3 Additional services	37
4.3.3.1 Verskaffing van terreinpersoneel	37	4.3.3.1 Provision of site staff	37
4.3.3.2 Hoofagent van die kliënt	37	4.3.3.2 Principal agent of the client	37
4.3.3.3 Hoeveelheidslyste	37	4.3.3.3 Schedules of quantities	37
4.3.3.4 Regsgedinge en soortgelyke dienste	38	4.3.3.4 Litigation proceedings and similar services	38
4.3.3.4.1 Allerlei dienste	38	4.3.3.4.1 Miscellaneous services	38
4.3.3.4.2 Arbitrasie	38	4.3.3.4.2 Arbitration	38
4.3.4 Geld op 'n tyd basis	39	4.3.3 Time basis fee	39
4.3.5 Reistyd	39	4.3.5 Travelling time	39

1. ALGEMEEN.

1.1 In hierdie Bylae, tensy strydig met die samehang, het 'n uitdrukking of woord waaraan in die Wet op Professionele Ingenieurs, 1968 (Wet 81 van 1968), 'n besondere betekenis geheg is, dieselfde betekenis en beteken—

“kliënt” enige persoon of regspersoon wat die professionele ingenieur in private professionele raadgewende praktyk opdrag gee om ten behoeve van hom die dienste te verrig wat in regulasie 2, 3 of 4 uiteengesit word;

“kontrakteur” enige persoon of regspersoon onder kontrak by 'n kliënt om ingenieurswerke of 'n gedeelte daarvan te verrig, en omvat enige subkontrakteur aan wie enige gedeelte van die werke deur 'n kontrakteur uitbestee is;

“projek” 'n gebou of skema vir die geheel of 'n gedeelte waarvan die professionele ingenieur 'n opdrag ontvang;

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, and—

“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 regulation 2, 3 or 4;

“contractor” means any person or body corporate under contract to a 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;

“project” means a building or scheme for all or part of which the professional engineer is commissioned;

“stadium” die verslagstadium, die voorlopige ontwerpstadium, die gedetailleerde ontwerp- en tenderstadium, of die konstruksiestadium van die dienste wat deur die professionele ingenieur verrig moet word, soos beskryf in regulasies 2.1.1, 3.1.1 en 4.1.1;

“werke” of “ingenieurswerke” daardie gedeelte van 'n projek waarvoor die professionele ingenieur verantwoordelik is.

1.2 Die dienste waarvoor die gelde kragtens hierdie Bylae gehef kan word, word uiteengesit—

1.2.1 in regulasie 2.1, ten opsigte van ingenieursdienste wat nie met bouprojekte in verband staan nie;

1.2.2 in regulasie 3.1, ten opsigte van siviele en strukturele ingenieursdienste wat met bouprojekte in verband staan; en

1.2.3 in regulasie 4.1, ten opsigte van meganiese en elektriese ingenieursdienste wat met bouprojekte in verband staan.

1.3 Indien die gelde wat kragtens hierdie Bylae gehef kan word, op die koste van die werke bereken word, word die koste van die werke bereken soos bepaal in regulasies 2.2.3, 3.2.3 en 4.2.3.

1.4 Indien die dienste van die professionele ingenieur van 'n normale aard is, is die geld neergelê in regulasies 2.3.1, 3.3.1 en 4.3.1. van toepassing.

1.5 Indien die dienste van die professionele ingenieur van sodanige aard is dat die eise aan hom gestel buitengewoon hoog is, kan die geld neergelê in regulasies 2.3.1, 3.3.1 en 4.3.1, of dié gedeelte van sodanige geld wat ooreenstem met die koste van sodanige gedeelte van die werke, na gelang van die geval, verhoog word soos bepaal in regulasies 2.3.2.1.6, 3.3.2.1.3 en 4.3.2.1.5. Die oorsake vir die buitengewone hoë eise aan die professionele ingenieur is nie tot die volgende beperk nie maar sluit die volgende in:

1.5.1 Waar die werke die toepassing verg van nuwe, ongewone of onbeproeft tegnieke, veranderinge aan bestaande werke, invoeging van tweedehandse toerusting, ontwerp of toepassing van ingewikkelde beheerbane, stelsels of prosesse of buitengewone ingewikkeldheid van die geheel of 'n gedeelte van die werke of van afsonderlike elemente wat elkeen oorspronklike ontwerp vereis;

1.5.2 waar die werke aansienlike gedeeltes van uiteenlopende soorte dienste behels dermate dat die gesamentlike besondere aandag van professionele ingenieurs met bepaald verskillende kundigheid nodig is;

1.5.3 waar die werke wat onderneem word op verskillende nie-aangrensende terreine is, selfs waar sodanige werke deel uitmaak van 'n oorkoepelende aanstelling; en

1.5.4 wanneer, met die toestemming of op versoek van die kliënt, die deurlopendheid van die werke onderbreek of die werke gefragmenteer word deur dit in afsonderlike gedokumenteerde stadia of gedeeltes uit te voer.

1.6 Indien die dienste van die professionele ingenieur van sodanige aard is dat die eise aan hom gestel buitengewoon laag is, kan die geld neergelê in regulasies 2.3.1, 3.3.1 en 4.3.1, of dié gedeelte van sodanige geld wat ooreenstem met die koste van sodanige gedeelte van die werke, na gelang van die geval, verminder word soos bepaal in regulasies 2.3.2.2, 3.3.2.2 en 4.3.2.2.

1.7 Indien die dienste van die professionele ingenieur van sodanige aard is dat 'n persentasie of ander vasgestelde geld nie geskik is nie, is die geld op 'n tydbasis berekenbaar soos neergelê in regulasies 2.3.4, 3.3.4 en 4.3.4: Met dien verstande dat waar die geld op 'n tydbasis, of die voorgeskrewe tarief, onvoldoende is in vergelyking met die dienste gelewer deur 'n professionele ingenieur, 'n geskikte spesiale geld tussen die professionele ingenieur en sy kliënt beding kan word.

“stage” means the report stage, the preliminary design stage, the detailed design and tender stage, or the construction stage of the services to be performed by the professional engineer as described in regulations 2.1.1, 3.1.1 and 4.1.1;

“works” or “engineering works” means that part of a project for which the professional engineer is responsible.

1.2 The services covered by the fees which are chargeable in terms of this Schedule are set out—

1.2.1 in regulation 2.1, in respect of all engineering services not pertaining to building projects;

1.2.2 in regulation 3.1, in respect of civil and structural engineering services pertaining to building projects; and

1.2.3 in regulation 4.1, in respect of mechanical and electrical engineering services pertaining to building projects.

1.3 Where the fees chargeable in terms of this Schedule are to be calculated on the cost of the works, the cost of the works shall be determined as in regulation 2.2.3, 3.2.3 and 4.2.3.

1.4 Where the services of the professional engineer are of normal character the fee stated in regulations 2.3.1, 3.3.1 and 4.3.1 shall apply.

1.5 Where the services of the professional engineer are of such a nature that the demands on him are unusually high the fee stated in regulations 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, may be increased as provided in regulations 2.3.2.1.6, 3.3.2.1.3 and 4.3.2.1.5. The causes of the demands on the professional engineer being unusually high are not limited to the following, but include the following:

1.5.1 Where the works call for the application of new, unusual or untried techniques, alteration to existing works, incorporation of second-hand plant, design or application of complex control circuits, systems or processes or excessive complexity of the whole or part of the works or of individual elements each requiring original design;

1.5.2 where the works comprise substantial portions of dissimilar types of services such that the joint detailed attention of professional engineers of distinctly different expertise is required;

1.5.3 where the works being undertaken are on separate non-contiguous sites, even if such works form part of one overall appointment;

1.5.4 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 phases or sections.

1.6 Where the services of the professional engineer are of such a nature that the demands on him are unusually low the fee stated in regulations 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, may be decreased as provided in regulations 2.3.2.2, 3.3.2.2 and 4.3.2.2.

1.7 Where the services of the professional engineer are of such a nature that a percentage or other stated fee is inappropriate, a fee shall be chargeable on a time basis as set out in regulations 2.3.4, 3.3.4 and 4.3.4: Provided that where the fee on a time basis, or the prescribed tariff, would be inadequate in relation to the services rendered by the professional engineer, an appropriate special fee may be negotiated between the professional engineer and his client.

1.8 Die ondergemelde uitgawes deur 'n professionele ingenieur aangegaan in die uitvoering van sy opdrag is verhaalbaar en moet aan die professionele ingenieur terugbetaal word bo en behalwe die gelde voormeld:

1.8.1 Drukwerk, afrolwerk, verkryging van alle dokumente, rekords, tekeninge of landkaarte;

1.8.2 regs-, argiteks- of ander deskundige advies namens die kliënt met sy toestemming verkry;

1.8.3 opmetings van enige aard, modeltoetse, terrein-, fondament- of spesiale ondersoeke of laboratoriumtoetse en -ontledings namens die kliënt met sy toestemming uitgevoer;

1.8.4 spesiale kabelgramme, telegramme, telekskoste, telefoonoprope en posgeld op tekeninge en dokumente soos met die kliënt ooreengekom;

1.8.5 reiskoste redelijkerwys deur die professionele ingenieur en sy personeel aangegaan in die uitvoering van hulle pligte;

1.8.6 reis- en verblyf koste redelijkerwys en behoorlik deur die professionele ingenieur en lede van sy personeel aangegaan;

1.8.7 advertering ten behoeve van die kliënt;

1.8.8 spesiale versekering uitgeneem met die kliënt se goedkeuring;

1.8.9 rekenaarkoste aangegaan waar die geld op 'n tyd basis bereken word;

1.8.10 nagaan-, inspeksie-, aansoek- en ander formele heffings opgelê deur bevoegde owerhede;

1.8.11 die koste verbonde aan die indiensneming van terreinpersoneel kragtens regulasies 2.1.2.1, 3.1.2.1 en 4.1.2.1.

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

2.1 *Dienste deur die professionele ingenieur verrig te word.*

2.1.1 *Normale dienste.*—Die normale dienste deur die professionele ingenieur verrig te word, behels:

2.1.1.1 *Verslagstadium.*—Die opstel en voorlegging van 'n verslag met voorlopige voorstelle of gangbaarheidstudies en kosteramings vir oorweging deur die kliënt en, indien nodig, met inbegrip van—

2.1.1.1.1 oorlegpleging met die kliënt of sy gemagtigde verteenwoordigers;

2.1.1.1.2 inspeksie van die terrein van die werke;

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

2.1.1.1.4 oorlegpleging met owerhede wat oor beslissingsregte of -magte besit;

2.1.1.1.5 raadgewing aan die kliënt oor die noodsaaklikheid van opmetings van enige aard, ontledings, toetse en terrein- of ander ondersoeke wat nodig mag wees vir afhandeling van die verslag, en die tref van reëlins om dit op koste van die kliënt te laat uitvoer;

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

2.1.1.1.7 ondersoeke, waar nodig, na die finansiële implikasies van die voorstelle.

2.1.1.2 *Voorlopige ontwerp stadium.*—Die ontwikkeling van 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 die kliënt dit verlang;

1.8 The following costs incurred by a professional engineer in the execution of his commission are of a reimbursive nature and are refundable to the professional engineer over and above the aforementioned fees:

1.8.1 Printing copying, acquisition of all documents, records, drawings or maps;

1.8.2 legal, architectural or other specialist advice obtained on behalf of the client with his consent;

1.8.3 surveys of any kind, model tests, site or foundation or special investigations or laboratory tests and analyses carried out on behalf of the client and with his consent;

1.8.4 special cablegrams, telegrams, telex charges, telephone calls and postage on drawings and documents as agreed with the client;

1.8.5 travelling costs reasonably incurred by the professional engineer and his staff in performing their services;

1.8.6 accommodation and subsistence costs reasonably and properly incurred by the professional engineer and members of his staff;

1.8.7 advertising on behalf of the client;

1.8.8 special insurance taken out with the client's consent;

1.8.9 computer costs incurred where the fee is charged on a time basis;

1.8.10 scrutiny, inspection, application and other formal charges raised by competent authorities;

1.8.11 the cost of employing site staff appointed in terms of regulations 2.1.2.1, 3.1.2.1 and 4.1.2.1.

2. ENGINEERING SERVICES NOT PERTAINING TO BUILDING PROJECTS.

2.1 *Services to be performed by the professional engineer.*

2.1.1 *Normal services.*—The normal services to be performed by the 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 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 advice to the client as to the need for surveys of any kind, analyses, tests and 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.*—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 raadgeving aan die kliënt oor die noodsaaklikheid van enige verdere opmetings van enige aard, ontledings, toetse en terrein- of ander ondersoeke waar nodig, en die tref van reëlins om dit op koste van die kliënt te laat uitvoer;

2.1.1.2.3 raadgeving aan die kliënt, na gelang dit nodig is, oor die aanstelling en die omskrywing van die dienste van ander professionele ingenieurs, argitekte en deskundige raadgewers, en die reëling van sodanige aanstellings en oorlegplegings met sodanige raadgewers 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 opstel van die voorlopige planne, tekeninge en kosteramings wat nodig is ten einde die goedkeuring van statutêre owerhede aan te vra;

2.1.1.2.6 oorlegpleging oor tegniese aangeleenthede met ander owerhede en belanghebbendes as dié met beslissingsregte of -magte;

2.1.1.2.7 aanbring van wysigings aan die voorlopige ontwerp van die werke wat voortspruit uit of verband hou met die oorlegplegings voornoemd.

2.1.1.3 *Gedetailleerde ontwerp- en tenderstadium.*—Die opstel van alle dokumente wat nodig is sodat tenders vir die werke ingewin of die werke andersins deur die kliënt uitbestee kan word, en, indien nodig, met inbegrip van—

2.1.1.3.1 raadgeving aan die kliënt oor die noodsaaklikheid van die uitsetting of die afbakening van die werke, en die tref van reëlins om dit op koste van die kliënt te laat uitvoer;

2.1.1.3.2 opstel van ontwerpe, tekeninge, spesifikasies en ingenieurshoeveelheidslyste;

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

2.1.1.3.4 ontledings van tenders en voorlegging van aanbevelings oor die aanvaarding van tenders en kosteramings van die werke.

2.1.1.4 *Konstruksiestadium.*—Die algemene administrasie 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 raadgeving aan die kliënt oor die opstel van die kontrakdokumente, of opstel van die kontrakdokumente;

2.1.1.4.3 raadgeving aan die kliënt oor die aanstelling van terreinpersoneel kragtens regulasie 2.1.2.1;

2.1.1.4.4 voorbereiding van enige verdere planne, ontwerpe en tekeninge, uitgesonderd werkwinkeltekeninge, wat vir die uitvoering van die werke nodig mag wees maar wat buigskedules in die geval van gewapende betonwerk insluit;

2.1.1.4.5 kontrolering van die kontrakteurs se tekeninge van strukture, toerusting, uitrusting en stelsels vir die permanente werke om seker te maak dat dit aan die ontwerpvereistes voldoen, maar uitgesonderd die gedetailleerde kontrolering van vervaardiging- en installeringsdetails vir oprigting of installasiejuistheid;

2.1.1.4.6 raadgeving aan die kliënt oor alternatiewe ontwerpe en tenders maar uitgesonderd gedetailleerde inspeksie, hersiening en kontrolering van alternatiewe ontwerpe en tekeninge wat nie deur die professionele ingenieur opgestel is nie en deur 'n kontrakteur of voornemende kontrakteur voorgelê is;

2.1.1.2.2 advice to the client as to the need for any further surveys of any kind, analyses, tests and 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 advice to the client, as may be necessary, upon the appointment and delineation of the services of other professional engineers, architects and specialist advisers and arranging such appointments and consultations 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 the 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 aforesaid consultations.

2.1.1.3 *Detailed design and tender 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 advice to 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 advice to the client as to the preparation of the contract documents or preparation of the contract documents;

2.1.1.4.3 advice to the client as to the appointment of site staff in accordance with regulation 2.1.2.1;

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, but including 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 or installation fit;

2.1.1.4.6 advice to the client on alternative designs and tenders but excluding detailed inspection, reviewing and checking of alternative designs and drawing not prepared by the professional engineer and submitted by any contractor or potential contractor;

2.1.1.4.7 uitreiking van opdragte aan kontrakteurs, koördinerende en algemene inspeksie van die uitvoering van die werke by tussenpose soos deur die professionele ingenieur nodig geag maar uitgesonderd toesig, gedetailleerde en daaglikse inspeksie van die werke en terrein-administrasie waarvoor in regulasie 2.1.2.1 voorsiening gemaak word;

2.1.1.4.8 uitreiking van betalingsertifikate aan kontrakteurs en vasstelling van finale hoeveelhede saam 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 uitreiking van wysigingsopdragte;

2.1.1.4.11 raadgewing aan die kliënt oor die inspeksie en toets van sodanige materiaal en toerusting as wat normaalweg nagegaan en getoets word, en die tref van relings om sodanige inspeksie en toetsing op koste van die kliënt te laat uitvoer;

2.1.1.4.12 die tref van reëlins vir die uitvoer en die bywoning van werkverrigting- of aanvaardingtoets op die terrein;

2.1.1.4.13 die tref van reëlins, namens die kliënt, vir die verskaffing en reproduksie van sodanige tekeninge en dokumente as wat die kontrakteurs en terreinpersoneel nodig mag hê om die werke uit te voer;

2.1.1.4.14 die 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 en die voorbereiding van sodanige dokumente as wat nodig mag wees om die tekeninge en handleidings wat voorsien is, te koördineer.

2.1.2 *Bykomende dienste.*—Dienste in verband met onderstaande items is bykomend by die normale dienste van die professionele ingenieur, wat die kliënt se goedkeuring moet verkry vir die verrigting van sodanige dienste:

2.1.2.1 *Verskaffing van terreinpersoneel.*

2.1.2.1.1 Indien die kliënt dit verlang van die professionele ingenieur belas met die dienste omskryf in regulasie 2.1.1.4, stel die professionele ingenieur sodanige bevoegde terreinpersoneel aan as wat nodig mag wees vir die doeltreffende kontrolering van die uitsetting, daaglikse inspeksie van die konstruksie van die werke, die opmeet van werk op die terrein en die vasstelling van die hoeveelhede saam met verteenwoordigers van die kontrakteurs.

2.1.2.1.2 Indien voldoende terreinpersoneel nie aangestel is nie, moet die professionele ingenieur sodanige bykomende dienste lewer as wat nodig mag wees om die funksies omskryf in regulasie 2.1.2.1.1 uit te voer.

2.1.2.2 *Leier van die professionele span.*—Indien die kliënt verlang dat die professionele ingenieur as leier van die professionele span moet optree wat ander professionele ingenieurs, argitekte, of tegniese raadgewers kan insluit, sluit die bykomende dienste die volgende in:

2.1.2.2.1 Verantwoordelikheid vir die algehele administrasie van alle gedeeltes van die projek met inbegrip van dié wat binne die bestek val van die ander professionele raadgewers in die span;

2.1.2.2.2 verantwoordelikheid vir die algehele koördinerende, programmering van ontwerp en finansiële beheer van die projek;

2.1.2.2.3 goedkeuring van sertifikate vir betaling aan kontrakteurs, uitgereik deur die ander professionele raadgewers in die span, voor voorlegging aan die kliënt vir vereffening.

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 provided for under regulation 2.1.2.1;

2.1.1.4.8 issuing certificates for payment to contractors and agreeing final quantities with contractors where site staff are engaged, but excluding measurements on site;

2.1.1.4.9 deciding in disputes or differences that may arise between the client and the contractors excepting litigation and arbitration;

2.1.1.4.10 issuing variation orders;

2.1.1.4.11 advice to 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 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 site staff for the execution 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 and preparing such documents as may be necessary to co-ordinate the drawings and manuals provided.

2.1.2 *Additional services.*—Services in connection with the items listed below are additional to the normal services of the professional engineer, who shall obtain the approval of the client for any such services to be carried out:

2.1.2.1 *Provision of site staff.*

2.1.2.1.1 Should the client require the professional engineer charged with the services in regulation 2.1.1.4 so to do, the professional engineer shall appoint such competent site staff as is necessary for the efficient checking of setting out, day-to-day inspection of construction of the works, measuring up of work on site and agreeing quantities with contractors' representatives.

2.1.2.1.2 Where adequate site staff are not appointed the professional engineer shall provide such additional services as are necessary for carrying out the functions described in regulation 2.1.2.1.1.

2.1.2.2 *Leader of the professional team.*—Should the client require the professional engineer to assume the leadership of a team which may include other professional engineers, architects or technical advisers, the additional services shall include the following:

2.1.2.2.1 Responsibility for the overall administration of all sections of the project including those which fall within the ambit of the other professional advisers in the team;

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

2.1.2.2.3 approval of certificates of payment to contractors issued by the other professional advisers in the team, prior to their presentation to the client, for settlement.

2.1.2.3 *Regsgedinge en soortgelyke dienste.*—Indien die kliënt die professionele ingenieur opdrag gee om die ondergemelde dienste te onderneem, is die omvang daarvan onderworpe aan ooreenkoms tussen die twee partye:

2.1.2.3.1 Hantering van Waterhof- en Waterregaangeleenthede, verkryging van parlementêre of ander statutêre goedkeuring, lisensies of permitte;

2.1.2.3.2 bystand by beoogde of werklike regs- of arbitrasieverrigtinge;

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

2.1.2.4 *Diverse bykomende dienste.*

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

2.1.2.4.2 Waardebepaling vir die aankoop, verkoop of huur van toerusting, uitrusting, materiaal, stelsels, grond of geboue of die tref van reëlins vir sodanige waarde-bepaling.

2.1.2.4.3 Die tref van reëlins vir deurgangsregte, servitude of onteienings.

2.1.2.4.4 Onderhandelings oor en die tref van reëlins vir die verskaffing of verlegging van utiliteitsdienste wat nie deel uitmaak van die werke nie.

2.1.2.4.5 Aanbring van sodanige wysigings as wat nodig mag wees om formele goedkeuring te verkry van die betrokke staatsdepartemente of openbare owerhede, voortspuitende uit besluite deur sodanige departemente of owerhede as gevolg van beleidsveranderings en ander oorsake buite die beheer van die professionele ingenieur.

2.1.2.4.6 Opnames van enige aard, ontledings, toetse en terrein- of fondament- of ander ondersoeke, modeltoetse, laboratoriumtoetse en -ontledings uitgevoer namens die kliënt en die uitvoering en bywoning van werkverrigting- of aanvaardingstoetse op die terrein ooreenkomstig regulasies 2.1.1.1.5, 2.1.1.2.2 en 2.1.1.4.12.

2.1.2.4.7 Uitsetting of afbakening van die werke ooreenkomstig regulasie 2.1.1.3.1.

2.1.2.4.8 Opstel of gedetailleerde kontrolering van vervaardiging- en installeringsdetails vir oprigtingjuistheid.

2.1.2.4.9 Gedetailleerde inspeksie, hersiening en kontrolering van ontwerpe en tekeninge wat nie deur die professionele ingenieur opgestel is nie en deur 'n kontrakteur of voornemende kontrakteur voorgelê is as alternatief vir dié wat ingesluit is by die tender of soortgelyke dokumente wat deur die professionele ingenieur opgestel is.

2.1.2.4.10 Opstel en uiteensetting van besonderhede en berekeninge op 'n wyse wat deur 'n aangewese owerheid verlang word en wat verskil van wat die kliënt verlang.

2.1.2.4.11 Dienste wat ontstaan indien 'n kontrakteur in gebreke bly om sy kontrak te voltooi.

2.1.2.4.12 Dienste deur die professionele ingenieur verrig wat gebruiklikerwys of kontraktueel die verantwoordelikheid van die kontrakteur is, hetsy uit hoofde van spesiale kontraktuele bepalings wat die kontrakteur onthef van sy gebruikelike verpligtinge of as gevolg daarvan dat die kontrakteur in gebreke bly om sy kontraktuele verpligtinge na te kom.

2.1.2.4.13 Dienste wat die professionele ingenieur verrig deur remediërende maatreëls te bepaal, bykomende of meer uitgebreide besoeke aan die terrein te bring of geskille te besleg wat die direkte en noodwendige gevolg is van die versuim deur die kontrakteur om aan enige spesifikasies, tekeninge, prosedures, konstruksieprogramme, tydtafel of vasgestelde voltooiingsdatum ooreenkomstig die kontrak te voldoen.

2.1.2.3 *Litigation proceedings and similar services.*—Where the client instructs the professional engineer to undertake the services listed below, the extent thereof shall be subject to agreement between the two parties:

2.1.2.3.1 Dealing with Water Court matters, Water Law matters, obtaining Parliamentary or other statutory approval, licences or permits;

2.1.2.3.2 assisting with contemplated or actual litigation or arbitration proceedings;

2.1.2.3.3 officiating at or attending courts and commissions of inquiry, select committees and similar bodies convened by statute, regulation or decree.

2.1.2.4 *Diverse additional services.*

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

2.1.2.4.2 Valuation for purchase, sale or leasing of plant, equipment, material, systems, land or buildings or arranging for such valuation.

2.1.2.4.3 Making arrangements for wayleaves, servitudes or expropriations.

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

2.1.2.4.5 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.

2.1.2.4.6 Surveys of any kind, analyses, tests and site or foundation or other investigations, model tests, laboratory tests and analyses carried out on behalf of the client and the carrying out and witnessing of performance or acceptance tests at site in accordance with regulations 2.1.1.1.5, 2.1.1.2.2 and 2.1.1.4.12.

2.1.2.4.7 Setting out or staking out the works in accordance with regulation 2.1.1.3.1.

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

2.1.2.4.9 Detailed inspection, reviewing and checking of designs and 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.

2.1.2.4.10 Preparing and setting out particulars and calculations in a form required by any appropriate authority differing from that required by the client.

2.1.2.4.11 Services arising from the failure of any contractor to perform his contract.

2.1.2.4.12 Services performed 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 contractual obligations.

2.1.2.4.13 Services performed by the professional engineer in determining any remedial measure, making any additional or more extended site visits or resolving any disputes which are the direct and necessary consequence of any failure by the contractor to comply with any specifications, drawings, procedures, construction programmes, timetable or due completion date with which he is required to comply in terms of the contract.

2.1.2.4.14 Uitvoering van of die tref van reëlins vir periodieke kontrolering en aanpassing van die werke om behoorlike funksionering van enige proses of stelsel te optimaliseer of te handhaaf.

2.1.2.4.15 Ondersoek na en verslagdoening oor tariewe of vorderings wat deur die kliënt gehef kan word.

2.1.2.4.16 Vooruitbestelling of reservering van materiale, die verkryging van lisensies en permitte en die kontrolering van werklike arbeidstoerusting- en materiaal-opgawes vir die vasstelling of wysiging van die kontrakprys.

2.1.2.4.17 Inspeksie en toets (uitgesonderd dié op die terrein) van materiale en toerusting, met inbegrip van inspeksie en werktuigsgedurende en na vervaardiging.

2.1.2.4.18 Bykomende dienste soos omskryf in—

regulasie 2.1.2.1.2—terreinspersoneel nie aangestel nie;

regulasie 2.2.4—skade aan of vernietiging van die werke;

regulasie 2.2.5—uitstel, kansellering of abandonnering van die werke;

regulasie 2.2.6—veranderings of wysigings aan ontwerp.

2.1.2.4.19 Enige bykomende dienste van welke aard ook al uitgesonderd dié spesifiek in regulasie 2.1.2 genoem.

2.2 Vergoeding van en basis van betaling aan die professionele ingenieur vir ingenieursdienste wat nie met bouprojekte in verband staan nie.

2.2.1 Vergoeding.

2.2.1.1 Volledige normale dienste.—Die vergoeding van die professionele ingenieur vir die normale dienste wat hy ooreenkomstig regulasie 2.1.1 verrig, is soos volg:

2.2.1.1.1 Verslagstadium—regulasie 2.1.1.1.—Die geld word op 'n tyd basis bereken teen die tariewe uiteengesit in regulasie 2.3.4 en is aan die professionele ingenieur betaalbaar by voorlegging van die voorlopige voorstelle of gangbaarheidsstudies aan die kliënt, tensy anders ooreenkom.

2.2.1.1.2 Daaropvolgende stadiums—regulasies 2.1.1.2, 2.1.1.3 en 2.1.1.4.—Behoudens regulasie 2.2.1.2, word die geld bereken op die basis en wyse in regulasies 2.3.1 en 2.3.2 uiteengesit en is soos volg aan die professionele ingenieur betaalbaar, tensy anders ooreenkom:

2.2.1.1.2.1 Voorlopige ontwerp stadium—regulasie 2.1.1.2.—20% van die geld wanneer die ontwikkelde voorstelle vir die konstruksie 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 wat verband hou met die aanvaarde voorstelle en uitgevoer is ingevolge regulasie 2.1.1.1, en wat gebruik is of kan word in die ontwikkeling van die voorlopige voorstelle.

2.2.1.1.2.2 Gedetailleerde ontwerp- en tender stadium—regulasie 2.1.1.3.—'n Verdere 40% van die geld wanneer die tekening en ander dokumente wat nodig is om die werke op tender of andersins deur die kliënt uitbestee te laat word, voltooi en aan die kliënt voorgelê is: Met dien verstande dat waar die professionele ingenieur sodanige tekening en dokumente as deel van die ontwikkeling van sy voorlopige voorstelle opgestel het, die geld ooreenkomstig regulasie 2.2.1.1.2.1 tot 50% verhoog en die geld ingevolge regulasie 2.2.1.1.2.2 tot 10% verminder word.

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

2.1.2.4.15 Investigating and reporting upon tariffs or charges leviable by the client.

2.1.2.4.16 Advance ordering or reservation of materials, the obtaining of licences and permits and the checking of actual labour, plant and material returns for the purpose of contract price establishment or adjustment.

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

2.1.2.4.18 Additional services as defined in—

regulation 2.1.2.1.2—site staff not appointed;

regulation 2.2.4—damage to or destruction of the works;

regulation 2.2.5—postponement, cancellation or abandonment of the works;

regulation 2.2.6—alterations or modifications to designs.

2.1.2.4.19 Any additional services of whatever nature other than those specifically referred to in regulation 2.1.2.

2.2 Remuneration and basis of payment of the professional engineer in respect of engineering services not pertaining to building projects.

2.2.1 Remuneration.

2.2.1.1 Full normal services.—The remuneration of the professional engineer for the normal services performed by him under regulation 2.1.1 shall be as follows:

2.2.1.1.1 Report stage—regulation 2.1.1.1.—The fee shall be calculated on a time basis at the rates set out in regulation 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 Subsequent stages—regulations 2.1.1.2, 2.1.1.3 and 2.1.1.4.—Subject to regulation 2.2.1.2, the fee shall be calculated on the basis and in the manner set out in regulations 2.3.1 and 2.3.2 and shall, unless otherwise agreed, become due to the professional engineer as follows:

2.2.1.1.2.1 Preliminary design stage—regulation 2.1.1.2.—20% 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 regulation 2.1.1.1 and which can be or are utilised in the development of the preliminary proposals.

2.2.1.1.2.2 Detailed design and tender stage—regulation 2.1.1.3.—A further 40% 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 regulation 2.2.1.1.2.1 shall be increased to 50% and the fee under regulation 2.2.1.1.2.2 shall be reduced to 10%.

2.2.1.1.2.3 Konstruksiestadium—regulasie 2.1.1.4.

(a) *Siviel en struktureel*.—'n Verdere 15% (of pro rata) van die geld by voltooiing van gedetailleerde tekeninge: Met dien verstande dat waar die professionele ingenieur alle of sommige van sodanige gedetailleerde tekeninge opgestel het as deel van die tenderdokumente of voordat die werke uitbestee is, die hele of toepaslike gedeelte van die geld, na gelang van die geval, neergelê in regulasie 2.2.1.1.2.3, gevoeg word by die geld neergelê in regulasie 2.2.1.1.2.2 en afgetrek word van die geld neergelê in regulasie 2.2.1.1.2.3; die oorblywende 25% van die geld na gelang die konstruksie- of instelleringswerk vorder in verhouding tot die koste van die werke voltooi.

(b) *Meganies en elektries*.—Die oorblywende 40% van die geld na gelang die konstruksie- of instelleringswerk vorder in verhouding tot die koste van die werke voltooi.

2.2.1.2. *Gedeeltelike normale dienste*.—Indien die professionele ingenieur aangestel word om dienste te verrig wat nie al die stadia uiteengesit in regulasies 2.1.1.1, 2.1.1.2, 2.1.1.3 en 2.1.1.4 bevat nie, word die geld soos volg toegeleë:

2.2.1.2.1 Voorlopige ontwerp stadium alleenlik—30% van die geld onderworpe aan 'n gepaste toelating soos in regulasie 2.2.1.1.2.1 uiteengesit;

2.2.1.2.2 voorlopige ontwerp- en gedetailleerde ontwerp- en tender stadium alleenlik:

(a) *Siviel en Struktureel*, uitgesonderd die voltooiing van gedetailleerde tekeninge—70% van die geld onderworpe aan 'n gepaste toelating soos in regulasie 2.2.1.1.2.1 uiteengesit.

(b) *Siviel en Struktureel*, met inbegrip van die voltooiing van gedetailleerde tekeninge—85% van die geld onderworpe aan 'n gepaste toelating soos in regulasie 2.2.1.1.2.1 uiteengesit.

(c) *Siviel en Struktureel*, met inbegrip van die voltooiing van gedetailleerde tekeninge, wapeningsbesonderhede en buigskedules en strukturele staaltekeninge uitgesonderd werkwinkeldetails—100% van die bykomende geld bepaal kragtens regulasies 2.3.1.1.2, 2.3.1.1.3 en 2.3.1.1.4, tesame met 85% van die basiese geld soos in regulasie 2.3.1.1.1 uiteengesit.

(d) *Meganies en Elektries*—70% van die geld onderworpe aan 'n gepaste toelating soos in regulasie 2.2.1.1.2.1 uiteengesit;

2.2.1.2.3 konstruksiestadium alleenlik, maar uitgesonderd die voltooiing van gedetailleerde tekeninge:

(a) *Siviel en Struktureel*—35% van die geld.

(b) *Meganies en Elektries*—50% van die geld.

2.2.1.3 *Bykomende dienste*.—Die geld of heffing vir bykomende dienste verrig ooreenkomstig regulasie 2.1.2 is soos volg:

2.2.1.3.1 *Verskaffing van terreinpersoneel*.—Die heffing vir die bykomende dienste deur die professionele ingenieur verrig ter verskaffing van terreinpersoneel kragtens regulasie 2.1.2.1.1, is soos neergelê in regulasie 2.3.3.1.

2.2.1.3.2 *Leier van die professionele span*.—Die geld vir die bykomende dienste deur die professionele ingenieur verrig as leier van die professionele span ooreenkomstig regulasie 2.1.2.2 is soos neergelê in regulasie 2.3.3.2 en word toegeleë soos vir normale dienste ooreenkomstig regulasie 2.2.1.1.

2.2.1.3.3 *Regsgedinge en soortgelyke dienste*.—Die geld vir die dienste deur die professionele ingenieur verrig kragtens regulasie 2.1.2.3 word bereken op 'n tyd basis soos uiteengesit in regulasie 2.3.3.3.

2.2.1.1.2.3 Construction stage—regulation 2.1.1.4.

(a) *Civil and structural*.—A further 15% (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 regulation 2.2.1.1.2.3, shall be added to the fee under regulation 2.2.1.1.2.2 and deducted from the fee under regulation 2.2.1.1.2.3; the remaining 25% of the fee as and when the construction or installation work proceeds in proportion to the cost of the works completed.

(b) *Mechanical and electrical*.—The remaining 40% of the fee as and when the construction or installation work proceeds in proportion to the cost of the works completed.

2.2.1.2 *Partial normal services*.—Where the professional engineer is appointed to perform services not constituting all the stages set out in regulations 2.1.1.1, 2.1.1.2, 2.1.1.3 and 2.1.1.4, the fee shall be apportioned as follows:

2.2.1.2.1 Preliminary design stage only—30% of the fee subject to an appropriate credit as set out in regulation 2.2.1.1.2.1;

2.2.1.2.2 preliminary design stage and detailed design and tender stage only:

(a) *Civil and Structural* excluding completion of detailed drawings—70% of the fee subject to an appropriate credit as set out in regulation 2.2.1.1.2.1.

(b) *Civil and Structural* including completion of detailed drawings—85% of the fee subject to an appropriate credit as set out in regulation 2.2.1.1.2.1.

(c) *Civil and Structural* including completion of detailed drawings, reinforcing details and bending schedules and structural steel drawings excluding shop details—100% of the additional fee prescribed in terms of regulations 2.3.1.1.2, 2.3.1.1.3 and 2.3.1.1.4, together with 85% of the basic fee as set out in regulation 2.3.1.1.1.

(d) *Mechanical and Electrical*—70% of the fee subject to an appropriate credit as set out in regulation 2.2.1.1.2.1;

2.2.1.2.3 construction stage only, but excluding the completion of detailed drawings:

(a) *Civil and Structural*—35% of the fee.

(b) *Mechanical and Electrical*—50% of the fee.

2.2.1.3 *Additional services*.—The fee or charge for additional services carried out under regulation 2.1.2 shall be as follows:

2.2.1.3 *Additional services*.—The fee or charge for additional services performed by the professional engineer in providing site staff in terms of regulation 2.1.2.1.1 shall be in accordance with regulation 2.3.3.1.

2.2.1.3.2 *Leader of the professional team*.—The fee for the additional services performed by the professional engineer as leader of the professional team under regulation 2.1.2.2 shall be in accordance with regulation 2.3.3.2, apportioned as for normal services under regulation 2.2.1.1.

2.2.1.3.3 *Litigation proceedings and similar services*.—The fee for the services performed by the professional engineer under regulation 2.1.2.3 shall be calculated on a time basis as set out in regulation 2.3.3.3.

2.2.1.3.4 *Diverse bykomende dienste.*—Die geld vir diverse bykomende dienste deur die professionele ingenieur verrig kragtens regulasie 2.1.2.4 word bereken op 'n tyd-basis soos in regulasie 2.3.4. uiteengesit.

2.2.1.3.5 *Terreinpersoneel nie aangestel nie.*—Indien voldoende terreinpersoneel nie aangestel is nie, hef die professionele ingenieur geld op 'n tydbasis soos uiteengesit in regulasie 2.3.4 vir die nodige bykomende dienste deur hom of sy personeel gelewer en vir terreinbesoeke bo en behalwe dié in regulasie 2.1.1.4.7 genoem.

2.2.2 *Tussentydse betalings aan die professionele ingenieur.*

2.2.2.1 Om die tussentydse betalings verskuldig ooreenkomstig regulasie 2.2.1.1.2 te bepaal, is die koste van die ingenieurswerke, uitgesonderd enige voorlopige toelaes gemaak ter dekking van gebeurlikhede en eskalasie, soos volg:

2.2.2.1.1 Die netto bedrag van die aanvaarde tender; of

2.2.2.1.2 indien geen tender aanvaar is nie, die netto bedrag van die tender wat deur die professionele ingenieur as die geskikste aanbeveel is; of

2.2.2.1.3 indien die kontrak by wyse van onderhandeling toegeken is, die bedonge prys; of

2.2.2.1.4 indien geen tenders ingewin is of indien geen geskikte tenders ontvang is of indien geen onderhandeling enduit gevoer is nie, die beraming waaroor onderling ooreengekom word.

2.2.2.2 Sodanige tussentydse betalings tel alleenlik as gedeelte van die totale geld wat uiteindelik betaalbaar is en bereken word op die finale koste van die werke soos in regulasie 2.2.3 omskryf.

2.2.3 *Koste van die ingenieurswerke.*

2.2.3.1 Om die totale gelde te bereken wat uiteindelik betaalbaar is ooreenkomstig regulasie 2.2.2.2 is die koste van die werke, of enige gedeelte daarvan, die volgende:

2.2.3.1.1 Die bedrag gesertifiseer vir betaling aan die kontrakteurs ten opsigte van werke wat ontwerp, gespesifiseer of geadministreer is deur die professionele ingenieur, voor aftrekking van gelikwiderde skadevergoeding of boetes (as daar is):

2.2.3.1.2 indien die kliënt arbeid, gereedskap, konstruksietoerusting of -materiaal, vervaardigde goedere of masjinerie verskaf vir insluiting in die werke, 'n regstreekse en billike waardasie gegrond op normale tariewe van kontrakteurs vir soortgelyke items met inbegrip van waardevermindering, verspilling en herstelwerk, oorhoofse koste en winste; en

2.2.3.1.3 'n billike ooreengekome waardasie van die verskil tussen die koste van enige tweedehandse materiale, vervaardigde goedere of masjinerie wat in die werke ingesluit is en die markwaarde van sulke materiale, vervaardigde goedere of masjinerie asof hulle nuut aangekoop is.

2.2.3.2 Die koste van die werke sluit die koste in van enige toetsboorwerk, proefheiwerk, meet van grondweerstand, uitgraving van skagte, toegangstonnels, en so meer waarvoor die professionele ingenieur kontrakdokumente moet opstel en 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 uitgawes;

2.2.3.3.3 opmetingskoste;

2.2.3.3.4 salarisse, reiskoste en toevallige en kantooruitgawes van die terreinpersoneel;

2.2.1.3.4 *Diverse additional services.*—The fee for diverse additional services performed by the professional engineer under regulation 2.1.2.4 shall be calculated on a time basis as set out in regulation 2.3.4.

2.2.1.3.5 *Site staff not appointed.*—Where adequate site staff are 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 regulation 2.1.1.4.7 on a time basis as set out in regulation 2.3.4.

2.2.2. *Interim payments to the professional engineer.*

2.2.2.1 For the purpose of ascertaining the interim payments due under regulation 2.2.1.1.2, the cost of the engineering works, which shall exclude any provisional allowances made to cover contingencies and escalation, shall be—

2.2.2.1.1 the net amount of the accepted tender; or

2.2.2.1.2 if no tender is accepted, the net 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 regulation 2.2.3.

2.2.3 *Cost of the engineering works.*

2.2.3.1 For the purpose of calculating the total fee ultimately payable in terms of regulation 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);

2.2.3.1.2 where the client provides labour, tools, construction plant or materials, manufactured goods or machinery for incorporation in the works, a direct and fair valuation based on normal charges by contractors for similar items including depreciation, waste and repairs, overheads and profit; and

2.2.3.1.3 a fair valuation to be agreed of the difference between the cost price of any second-hand materials, manufactured goods or machinery incorporated in the works and the market value of such materials, manufactured goods or machinery as though they were purchased new.

2.2.3.2 The cost of the works shall include the cost of any exploratory drilling, test piling, soil resistivity measurement, excavation of shafts, adits, etc., for which the professional engineer is required to prepare contract documents and 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 site staff;

2.2.3.3.5 finansieringskoste en -heffings aangegaan deur die kliënt;

2.2.3.3.6 die koste van grond, servitude en deurgangs-regte.

2.2.3.4 Indien 'n kontrak bepaal dat betalings aan kontrakteurs vermeerder of verminder word tydens die duur van die kontrak na gelang van enige skommeling in die werklike koste van gespesifiseerde items of in voorgeskrewe indeks-syfers word, ondanks die bepaling van regulasie 2.2.3.1, die waarde van sodanige toenames of afnames in die koste, na gelang van die geval, soos volg en berekening gebring by die bepaling van die koste van die werke met die oog op die berekening van die totale geld wat uiteindelik betaalbaar is:

2.2.3.4.1 Ten opsigte van daardie gedeelte van die totale geld wat gedurende die konstruksiestadium verskuldig word kragtens regulasie 2.2.1.1.2.3, die totaal van die toenames of afnames in die koste wat werklik vir betaling kragtens die kontrakte gesertifiseer word;

2.2.3.4.2 ten opsigte van daardie gedeelte van die geld wat voor die konstruksiestadium verskuldig word kragtens regulasies 2.2.1.1.2.1 en 2.2.1.1.2.2 en, waar van toepassing, ten opsigte van enige gedetailleerde tekeninge wat voltooi is voor die plasing van die werke soos bepaal in regulasie 2.2.1.1.2.3, die totaal van die toenames of afnames in die koste wat werklik vir betaling gesertifiseer is of 10% van die oorspronklike kontrakbedrag, d.w.s. 10% van die totale bedrae wat kragtens sodanige kontrakte goedgekeur sou word vir betaling aan kontrakteurs indien daar nie voorsiening gemaak was vir prysskommelings nie, wat-ter ook al die minste is;

2.2.3.4.3 indien daar nie met die konstruksie of installasie van die werke voortgegaan word nie, word die bepaling van regulasie 2.2.3.4.2 toegepas op die onderling ooreengekome beraming van die waarde van die toenames of afnames in die koste wat gemaak sou gewees het indien met die konstruksie of installasie voortgegaan is.

2.2.4 *Skade aan of vernietiging van die werke.*—Indien enige gedeelte van die werke of die toerusting daarvoor te eniger tyd as gevolg van oorlog, brand, storms, vloedwater of ander oorsake buite die beheer van die professionele ingenieur beskadig of vernietig word voordat die werke voltooi is, betaal die kliënt die professionele ingenieur die toepaslike geld vir enige bykomende dienste wat van hom verlang word, met inbegrip van ontwerp, inspeksie en administrasie as gevolg van sodanige skade of vernietiging.

2.2.5 *Uitstel, kansellering of abandonnering van die werke.*

2.2.5.1 Indien die werke in die geheel of gedeeltelik uitgestel, gekanselleer of geabandonneer word nadat die kliënt opdrag aan die professionele ingenieur gegee het om voort te gaan met enige van die stadiums genoem in regulasies 2.1.1.2, 2.1.1.3 en 2.1.1.4, word die betaling aan die professionele ingenieur vir dienste verrig ten opsigte van daardie deel van die werke wat aldus uitgestel, gekanselleer of geabandonneer is, bereken ooreenkomstig regulasie 2.2.1.1.2, plus 'n toeslag van een tiende, en ooreenkomstig enige ander toepaslike regulasies, in verhouding tot die dienste verrig voordat die werke uitgestel, gekanselleer of geabandonneer is.

2.2.5.2 Indien daar binne twee jaar met die uitgestelde werke, of enige gedeelte daarvan voortgegaan word, is die betaling kragtens regulasie 2.2.5.1 finaal vir dienste alreeds verrig en word betaling vir toekomstige dienste afsonderlik bereken ooreenkomstig die toepaslike bepalinge van hierdie Bylae.

2.2.3.3.5 finance costs and charges incurred by the client;

2.2.3.3.6 cost of land, servitudes and wayleaves.

2.2.3.4 Notwithstanding the provisions of regulation 2.2.3.1, where any contract provides that payment to contractors shall be increased or decreased during the currency of the contract in accordance with any fluctuation in the actual cost of specified items or in prescribed indices, the value of such increases or decreases in cost, as the case may be, shall be brought into account in determining the cost of the works for purposes of calculating the total fee ultimately payable in the following manner.

2.2.3.4.1 In respect of that portion of the total fee becoming due during the construction stage in accordance with regulation 2.2.1.1.2.3, the total of the increases or decreases in cost actually certified for payment in terms of the contracts;

2.2.3.4.2 in respect of that portion of the fee becoming due prior to the construction stage in accordance with regulations 2.2.1.1.2.1 and 2.2.1.1.2.2 and, where applicable, in respect of any detailed drawings completed prior to the placing of the works as provided in regulation 2.2.1.1.2.3, the total of the increases or decreases in cost actually certified for payment or 10% of the original contract amount, i.e. 10% of the total amounts which would have been certified for payment to contractors in terms of such contractors had there been no provision for fluctuations in cost, whichever shall be the lesser;

2.2.3.4.3 if the construction or installation of the works is not proceeded with, the provisions of regulation 2.2.3.4.2 shall be applied to the mutually agreed estimate of the value of the increases or decreases in cost which would have been made if construction or installation had been proceeded with.

2.2.4 *Damage to or destruction of the 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 operation 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 services which may be required of him including design, inspection and administration as a result of such damage or destruction.

2.2.5 *Postponement, cancellation or abandonment of the 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 regulations 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, 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 regulation 2.2.1.1.2, plus a surcharge of one tenth, and in accordance with such other regulations as may be applicable, in proportion to the services performed prior to the works being postponed, cancelled or abandoned.

2.2.5.2 If, within two years, the postponed works or any part thereof shall again proceed, the payment defined in regulation 2.2.5.1 shall be final for the services already performed and payment for subsequent services shall be separately determined in accordance with the relevant provisions of this Schedule.

2.2.5.3 Indien bykomende dienste van die professionele ingenieur verlang word ten opsigte van die hervatting van die uitgestelde werke, het die professionele ingenieur vir sulke verdere dienste geld op 'n tydbasis soos uiteengesit in regulasie 2.3.4.

2.2.5.4 Ingeval die werke, of enige gedeelte daarvan, langer as twee jaar uitgestel word, word sodanige werke geag geabandonneer te wees.

2.2.5.5 Vir doeleindes van regulasie 2.2.5 is die koste van die werke die onderling ooreengekome beraming van die koste van die betrokke gedeelte van die werke wat voltooi was ten tyde van die uitstel, kansellering of abandonnering daarvan.

2.2.6 *Veranderings of wysigings aan ontwerpe.*—Indien omstandighede hulle voordoen wat redelikerwys nie deur die professionele ingenieur voorsien kon gewees het nie of as die kliënt die ontwerpvereistes wysig wat veranderings aan voltooiende ontwerpe noodsaak, 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 algehele koste van enige hersiening, wysiging of reproduksie van sodanige ontwerpe, tekeninge of dokumente om die werk te bring tot die stadium waar dit gewysig is, onderworpe aan bykomende betaling op 'n tydbasis bereken soos in regulasie 2.3.4 uiteengesit. Met dien verstande dat die professionele ingenieur die kliënt van die bykomende koste verwittig wat by wyse van gelde aangegaan mag word.

2.3 *Geldetarf vir ingenieursdienste nie in verband met bouprojekte nie.*

2.3.1 *Dienste van normale aard.*—Vir werke wat normale eise aan die professionele ingenieur se tyd stel, is die geld soos voorgeskryf in regulasies 2.3.1.1, 2.3.1.2 en 2.3.1.3.

2.3.1.1 *Siviele en strukturele ingenieursdienste.*

2.3.1.1.1 *Basiese geld.*

Indien die koste van die werke—		Die geld is die som van die primêre geld genoem in kolom 3 en die sekondêre geld bereken kragtens kolom 4		
meer is as—	maar nie meer is nie as—	Primêre geld	Persentasie vir sekondêre geld bereken op die totale koste van die werke	
(Kolom 1)	(Kolom 2)	(Kolom 3)	(Kolom 4)	
R	R	R	%	
(a).....	—	200	10,00	
(b).....	60 000	800	9,00	
(c).....	100 000	1 300	8,50	
(d).....	150 000	2 050	8,00	
(e).....	250 000	3 300	7,50	
(f).....	400 000	5 300	7,00	
(g).....	600 000	8 300	6,50	
(h).....	1 000 000	13 300	6,00	
(i).....	1 500 000	20 800	5,50	
(j).....	3 000 000	35 800	5,00	
(k).....	5 000 000	60 800	4,50	
(l).....	7 000 000	78 300	4,25	
(m).....	12 000 000	108 300	4,00	

2.3.1.1.2 *Bykomende geld vir die gewapendebetongedeelte van die werke.*—Die bykomende geld vir die gewapendebetongedeelte van die werke, met inbegrip van die beton, wapening en bekisting, wat strukturele ontwerp aan die kant van die professionele ingenieur behels, tesame met

2.2.5.3 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 as set out in regulation 2.3.4.

2.2.5.4 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.

2.2.5.5 For the purpose of regulation 2.2.5 the cost of the works shall be the mutually agreed estimate of the cost of the relevant part of the works 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 by the professional engineer or in the event of the client modifying the design requirements and thus 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 the subject of additional payment calculated on a time basis as set out in regulation 2.3.4: Provided that the professional engineer shall inform the client in respect of additional costs which may be incurred by way of fees.

2.3 *Tariff of fees for engineering services not pertaining to building projects.*

2.3.1 *Services of normal character.*—In respect of works making normal demands on the time of the professional engineer, the fee shall be as provided in regulations 2.3.1.1, 2.3.1.2 and 2.3.1.3.

2.3.1.1 *Civil and structural engineering services.*

2.3.1.1.1 *Basic fee.*

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 calculated in terms of column 4		
exceeds—	but does not exceed—	Primary fee	Percentage for secondary fee calculated on the total cost of the works	
(Column 1)	(Column 2)	(Column 3)	(Column 4)	
R	R	R	%	
(a).....	—	200	10,00	
(b).....	60 000	800	9,00	
(c).....	100 000	1 300	8,50	
(d).....	150 000	2 050	8,00	
(e).....	250 000	3 300	7,50	
(f).....	400 000	5 300	7,00	
(g).....	600 000	8 300	6,50	
(h).....	1 000 000	13 300	6,00	
(i).....	1 500 000	20 800	5,50	
(j).....	3 000 000	35 800	5,00	
(k).....	5 000 000	60 800	4,50	
(l).....	7 000 000	78 300	4,25	
(m).....	12 000 000	108 300	4,00	

2.3.1.1.2 *Additional fee for reinforced concrete portion of the works.*—The additional fee for 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

die betrokke gedeelte van die items onder die opskrif "Voorlopig en Algemeen" in die hoeveelheidslys ten opsigte van die werke, is soos volg:

Indien die koste van die gewapendebetongedeelte 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 3)	maar nie meer is nie as— (Kolom 2)	Primêre geld (Kolom 3)	Persentasie vir sekondêre geld bereken op die totale koste van die gewapendebetongedeelte van die werke (Kolom 4)
R	R	R	%
(a).....	—	600 000	3,25
(b).....	600 000	900 000	3,00
(c).....	900 000	1 200 000	2,75
(d).....	1 200 000	2 000 000	2,50
(e).....	2 000 000	3 000 000	2,00
(f).....	3 000 000	—	1,50

2.3.1.1.3 *Bykomende geld vir die strukturele staalwerk-gedeelte van die werke.*—Die bykomende geld vir die strukturele staalwerk-gedeelte van die werke tesame met die toepaslike gedeelte van die voorlopige en algemene items word bereken teen een helfte van die tarief van die bykomende geld vir die gewapendebetongedeelte van die werke, soos uiteengesit in regulasie 2.3.1.1.2.

2.3.1.1.4 *Bykomende geld vir die strukturele gedeelte van die werke in ander materiale.*—Die bykomende geld vir die strukturele gedeelte van die werke in ander materiale is soos ooreengekom tussen die kliënt en die professionele ingenieur.

2.3.1.2 *Siviele en strukturele ingenieursdienste waarvoor spesiale gelde voorsien word.*

2.3.1.2.1 *Spoorbaanwerk.*—Die geld vir spoorbaanwerk word bereken op die wyse uiteengesit vir siviele en strukturele ingenieursdienste in regulasie 2.3.1.1, behalwe dat—

2.3.1.2.1.1 die koste van die permanente baanmateriaal ten opsigte van spoorbaanwerk uitgesluit word van die koste van die werke soos omskryf in regulasie 2.2.3 maar die koste van ballas en toerusting spesiaal ontwerp deur die professionele ingenieur ingesluit word by die koste van die werke soos omskryf in regulasie 2.2.3;

2.3.1.2.1.2 die geld ten opsigte van permanente baanmateriaal, wat uitgesluit word van die koste van die werke kragtens regulasie 2.3.1.2.1.1, soos volg bereken word in ooreenstemming met die lengte van die trajek:

Indien 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 lengte van trajek (Kolom 4)
m	m	R	R/m
(a).....	—	80	1,58
(b).....	500	395	0,95
(c).....	1 000	545	0,80
(d).....	2 000	725	0,71
(e).....	3 000	965	0,63
(f).....	5 000	1 365	0,55
(g).....	10 000	2 115	0,475
(h).....	20 000	3 715	0,395
(i).....	50 000	7 715	0,315

the relevant proportion of the items under the heading "Preliminary and General" in the schedule of quantities relating to the works, shall be:

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).....	—	600 000	3,25
(b).....	600 000	900 000	3,00
(c).....	900 000	1 200 000	2,75
(d).....	1 200 000	2 000 000	2,50
(e).....	2 000 000	3 000 000	2,00
(f).....	3 000 000	—	1,50

2.3.1.1.3 *Additional fee for structural steelwork portion of the works.*—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 rate of the additional fee for the reinforced concrete portion of the works as set out in regulation 2.3.1.1.2.

2.3.1.1.4 *Additional fee for structural portion of the works in other materials.*—The additional fee for the structural work in other materials shall be as agreed between client and the professional engineer.

2.3.1.2 *Civil and structural engineering services for which special fees are provided.*

2.3.1.2.1 *Railway trackwork.*—The fee for railway trackwork shall be calculated in the manner set out for civil and structural engineering services under regulation 2.3.1.1, except that—

2.3.1.2.1.1 the cost of permanent way materials in respect of railway trackwork shall be excluded from the cost of the works as defined in regulation 2.2.3 but the cost of ballast and equipment specially designed by the professional engineer shall be included in the cost of the works as defined in regulation 2.2.3;

2.3.1.2.1.2 the fee for permanent way materials, excluded from the cost of the works in terms of regulation 2.3.1.2.1.1, shall be calculated in accordance with the length of track as follows:

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).....	—	80	1,58
(b).....	500	395	0,95
(c).....	1 000	545	0,80
(d).....	2 000	725	0,71
(e).....	3 000	965	0,63
(f).....	5 000	1 365	0,55
(g).....	10 000	2 115	0,475
(h).....	20 000	3 715	0,395
(i).....	50 000	7 715	0,315

2.3.1.2.1.3 die geld ten opsigte van keerblokke, wisseltonge, ruitkruisings en enkel- en dubbelslippe van standaardontwerp bereken word ooreenkomstig regulasie 2.3.1.2.1.2 op die basis van die volgende ekwivalente baanlengtes:

Item	Ekwivalente baanlengte
(a) Keerblokke.....	10 m
(b) Ruitkruisings.....	50 m
(c) Wisseltonge.....	100 m
(d) Enkelslippe.....	150 m
(e) Dubbelslippe.....	250 m

2.3.1.2.2 *Padwerke*.—Die geld vir padwerke word bereken op die wyse uiteengesit vir siviele en strukturele ingenieursdienste in regulasie 2.3.1.1 behalwe dat die geld vir die padwerkgedeelte van die projek (d.w.s. uitgesonderd die geld vir die strukturele gedeelte) verminder word met die toepaslike persentasie soos hieronder uiteengesit:

Tipe padwerk	Persentasie vermindering in geld vir die padwerkgedeelte
(a) Plattelandse paaie.....	20%
(b) Plattelandse deurpaaie.....	5%
(c) Buitestedelike deurpaaie.....	5%
(d) Stedelike strate.....	Nul
(e) Stedelike deurpaaie.....	Nul

2.3.1.3 *Meganiese en elektriese ingenieursdienste.*

Indien 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 die totale koste van die werke (Kolom 4)	
R	R	R	%	
(a).....	—	200	10,0	
(b).....	600	800	9,0	
(c).....	100 000	1 300	8,5	
(d).....	150 000	2 050	8,0	
(e).....	250 000	3 300	7,5	
(f).....	400 000	5 300	7,0	
(g).....	700 000	8 800	6,5	
(h).....	1 000 000	13 800	6,0	
(i).....	1 500 000	21 300	5,5	
(j).....	3 500 000	38 800	5,0	

2.3.2 *Dienste van nie-normale aard.*

2.3.2.1 *Werke wat buitengewoon hoë eise stel*.—Ten opsigte van sekere werke of gedeeltes van werke soos hierin gelys wat buitengewoon hoë eise aan die professionele ingenieur stel, word die geld as volg bereken:

2.3.2.1.1 Vir stedelike deurpaaie word die geld soos neergelê in regulasie 2.3.1.2.2 verhoog met tot 25% soos ooreengekom met die kliënt;

2.3.2.1.2 vir wysigings aan bestaande werke word die geld soos neergelê in regulasie 2.3.1 verhoog met 25%;

2.3.2.1.3 indien die werke meer as een van die hoofkategorieë, naamlik siviël (insluitend struktureel), meganiese en elektries behels, word die geld apart bereken ooreenkomstig regulasie 2.3.1 ten opsigte van die totale koste van die werke in elke sodanige kategorie;

2.3.1.2.1.3 the fee for stopblocks, turnouts, diamond crossings and single and double slips of standard design shall be calculated in accordance with regulation 2.3.1.2.1.2 on the basis of the following equivalent track lengths:

Item	Equivalent track length
(a) Stopblocks.....	10 m
(b) Diamond crossing.....	50 m
(c) Turnouts.....	100 m
(d) Single slips.....	150 m
(e) Double slips.....	250 m

2.3.1.2.2 *Roadworks*.—The fee for roadworks shall be calculated in the manner set out for civil and structural engineering services under regulation 2.3.1.1 except that the fee for the roadworks element of the project (i.e. 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 roadworks element
(a) Rural roads.....	20%
(b) Rural freeways.....	5%
(c) Peri-urban freeways.....	5%
(d) Urban streets.....	Nil
(e) Urban freeways.....	Nil

2.3.1.3 *Mechanical and electrical engineering services.*

Where the cost of the works—		The fee shall be the sum of the primary fee state 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).....	—	200	10,0	
(b).....	60 000	800	9,0	
(c).....	100 000	1 300	8,5	
(d).....	150 000	2 050	8,0	
(e).....	250 000	3 300	7,5	
(f).....	400 000	5 300	7,0	
(g).....	700 000	8 800	6,5	
(h).....	1 000 000	13 800	6,0	
(i).....	1 500 000	21 300	5,5	
(j).....	3 500 000	38 800	5,0	

2.3.2 *Services not of normal character.*

2.3.2.1 *Works making unusually high demands*.—In respect of certain works or parts of works as herein listed which make demands on the professional engineer which are unusually high, the fee shall be calculated as follows:

2.3.2.1.1 For urban freeways, the fee stated in regulation 2.3.1.2.2 shall be increased by up to 25% as agreed with the client;

2.3.2.1.2 for alterations to existing works the fee stated in regulation 2.3.1 shall be increased by 25%;

2.3.2.1.3 where the works comprise more than one of the main categories, i.e. civil (including structural), mechanical and electrical, the fee shall be separately calculated in accordance with regulation 2.3.1 in respect of the total cost of the works in each such category;

2.3.2.1.4 indien die werke aansienlike gedeeltes van uiteenlopende soorte werk behels binne die hoofkategorieë genoem in regulasie 2.3.2.1.3, lê die geld tussen die geld soos bepaal in regulasie 2.3.1 as van toepassing op die totale koste van die werke binne sodanige hoofkategorie en die geld bepaal deur regulasie 2.3.1 te beskou as van toepassing op die koste van elk van die uiteenlopende soorte van werk asof hulle afsonderlike werke is en na gelang van die mate waarin die eise aan die professionele ingenieur ooreenstem met die eise van elk van die uiteenlopende soorte werk indien dit ingevolge 'n aparte opdrag uitgevoer was;

2.3.2.1.5 indien werke op afsonderlike nie-aangrensende terreine onderneem word of waar die aaneenlopendheid van die werke onderbreek word of die werke buitengewoon gefragmenteer of in afsonderlik gedokumenteerde stadiums uitgevoer word ooreenkomstig die vereistes of met die toestemming van die kliënt, kan die geld bereken word deur regulasie 2.3.1 te beskou as van toepassing op elke terrein, kontrak, of stadium asof hulle afsonderlike werke is of, indien onvanpas, dan lê die geld tussen die geld soos bepaal in regulasie 2.3.1 as van toepassing op die totale koste van die werke en die geld bepaal deur regulasie 2.3.1 te beskou as van toepassing op die koste van elk van die uiteenlopende soorte werke asof hulle afsonderlike werke is;

2.3.2.1.6 ten opsigte van ander soorte werke of gedeeltes van werke met inbegrip van, onder andere, dié genoem in regulasie 1.5.1 wat buitengewoon hoë eise aan die professionele ingenieur stel, word daar tussen die kliënt en die professionele ingenieur ooreengekom oor die byvoeging wat gedoen moet word tot die geld gemeld in regulasie 2.3.1 en wat billik is ooreenkomstig die oorsake en omvang van die buitengewoon hoë eise aan die professionele ingenieur: Met dien verstande dat die professionele ingenieur, so gou dit vir hom blyk en gewoonlik nie later as die voltooiing van die verslagstadium nie, die kliënt verwittig dat hy van oordeel is dat die werke van so 'n aard is dat dit 'n verhoging van die geld soos voornoem regverdig: Met dien verstande verder dat indien dit eers later blyk dat die werke van 'n buitengewone aard is, die professionele ingenieur die kliënt onmiddellik daarvan verwittig, in welke geval die gedeelte van die diens wat reeds deur die professionele ingenieur voltooi is wanneer hy die kliënt aldus verwittig, nie aan die verhoogde geld onderworpe is nie tensy die kliënt andersins instem.

2.3.2.2 *Werke wat buitengewoon lae eise stel.*—Ten opsigte van werke of gedeeltes van werke wat buitengewoon lae eise aan die professionele ingenieur stel, kom die kliënt en die professionele ingenieur ooreen oor die geld vir sulke werke wat billik is ooreenkomstig die oorsake en omvang van die buitengewone verlaging van die eise wat aan die professionele ingenieur gestel word.

2.3.3 *Bykomende diens.*

2.3.3.1 *Verskaffing van terreinpersoneel.*—Die professionele ingenieur se heffing vir die verskaffing van terreinpersoneel kragtens regulasie 2.1.2.1.1 word bereken as die bruto koste aan die professionele ingenieur met inbegrip van alle direkte koste en oorhoofse koste plus 10%.

2.3.3.2 *Leier van die professionele span.*—Die bykomende geld vir diens as leier van die professionele span gelewer ooreenkomstig regulasie 2.1.2.2 is 10% van die gelde betaalbaar aan die ander lede van die professionele span.

2.3.3.3 *Regsgedinge en soortgelyke diens.*

2.3.3.3.1 *Allerlei diens.*—Die professionele ingenieur se geld vir diens gelewer, word op 'n tyd basis bereken soos ooreengekom met die kliënt en is nie minder as die tarief kragtens regulasie 2.3.4 nie: Met dien verstande dat vir verskynings in die hof die geld bereken word ooreenkomstig regulasie 2.3.3.3.2.1.

2.3.2.1.4 where the works comprise substantial portions of dissimilar types of work within the main categories stated in regulation 2.3.2.1.3 the fee shall lie between the fee as derived in regulation 2.3.1 as applicable to the total cost of the works within such main category and the fee derived taking regulation 2.3.1 as applicable to the cost of each of the dissimilar types of work as if they were separate works according to the extent to which the demands on the professional engineer correspond to the demands of each such dissimilar type of work had it been executed under a separate assignment;

2.3.2.1.5 where works are undertaken on separate non-contiguous sites or when continuity of the works is interrupted or the works are unusually fragmented or are being constructed as separately documented phases in accordance with the requirements or with the consent of the client, the fee may be calculated taking regulation 2.3.1 as applicable to each site, contract or phase as if they were separate works or, if inappropriate, the fee shall lie between the fee as derived in regulation 2.3.1 as applicable to the total cost of the works and the fee derived taking regulation 2.3.1 as applicable to the cost of each of the dissimilar types of works as if they were separate works;

2.3.2.1.6 in respect of other types of works or parts of works including, *inter alia*, those mentioned in regulation 1.5.1 which make demands on the professional engineer which are unusually high, the client and professional engineer shall agree the addition to be made to the fee stated in regulation 2.3.1 which shall be equitable in accordance with the causes and extent of the unusually high demands on the professional engineer: Provided that the professional engineer shall, as soon as it becomes evident to him and generally not later than at the 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 the fee as aforesaid: Provided further that if it only becomes evident at a later stage that the works are of unusual character, he shall inform the client without delay, in which event such portion of the services of the professional engineer as he has already completed when he informs the client shall not be subject to an increased fee unless the client agrees otherwise.

2.3.2.2 *Works making unusually low demands.*—In respect of works or parts of works which make demands on the professional engineer which are unusually low, the client and the professional engineer shall agree the fee for such works which shall be equitable in accordance with the causes and extent of the unusual reduction in the demands on the professional engineer.

2.3.3 *Additional services.*

2.3.3.1 *Provision of site staff.*—The professional engineer's charge for the provision of site staff in terms of regulation 2.1.2.1.1 shall be calculated as the gross cost to the professional engineer including all direct costs and overhead expenses plus 10%.

2.3.3.2 *Leader of the professional team.*—The additional fee for services performed under regulation 2.1.2.2 as leader of the professional team shall be 10% of the fees payable to the other members of the professional team.

2.3.3.3 *Litigation proceedings and similar services.*

2.3.3.3.1 *Miscellaneous services.*—The professional engineer's fee for services performed shall be on a time basis as agreed by the client and shall be not less than the rate in accordance with regulation 2.3.4: Provided that for court appearances the fee shall be determined in accordance with regulation 2.3.3.3.2.1.

2.3.3.3.2 Arbitrasie.

2.3.3.3.2.1 Vir optrede as arbiter wanneer daar meer as een is of vir optrede as assessor, moet die geld nie minder wees nie as die geld gehef op 'n tydbasis vir prinsipale, vennote en direkteure soos uiteengesit in regulasie 2.3.4.1 plus 25%, onderworpe aan 'n minimum heffing vir twee ure.

2.3.3.3.2.2 Vir optrede as alleenarbiter of -beoordelaar moet die geld nie minder wees nie as die geld gehef op 'n tydbasis vir prinsipale, vennote en direkteure soos uiteengesit in regulasie 2.3.4.1 plus 75%, onderworpe aan 'n minimum heffing vir twee ure.

2.3.3.3.2.3 Die geld voorgeskryf by regulasies 2.3.3.3.2.1 en 2.3.3.3.2.2 is van toepassing ten opsigte van die tyd wat bestee word aan die bywoning van die arbitrasiehof, die bestudering van die getuienis en die opstel van die beslissing.

2.3.4 Geld op 'n tydbasis.—Die geldtarief op 'n tydbasis is soos volg:

2.3.4.1 Prinsipaal, vennoot of direkteur—15c per uur vir elke R100 van die bruto jaarlikse salaris van die Hoofdirekteur: Ingenieursdienste, Departement van Gemeenskapsontwikkeling, soos van toepassing op 1 Januarie van die jaar waarin die diens gelewer word;

2.3.4.2 tegniese personeel—15c per uur per R100 of gedeelte daarvan van die totale jaarlikse salaris plus bonus, as daar is: Met dien verstande dat hierdie tariewe geag word vestigingsheffings en tyd deur klerklike personeel bestee, in te sluit, wat dus nie afsonderlike heffings uitmaak nie.

2.3.5 Reistyd.—'n Bedrag teen die tarief uiteengesit in regulasie 2.3.4 word gehef vir al die tyd, met 'n maksimum van agt uur per dag, wat die professionele ingenieur en lede van sy personeel aan reis bestee: Met dien verstande dat waar die reistyd nie een uur per dag oorskry nie, die professionele ingenieur nie vergoed word vir die tyd aan reis bestee nie tensy betaling van die geld op 'n tydbasis geskied.

3. SIVIELE EN STRUKTURELE INGENIEURSDIENSTE IN VERBAND MET BOUPROJEKTE.

3.1 Dienste deur die professionele ingenieur verrig te word.

3.1.1 Normale dienste.—Die normale dienste deur die professionele ingenieur verrig te word, behels:

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

3.1.1.1.1 oorlegpleging met die kliënt of sy gemagtigde verteenwoordiger en enige ander professionele raadgewers deur die kliënt aangestel in verband met die projek;

3.1.1.1.2 inspeksie van die terrein van die werke;

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

3.1.1.1.4 oorlegpleging met plaaslike owerhede;

3.1.1.1.5 raadgewing aan die kliënt oor die noodsaaklikheid van opmetings van enige aard, ontledings, toetse en terrein- of ander ondersoeke wat nodig mag wees vir die afhandeling van die verslag, en die tref van reëlins om dit op koste van die kliënt te laat uitvoer.

3.1.1.2 Voorlopige ontwerp stadium.—Die ontwikkeling van 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 die kliënt dit verlang;

2.3.3.3.2 Arbitration.

2.3.3.3.2.1 For acting as arbitrator where there is more than one or for acting as assessor, the fee shall be not less than the time charged for principals, partners and directors as set out in regulation 2.3.4.1 plus 25%, subject to a minimum charge for two hours.

2.3.3.3.2.2 For acting as sole arbitrator or umpire the fee shall be not less than the time charged for principals, partners and directors as set out in regulation 2.3.4.1 plus 75%, subject to a minimum charge for two hours.

2.3.3.3.2.3 The fee set out in regulations 2.3.3.3.2.1 and 2.3.3.3.2.2 shall apply to time spent in attending the arbitration court, in studying evidence and in framing the award.

2.3.4 Time basis fee.—The scale of fees on a time basis shall be as follows:

2.3.4.1 Principal, partner or director—15c per hour for each R100 of the gross annual salary of the Chief Director: Engineering Services, Department of Community Development, prevailing at 1 January of the year in which the services are performed;

2.3.4.2 technical staff—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 time expended by clerical staff which shall, therefore, not be chargeable separately.

2.3.5 Travelling time.—A charge at the rate set out in regulation 2.3.4 shall be made for all time spent by the professional engineer and members of his staff in travelling, such time not exceeding eight hours per day: Provided that where the travelling time does not exceed one hour per day the professional engineer shall not be reimbursed for time spent in travelling unless payment of the fee is being made on a time basis.

3. CIVIL AND STRUCTURAL ENGINEERING SERVICES 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 or his authorised representatives and any other professional advisers 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 any of these are required for determination of feasibility;

3.1.1.1.4 consultation with local authorities;

3.1.1.1.5 advice to the client as to the need for surveys of any kind, analyses, tests and 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.—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 bepaling van finale ontwerpmaatstawwe;

3.1.1.2.3 raadgewing aan die kliënt oor die noodsaaklikheid van enige verdere opmetings van enige aard, ontledings, toetse en terrein- of ander ondersoeke waar nodig, en die tref van reëlins om dit op koste van die kliënt te laat uitvoer;

3.1.1.2.4 raadgewing aan die kliënt, na gelang dit nodig is, oor die aanstelling en die omskrywing van die dienste van ander professionele ingenieurs of deskundige raadgewers, en die tref van reëlins vir sodanige aanstellings en oorlegplegings met sodanige raadgewers oor sake rakende die werke;

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

3.1.1.3 *Gedetailleerde ontwerp- en tenderstadium.*—Die ontwikkeling van die voorlopige ontwerpe tot gedetailleerde ontwerpe en, indien nodig, met inbegrip van—

3.1.1.3.1 opstel van algemene uitlegtekeninge en ramings van staal benodig vir hoeveelhedslyste;

3.1.1.3.2 verskaffing van die omskrywende inligting wat nodig mag wees vir die ontwerp van ander dienste;

3.1.1.3.3 verskaffing van voldoende inligting vir die opstel van gedetailleerde werkwinkeltekeninge deur die strukturele staalvervaardiger;

3.1.1.3.4 opstel of wysiging van tenderadvertensies, tendervoorwaardes, tendervorms en kontrakvoorwaardes;

3.1.1.3.5 ontledings van tenders en voorlegging van aanbevelings oor die aanvaarding van tenders.

3.1.1.4 *Konstruksiestadium.*—Die algemene administrasie 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 raadgewing aan die kliënt oor die opstel van die kontrakdokumente, of opstel van die kontrakdokumente;

3.1.1.4.3 raadgewing aan die kliënt oor die aanstelling van terreinpersoneel kragtens regulasie 3.1.2.1;

3.1.1.4.4 opstel van wapeningsdetails, buigskedules en ander inligting wat benodig mag word: Met dien verstande dat hierdie diens by die gedetailleerde ontwerpstadium ingesluit kan word indien volledige dokumentasie voor die konstruksiestadium benodig word;

3.1.1.4.5 kontrolering van die kontrakteurs se tekeninge vir die permanente werke om seker te maak dat dit aan die ontwerpvereistes voldoen, maar uitgesonderd die gedetailleerde kontrolering van werkwinkeldetails vir oprigtingjuistheid.

3.1.1.4.6 raadgewing aan die kliënt oor alternatiewe ontwerpe en tenders maar uitgesonderd die gedetailleerde inspeksie, hersiening en kontrolering van alternatiewe ontwerpe en tekeninge wat nie deur die professionele ingenieur opgestel is nie en deur 'n kontrakteur of voornemende kontrakteur voorgelê is;

3.1.1.4.7 uitreiking van opdragte aan kontrakteurs, koördinerende en algemene inspeksie van die uitvoering van die werke by tussenpose soos deur die professionele ingenieur nodig geag maar uitgesonderd toesig, gedetailleerde en daaglikse inspeksie van die werke en terreinadministrasie waarvoor in regulasie 3.1.2.1 voorsiening gemaak word;

3.1.1.4.8 bywoning van terreinvergaderings tydens die uitvoering van die ingenieurswerke, gemiddeld een keer elke 14 dae;

3.1.1.4.9 beslegting van, of bystand aan die kliënt se hoofagent by die beslegting van geskille of verskille wat tussen die kliënt en kontrakteurs mag ontstaan, maar uitgesonderd regsgedinge en arbitrasie;

3.1.1.2.2 establishment of final design criteria;

3.1.1.2.3 advice to the client as to the need for any further surveys of any kind, analyses, tests and 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 advice to the client, as may be necessary, upon the appointment and delineation of the services of other professional engineers or specialist advisers and arranging such appointments and consultations 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 and tender 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 steel required for the bills of quantities;

3.1.1.3.2 provision of outline information necessary for the design of other services;

3.1.1.3.3 provision of adequate information to enable the shop detail drawings to be prepared by the structural steel manufacturer;

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 analyses 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 advice to the client as to the preparation of the contract documents or preparation of the contract documents;

3.1.1.4.3 advice to the client as to the appointment of site staff in accordance with regulation 3.1.2.1;

3.1.1.4.4 preparation of reinforcing details, bending schedules and other information as may be necessary: Provided that 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 advice to the client on alternative designs and tenders but excluding detailed inspection, reviewing and checking of alternative designs and drawings not prepared by the professional engineer and submitted by any contractor or potential contractor;

3.1.1.4.7 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 provided for under regulation 3.1.2.1;

3.1.1.4.8 attendance at site meetings during the construction of the engineering works at an average frequency of once per fortnight;

3.1.1.4.9 deciding in or assisting the principal agent of the client to decide in disputes or differences that may arise between the client and the contractors, excepting litigation and arbitration;

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

3.1.1.4.11 raadgewing aan die kliënt oor die inspeksie en toets van sodanige materiaal en toerusting as wat normaalweg nagegaan en getoets word, en die tref van reëlins om sodanige inspeksie en toetsing op koste van die kliënt te laat uitvoer;

3.1.1.4.12 die tref van reëlins, namens die kliënt, vir die verskaffing en reproduksie van sodanige tekeninge en dokumente as wat die kontrakteurs en terreinpersoneel nodig mag hê om die ingenieurswerke uit te voer.

3.1.2 *Bykomende dienste.*—Dienste in verband met onderstaande items is bykomend by die normale dienste van die professionele ingenieur, wat die kliënt se goedkeuring moet verkry vir die verrigting van sodanige dienste:

3.1.2.1 *Verskaffing van terreinpersoneel.*

3.1.2.1.1 Indien die kliënt dit verlang van die professionele ingenieur belas met die dienste omskryf in regulasie 3.1.1.4, stel die professionele ingenieur sodanige bevoegde terreinpersoneel aan as wat nodig mag wees vir die doeltreffende kontroliering van die uitsetting, daaglikse inspeksie van die konstruksie van die werke, die opmeet van werk op die terrein en die vasstelling van die hoeveelhede saam met verteenwoordigers van die kontrakteurs.

3.1.2.1.2 Indien voldoende terreinpersoneel nie aangestel is nie, moet die professionele ingenieur sodanige bykomende dienste lewer as wat nodig mag wees om die funksies omskryf in regulasie 3.1.2.1.1 uit te voer.

3.1.2.2 *Hoofagent van die kliënt.*—Indien die professionele ingenieur as hoofagent van die kliënt aangestel word, is sy bykomende dienste die volgende:

3.1.2.2.1 Raadgewing oor die aanstelling en die omskrywing van die dienste van ander professionele raadgewers deur die kliënt;

3.1.2.2.2 leierskap van die professionele span;

3.1.2.2.3 voorlegging van voorlopige en ontwikkelde voorstelle in die vorm van verslae, tekeninge en spesifikasies, tesame met kosteramings vir die projek in die geheel;

3.1.2.2.4 verantwoordelikheid vir die algehele administrasie van alle gedeeltes van die projek met inbegrip van dié wat binne die bestek val van die ander professionele raadgewers in die span;

3.1.2.2.5 verantwoordelikheid vir die algehele koördinerende, programmering van ontwerp en finansiële beheer van die projek;

3.1.2.2.6 beslegting van verskille wat tussen die kliënt en kontrakteurs mag ontstaan, uitgesonderd regsdinge en arbitrasie;

3.1.2.2.7 goedkeuring van sertifikate vir betaling aan kontrakteurs, uitgereik deur die ander professionele raadgewers in die span, voor voorlegging aan die kliënt vir vereffening;

3.1.2.2.8 goedkeuring van die finale rekening vir die projek in die geheel.

3.1.2.3 *Regsgedinge en soortgelyke dienste.*—Indien die kliënt aan die professionele ingenieur opdrag gee om die ondergemelde dienste te onderneem, is die omvang daarvan onderworpe aan ooreenkoms tussen die twee partye:

3.1.2.3.1 Verkryging van parlementêre of ander statutêre goedkeuring, lisensies of permitte;

3.1.2.3.2 bystand by beoogde of werklike regs- of arbitrasieverrigtinge;

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

3.1.1.4.10 issuing variation orders or information to enable variation orders to be issued by others;

3.1.1.4.11 advice to 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;

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 site staff for the execution of the engineering works.

3.1.2 *Additional services.*—Services in connection with the items listed below are additional to the normal services of the professional engineer, who shall obtain the approval of the client for any such services to be carried out:

3.1.2.1 *Provision of site staff.*

3.1.2.1.1 Should the client require the professional engineer charged with the services in regulation 3.1.1.4 so to do, the professional engineer shall appoint such competent site staff as is necessary for the efficient checking of setting out, day-to-day inspection of construction of the works, measuring up of work on site and agreeing quantities with contractor's representatives.

3.1.2.1.2 Where adequate site staff are not appointed the professional engineer shall provide such additional services as are necessary for carrying out the functions described in regulation 3.1.2.1.1.

3.1.2.2. *Principal agent of the client.*—The additional services of the professional engineer when appointed as principal agent of the client shall be as follows:

3.1.2.2.1 Advice as to the appointment and delineation of services of other professional advisers by the client;

3.1.2.2.2. leadership of the professional team;

3.1.2.2.3 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;

3.1.2.2.4 responsibility for the overall administration of all sections of the project, including those which fall within the ambit of the other professional advisers in the team;

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

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

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

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

3.1.2.3 *Litigation proceedings and similar services.*—Where the client instructs the professional engineer to undertake the services listed below, the extent thereof shall be subject to agreement between the two parties:

3.1.2.3.1 Obtaining Parliamentary or other statutory approval, licences or permits;

3.1.2.3.2 assisting with contemplated or actual litigation or arbitration proceedings;

3.1.2.3.3 officiating at or attending courts and commissions of inquiry, select committees and similar bodies convened by statute, regulation or decree.

3.1.2.4 *Diverse bykomende dienste.*

3.1.2.4.1 Onderhandelings met ander owerhede as plaaslike owerhede.

3.1.2.4.2 Opmetings, ondersoeke, koste-analises, en so meer, van bestaande strukture.

3.1.2.4.3 Tref van reëlins vir deurgangsregte, servitude of onteienings.

3.1.2.4.4 Aanbring van sodanige wysigings as wat nodig mag wees om formele goedkeuring te verkry van die betrokke staatsdepartemente of openbare owerhede, voortspruitende uit besluite deur sodanige departemente of owerhede as gevolg van beleidsveranderings en ander oorsake buite die beheer van die professionele ingenieur.

3.1.2.4.5 Uitvoer van spesiale ondersoeke of toetse.

3.1.2.4.6 Opstel of gedetailleerde kontroliering van werkwinkeldetails.

3.1.2.4.7 Gedetailleerde inspeksie, hersiening en kontroliering van ontwerpe en tekeninge wat nie deur die professionele ingenieur opgestel is nie en deur 'n kontrakteur of voornemende kontrakteur voorgelê is as alternatief vir dié wat ingesluit is by die tender of soortgelyke dokumente wat deur die professionele ingenieur opgestel is.

3.1.2.4.8 Bywoning van terreinvergaderings benewens dié bedoel in regulasie 3.1.1.4.8, tensy die professionele ingenieur aangestel is as die hoofagent van die kliënt.

3.1.2.4.9 Dienste wat ontstaan indien 'n kontrakteur in gebreke bly om sy kontrak te voltooi.

3.1.2.4.10 Dienste deur die professionele ingenieur verrig wat gebruiklikerwys of kontraktueel die plig van die kontrakteur is, hetsy uit hoofde van spesiale kontraktuele bepalings wat die kontrakteur onthef van sy gebruiklike verpligtinge of as gevolg daarvan dat die kontrakteur in gebreke bly om sy kontraktuele verpligtinge na te kom.

3.1.2.4.11 Dienste wat die professionele ingenieur verrig deur remediërende maatreëls te bepaal, bykomende of meer uitgebreide besoeke aan die terrein te bring of geskille te besleg wat die direkte en noodwendige gevolg is van die versuim deur die kontrakteur om aan enige spesifikasies, tekeninge, prosedures, konstruksieprogramme, tydtafel of vasgestelde voltooiingsdatum ooreenkomstig die kontrak te voldoen.

3.1.2.4.12 Kontroliering, koördinering of raadgewing oor enige deel van die projek wat nie deel van die ingenieurswerke uitmaak nie.

3.1.2.4.13 Versameling, ondersoek en vergelyking van die pertinente gegewens gelys in regulasie 3.2.7 en nie aan die professionele ingenieur beskikbaar gestel nie.

3.1.2.4.14 Bykomende dienste soos omskryf in—

regulasie 3.1.2.1.2—terreinpersoneel nie aangestel nie;

regulasie 3.2.4—skade aan of vernietiging van die werke;

regulasie 3.2.5—uitstel, kansellering of abandonnering van die werke;

regulasie 3.2.6—veranderings of wysigings aan ontwerpe.

3.1.2.4.15 Enige bykomende dienste van welke aard ook al uitgesonderd dié spesifiek in regulasie 3.1.2 genoem.

3.2 *Vergoeding van en basis van betaling aan die professionele ingenieur vir siviele en strukturele ingenieursdienste wat met bouprojekte in verband staan.*

3.2.1 *Vergoeding.*

3.1.2.4 *Diverse additional services.*

3.1.2.4.1 Dealing with authorities other than local authorities.

3.1.2.4.2 Surveys, investigations, cost analyses, etc., of existing structures.

3.1.2.4.3 Making arrangements for wayleaves, servitudes or expropriations.

3.1.2.4.4 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.

3.1.2.4.5 Carrying out special investigations or tests.

3.1.2.4.6 Preparation or detailed checking of shop details.

3.1.2.4.7 Detailed inspection, reviewing and checking of designs and 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.

3.1.2.4.8 Attendance at site meetings in addition to those referred to in regulation 3.1.1.4.8, unless the professional engineer is appointed as the principal agent of the client.

3.1.2.4.9 Services arising from the failure of any contractor to perform his contract.

3.1.2.4.10 Services performed 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 contractual obligations.

3.1.2.4.11 Services performed by the professional engineer in determining any remedial measure, making any additional or more extended site visits or resolving any disputes which are the direct and necessary consequence of any failure by the contractor to comply with any specifications, drawings, procedures, construction programmes, timetable or due completion date with which he is required to comply in terms of the contract.

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

3.1.2.4.13 Collection, investigation and collation of the pertinent data listed in regulation 3.2.7 and not made available to the professional engineer.

3.1.2.4.14 Additional services as defined in—

regulation 3.1.2.1.2—site staff not appointed;

regulation 3.2.4—damage or destruction of the works;

regulation 3.2.5—postponement, cancellation or abandonment of the works;

regulation 3.2.6—alterations or modifications to designs.

3.1.2.4.15 Any additional services of whatever nature other than those specifically referred to in regulation 3.1.2.

3.2 *Remuneration and basis of payment of the professional engineer in respect of civil and structural engineering services pertaining to building projects.*

3.2.1 *Remuneration.*

3.2.1.1 *Volledige normale dienste.*—Behoudens regulasie 3.2.1.1.5 word die vergoeding van die professionele ingenieur vir die normale dienste wat hy ooreenkomstig regulasie 3.1.1 verrig, bereken op die basis en wyse soos in regulasies 3.3.1 en 3.3.2 uiteengesit en is dit as volg aan die professionele ingenieur betaalbaar, tensy anders ooreengekom:

3.2.1.1.1 *Verslagstadium—regulasie 3.1.1.1.*—10% van die geld sodra sodanige dienste as wat vir die verslagstadium nodig is, voltooi is.

3.2.1.1.2 *Voorlopige ontwerpstadium—regulasie 3.1.1.2.*—'n Verdere 10% van die geld sodra sodanige dienste as wat vir die voorlopige ontwerpstadium nodig is, voltooi is.

3.2.1.1.3 *Gedetailleerde ontwerp- en tenderstadium—regulasie 3.1.1.3.*—'n Verdere 35% van die geld by voltooiing van die algemene uitlegtekeninge en ander dokumente nodig om die ingenieurswerke op tender uit te bestee, of om deur die kliënt andersins uitbestee te word.

3.2.1.1.4 *Konstruksiestadium—regulasie 3.1.1.4.*

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

3.2.1.1.4.2 'n Verdere 12½% van die geld na gelang die konstruksiewerk vorder in verhouding tot die koste van die werk voltooi.

3.2.1.1.4.3 Die oorblywende 2½% van die geld by afhandeling van die finale kontrakrekening.

3.2.1.1.5 *Gedeeltelike normale dienste.*—Indien die professionele ingenieur aangestel word om dienste te verrig wat nie al die stadia uiteengesit in regulasie 3.1.1.1, 3.1.1.2, 3.1.1.3 en 3.1.1.4 bevat nie, word die geld as volg toegeedeel:

3.2.1.1.5.1 *Verslag- en voorlopige ontwerpstadium alleenlik*—30% van die geld;

3.2.1.1.5.2 *verslag-, voorlopige ontwerp- en gedetailleerde ontwerpstadium alleenlik*—60% van die geld;

3.2.1.1.5.3 *verslag-, voorlopige ontwerp- en gedetailleerde ontwerpstadium en die opstel van wapeningsdetails en buigskedules alleenlik*—90% van die geld;

3.2.1.1.5.4 *konstruksiestadium alleenlik, maar uitgesonderd die opstel van wapeningsdetails en buigskedules*—25% van die geld.

3.2.1.2 *Bykomende dienste.*—Die geld of heffing vir bykomende dienste verrig ooreenkomstig regulasie 3.1.2 is soos volg:

3.2.1.2.1 *Verskaffing van terreinpersoneel.*—Die heffing vir bykomende dienste deur die professionele ingenieur verrig ter verskaffing van terreinpersoneel kragtens regulasie 3.1.2.1.1 is soos neergelê in regulasie 3.3.3.1.

3.2.1.2.2 *Hoofagent van die kliënt.*—Die geld vir die bykomende dienste deur die professionele ingenieur verrig as hoofagent van die kliënt ooreenkomstig regulasie 3.1.2.2 is soos neergelê in regulasie 3.3.3.2 en word toegedeel soos vir normale dienste ooreenkomstig regulasie 3.2.1.1.

3.2.1.2.3 *Regsgedinge en soortgelyke dienste.*—Die geld vir die dienste deur die professionele ingenieur verrig kragtens regulasie 3.1.2.3 word bereken op 'n tyd basis soos uiteengesit in regulasie 3.3.3.3.

3.2.1.2.4 *Diverse bykomende dienste.*—Die geld vir diverse bykomende dienste deur die professionele ingenieur verrig kragtens regulasie 3.1.2.4 word bereken op 'n tyd basis soos in regulasie 3.3.4 uiteengesit.

3.2.1.2.5 *Terreinpersoneel nie aangestel nie.*—Indien voldoende terreinpersoneel nie aangestel is nie, hef die professionele ingenieur geld op 'n tyd basis soos uiteengesit in

3.2.1.1 *Full normal services.*—Subject to regulation 3.2.1.1.5, the remuneration of the professional engineer for the normal services performed by him under regulation 3.1.1 shall be calculated on the basis and in the manner set out in regulations 3.3.1 and 3.3.2 and shall, unless otherwise agreed, become due to the professional engineer as follows:

3.2.1.1.1 *Report stage—regulation 3.1.1.1.*—10% of the fee when such services as may be necessary for the report stage have been completed.

3.2.1.1.2 *Preliminary design stage—regulation 3.1.1.2.*—A further 10% of the fee when such services as may be necessary for the preliminary design stage have been completed.

3.2.1.1.3 *Detailed design and tender stage—regulation 3.1.1.3.*—A further 35% 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—regulation 3.1.1.4.*

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

3.2.1.1.4.2 A further 12½% 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% of the fee on completion of the contract final account.

3.2.1.1.5 *Partial normal services.*—Where the professional engineer is appointed to perform services not constituting all the stages set out in regulations 3.1.1.1, 3.1.1.2, 3.1.1.3 and 3.1.1.4, the fee shall be apportioned as follows:

3.2.1.1.5.1 *Report stage and preliminary design stage only*—30% of the fee;

3.2.1.1.5.2 *report stage, preliminary design stage and detailed design stage only*—60% of the fee;

3.2.1.1.5.3 *report stage, preliminary design stage, detailed design stage and preparation of reinforcing details and bending schedules only*—90% of the fee;

3.2.1.1.5.4 *construction stage only but excluding the preparation of reinforcing details and bending schedules*—25% of the fee.

3.2.1.2 *Additional services.*—The fee or charge for additional services carried out under regulation 3.1.2 shall be as follows:

3.2.1.2.1 *Provision of site staff.*—The charge for the additional services performed by the professional engineer in providing site staff in terms of regulation 3.1.2.1.1 shall be in accordance with regulation 3.3.3.1.

3.2.1.2.2 *Principal agent of the client.*—The fee for the additional services performed by the professional engineer as principal agent of the client under regulation 3.1.2.2 shall be in accordance with regulation 3.3.3.2 apportioned as for normal services under regulation 3.2.1.1.

3.2.1.2.3 *Litigation proceedings and similar services.*—The fee for the services performed by the professional engineer under regulation 3.1.2.3 shall be calculated on a time basis as set out in regulation 3.3.3.3.

3.2.1.2.4 *Diverse additional services.*—The fee for diverse additional services performed by the professional engineer under regulation 3.1.2.4 shall be calculated on a time basis as set out in regulation 3.3.4.

3.2.1.2.5 *Site staff not appointed.*—Where adequate site staff are not appointed the professional engineer shall charge for the necessary additional services rendered by

regulasie 3.3.4 vir die nodige bykomende dienste deur hom of sy personeel gelewer en vir terreinbesoeke bo en behalwe dié in regulasie 3.1.1.4.7 genoem.

3.2.1.3 *Gelde vir hergebruik van voltooide ontwerpe, en so meer.*—Indien 'n kliënt verlang om een of meer publikasies van 'n bepaalde werke op te rig waarvoor die professionele ingenieur ondersoek, ontwerpe, tekeninge, spesifikasies, en so meer kragtens 'n vorige ooreenkoms voltooi het en waarvoor hy reeds vergoed is, is die geld wat die professionele ingenieur hef vir die hergebruik van sodanige dokumente 'n kwart van die toegedeelde geld vir die normale en bykomende dienste verrig in die verslag-, voorlopig ontwerp- en gedetailleerde ontwerp stadium, gegrond op die aangesuiwerde waarde van die werke wat gedupliseer of herhaal word: Met dien verstande dat die professionele ingenieur daarbenewens vergoed word vir sodanige nuwe werk as wat hy noodsaaklikerwys moet verrig, en dat hy betaal word vir alle uitbetalings en uitgawes: Met dien verstande verder dat indien die professionele ingenieur se dienste behou word vir die konstruksiestadium, die geld wat by die professionele ingenieur hef vir sy dienste en enige bykomende dienste wat hy gedurende hierdie stadium uitvoer, die volle toegedeelde geld vir die konstruksiestadium is, gegrond op die aangesuiwerde koste van die werke wat gedupliseer of herhaal word, plus alle uitbetalings en uitgawes.

3.2.2 *Tussentydse betalings aan die professionele ingenieur.*

3.2.2.1 Om die tussentydse betalings verskuldig ooreenkomstig regulasie 3.2.1.1 te bepaal, is die koste van die ingenieurswerke, uitgesonderd enige voorlopige toelaes gemaak ter dekking van gebeurlikhede en eskalاس, soos volg:

3.2.2.1.1 Die netto bedrag van die aanvaarde tender; of

3.2.2.1.2 indien geen tender aanvaar is nie, die netto 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 by wyse van onderhandeling toegeken is, die bedonge prys; of

3.2.2.1.4 indien geen tenders ingewin is of indien geen geskikte tenders ontvang is of indien geen onderhandeling enduit gevoer is nie, die beraming waarvoor onderling ooreengekom word.

3.2.2.2 Sodanige tussentydse betaling tel alleenlik as gedeelte van die totale geld wat uiteindelik betaalbaar is en word bereken op die finale koste van die werke soos in regulasie 3.2.3 omskryf.

3.2.3 *Koste van die ingenieurswerke.*

3.2.3.1 Om die totale gelde te bereken wat uiteindelik betaalbaar is ooreenkomstig regulasie 3.2.2.2 is die koste van die ingenieurswerke, of enige gedeelte daarvan, die volgende:

3.2.3.1.1 Die bedrag gesertifiseer vir betaling aan die kontrakteurs ten opsigte van werke wat ontwerp, gespesifiseer of geadministreer is deur die professionele ingenieur, voor aftrekking van gelikwiderde skadevergoeding of boetes (as daar is);

3.2.3.1.2 indien die kliënt arbeid, gereedskap, konstruksietoerusting of -materiaal, vervaardigde goedere of masjinerie verskaf vir insluiting in die werke, 'n regstreekse en billike waardasie gegrond op normale tariewe van kontrakteurs vir soortgelyke items met inbegrip van waardevermindering, verspilling en herstelwerk, oorhoofse koste en winste; en

himself or his staff and for site visits additional to those referred to in regulation 3.1.1.4.7 on a time basis as set out in regulation 3.3.4.

3.2.1.3 *Fee 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, the fee to be charged by the professional engineer for the re-use of such documents shall be 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: Provided further that if the professional engineer's services should be retained for the construction stage, the fee to be charged by the professional engineer for services and any additional services carried out during this stage shall be the full apportioned fee for the construction stage based on the updated cost of the works as duplicated or repeated together with all disbursements and expenses.

3.2.2 *Interim payments to the professional engineer.*

3.2.2.1 For the purpose of ascertaining the interim payments due under regulation 3.2.1.1, the cost of the engineering works, which shall exclude any provisional allowances made to cover contingencies and escalation, shall be—

3.2.2.1.1 the net amount of the accepted tender; or

3.2.2.1.2 if no tender is accepted, the net 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 regulation 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 regulation 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 or liquidated damages or penalties (if any);

3.2.3.1.2 where the client provides labour, tools, construction plant or materials, manufactured goods or machinery for incorporation in the works, a direct and fair valuation based on normal charges by contractors for similar items including depreciation, waste and repairs, overheads and profit; and

3.2.3.1.3 'n billike ooreengekome waardasie van die verskil tussen die koste van enige tweedehandse materiale, vervaardigde goedere of masjinerie wat in die werke ingesluit is en die markwaarde van sulke materiale, vervaardigde goedere of masjinerie asof hulle nuut aangekoop is.

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 soos in hierdie regulasie 3.2.3.2 uiteengesit;

3.2.3.2.2 alle uitgrawings wat volgens die professionele ingenieur se tekeninge of onder sy toesig uitgevoer is;

3.2.3.2.3 alle beton, wapeningstaal, strukturele staalwerk, hout, aluminium en enige ander strukturele materiaal aangedui op die professionele ingenieur se tekeninge en waarvoor hy verantwoordelik is;

3.2.3.2.4 bekisting vir beton;

3.2.3.2.5 drasteenwerk 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 wat deur die professionele ingenieur ontwerp en op sy tekeninge aangedui is;

3.2.3.2.8 invoegsels in of deur strukturele werk wat die professionele ingenieur op sy tekeninge moet aandui;

3.2.3.2.9 bouerswerk en dekoratiewe behandeling van strukturele raamdele wat ontwerp en tekeninge van die professionele ingenieur vereis;

3.2.3.2.10 die koste van enige toetsboorwerk, proefheiwerk, meet van grondweerstand, uitgrawing van skagte, toegangstonnels, en so meer, waarvoor die professionele ingenieur kontrakdokumente moet opstel en wat hy moet inspekteer of administreer; en

3.2.3.2.11 indien die ingenieurswerke uitgevoer word as 'n gedeelte van 'n kontrak, 'n billike gedeelte van die voorlopige en algemene items wat as volg bereken word:

3.2.3.2.11.1 Die koste van die items vervat in die voorlopige en algemene afdeling van die kontrakhoeveelheidslyste wat uitsluitlik verband hou met die ingenieurswerke, ten volle; en

3.2.3.2.11.2 'n gedeelte van die koste van al die ander items vervat in die voorlopige en algemene afdeling van die kontrakhoeveelheidslyste in die verhouding waarin die koste van die ingenieurswerke soos bepaal ooreenkomstig regulasies 3.2.3.1, 3.2.3.2 en 3.2.3.2.11.1 staan tot die totale koste van die projek nadat alle sodanige ander voorlopige en algemene items afgetrek is.

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 uitgawes;

3.2.3.3.3 opmetingskoste;

3.2.3.3.4 salarisse, reiskoste en toevallige en kantooruitgawes van die terreinpersoneel;

3.2.3.3.5 finansieringskoste en -heffings aangegaan deur die kliënt;

3.2.3.3.6 die koste van grond, servitude en deurgangsregte.

3.2.3.4 Indien 'n kontrak bepaal dat betalings aan kontrakteurs vermeerder of verminder word tydens die duur van die kontrak na gelang van enige skommeling in die werklike koste van gespesifiseerde items of in voorgeskrewe indeksysfers word, ondanks die bepalings van regulasie 3.2.3.1, die waarde van sodanige toenames of afnames in die koste,

3.2.3.1.3 a fair valuation to be agreed of the difference between the cost price of any second-hand materials, manufactured goods or machinery incorporated in the works and the market value of such materials, manufactured goods or machinery as though they were purchased new.

3.2.3.2 The cost of the engineering works shall include—

3.2.3.2.1 all temporary works associated with the parts of the project as set out in this regulation 3.2.3.2;

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 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 designed by the professional engineer and shown on his drawings;

3.2.3.2.8 inserts in or through structural work which the professional engineer has to indicate on his drawings;

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

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

3.2.3.2.11 where the engineering works are carried out as a portion of a contract, a fair and reasonable proportion of the preliminary and general items, which shall be calculated as follows:

3.2.3.2.11.1 The cost of the items under the preliminary and general sections of the contract bills of quantities which are uniquely related to the engineering works, in full; and

3.2.3.2.11.2 a portion of the cost of all other items under the preliminary and general section of the contract bills of quantities in the ratio that the cost of the engineering works as determined according to regulations 3.2.3.1, 3.2.3.2 and 3.2.3.2.11.1 bears to the total cost of the project after deducting all such other preliminary and general items.

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 site staff;

3.2.3.3.5 finance costs and charges incurred by the client;

3.2.3.3.6 cost of land, servitudes and wayleaves.

3.2.3.4 Notwithstanding the provisions of regulation 3.2.3.1, where any contract provides that payment to contractors shall be increased or decreased during the currency of the contract in accordance with any fluctuation in the actual cost of specified items or in prescribed indices, the value of such increases or decreases in cost, as the case may

na gelang van die geval, soos volg in berekening gebring by die bepaling van die koste van die werke met die oog op die berekening van die totale geld wat uiteindelik betaalbaar is:

3.2.3.4.1 Ten opsigte van daardie gedeelte van die totale geld wat gedurende die konstruksiestadium verskuldig word kragtens regulasie 3.2.1.1.4, die totaal van die toenames of afnames in die koste wat werklik vir betaling kragtens die kontrakte gesertifiseer word;

3.2.3.4.2 ten opsigte van daardie gedeelte van die geld wat voor die konstruksiestadium verskuldig word kragtens regulasies 3.2.1.1.1, 3.2.1.1.2 en 3.2.1.1.3 en, waar van toepassing, ten opsigte van enige gedetailleerde tekeninge wat voltooi is voor die plasing van die werke soos bepaal in regulasie 3.2.1.1.4, die totaal van die toenames of afnames in die koste werklik gesertifiseer vir betaling of 10% van die oorspronklike kontrakbedrag, d.w.s. 10% van die totale bedrae wat kragtens sodanige kontrakte goedgekeur sou word vir betaling aan kontrakteurs indien daar nie voorsiening gemaak was vir pryskommelings nie, watter ook al die minste is;

3.2.3.4.3 indien daar nie met die konstruksie of installasie van die werke voortgegaan word nie, word die bepaling van regulasie 3.2.3.4.2 toegepas op die onderling ooreengekome beraming van die waarde van die toenames of afnames in die koste wat gemaak sou gewees het indien met die konstruksie of installasie voortgegaan is.

3.2.4 *Skade aan of vernietiging van die werke.*—Indien enige gedeelte van die werke of die toerusting daarvoor te eniger tyd as gevolg van oorlog, brand, storms, vloedwater of ander oorsake buite die beheer van die professionele ingenieur beskadig of vernietig word voordat die werke voltooi is, betaal die kliënt die professionele ingenieur die toepaslike geld vir enige bykomende dienste wat van hom verlang word, met inbegrip van ontwerp, inspeksie en administrasie as gevolg van sodanige skade of vernietiging.

3.2.5 *Uitstel, kansellering of abandonnering van die werke.*

3.2.5.1 Indien die werke in die geheel of gedeeltelik uitgestel, gekanselleer of geabandonneer word nadat die kliënt opdrag aan die professionele ingenieur gegee het om voort te gaan met enige van die stadiums genoem in regulasies 3.1.1.1, 3.1.1.2, 3.1.1.3 en 3.1.1.4, word die betaling aan die professionele ingenieur vir dienste verrig ten opsigte van daardie deel van die werke wat aldus uitgestel, gekanselleer of geabandonneer is, bereken ooreenkomstig regulasie 3.2.1.1, plus 'n toeslag van een tiende, en ooreenkomstig enige ander toepaslike regulasies, in verhouding tot die dienste verrig voordat die werke uitgestel, gekanselleer of geabandonneer is.

3.2.5.2 Indien daar binne twee jaar met die uitgestelde werke, of enige gedeelte daarvan, voortgegaan word, is die betaling kragtens regulasie 3.2.5.1 finaal vir dienste alreeds verrig en word betaling vir toekomstige dienste afsonderlik bereken ooreenkomstig die toepaslike bepalinge van hierdie Bylae.

3.2.5.3 Indien bykomende dienste van die professionele ingenieur verlang word ten opsigte van die hervatting van die uitgestelde werke, hef die professionele ingenieur vir sulke verdere dienste geld op 'n tydbasis soos uiteengesit in regulasie 3.3.4.

3.2.5.4 Ingeval die werke, of enige gedeelte daarvan, langer as twee jaar uitgestel word, word sodanige werke geag geabandonneer te wees.

3.2.5.5 Vir doeleindes van regulasie 3.2.5 is die koste van die werke die onderling ooreengekome beraming van die koste van die betrokke gedeelte van die werke wat voltooi was ten tyde van die uitstel, kansellering of abandonnering daarvan.

be, shall be brought into account in determining the cost of the works for purposes of calculating the total fee ultimately payable in the following manner:

3.2.3.4.1 In respect of that portion of the total fee becoming due during the construction stage in accordance with regulation 3.2.1.1.4, the total of the increases or decreases in cost actually certified for payment in terms of the contracts;

3.2.3.4.2 in respect of that portion of the fee becoming due prior to the construction stage in accordance with regulations 3.2.1.1.1, 3.2.1.1.2 and 3.2.1.1.3 and, where applicable, in respect of any detailed drawings completed prior to the placing of the works as provided in regulation 3.2.1.1.4, the total of the increases or decreases in cost actually certified for payment or 10% of the original contract amount, i.e. 10% of the total amounts which would have been certified for payment to contractors in terms of such contracts had there been no provision for fluctuations in cost, whichever shall be the lesser;

3.2.3.4.3 if the construction or installation of the works is not proceeded with, the provisions of regulation 3.2.3.4.2 shall be applied to the mutually agreed estimate of the value of the increases or decreases in cost which would have been made if construction or installation had been proceeded with.

3.2.4 *Damage to or destruction of the 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 operation 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 services which may be required of him including design, inspection and administration as a result of such damage or destruction.

3.2.5 *Postponement, cancellation or abandonment of the 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 regulations 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 works is postponed, cancelled or abandoned, 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 regulation 3.2.1.1, plus a surcharge of one-tenth, and in accordance with such other regulations as may be applicable, in proportion to the services performed prior to the works being postponed, cancelled or abandoned.

3.2.5.2 If, within two years, the postponed works or any part thereof shall again proceed, the payment defined in regulation 3.2.5.1 shall be final for the services already performed and payment for subsequent services shall be separately determined in accordance with the relevant provisions of this Schedule.

3.2.5.3 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 as set out in regulation 3.3.4.

3.2.5.4 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.

3.2.5.5 For the purpose of regulation 3.2.5 the cost of the works shall be the mutually agreed estimate of the cost of the relevant part of the works completed at the time of its postponement, cancellation or abandonment.

3.2.6 *Veranderings of wysigings aan ontwerpe.*—Indien omstandighede hulle voordoen wat redelikerwys nie deur die professionele ingenieur voorsien kon gewees het nie of as die kliënt of sy hoofagent die ontwerpvereistes wysig wat veranderings aan voltooië ontwerpe noodsaak, 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 gedeelte deur die professionele ingenieur opgestel is, is die algehele koste van enige hersiening, wysiging of reproduksie van sodanige ontwerpe, tekeninge of dokumente om die werk te bring tot die stadium waar dit gewysig is, onderworpe aan bykomende betaling op 'n tyd basis bereken soos in regulasie 3.3.4 uiteengesit: Met dien verstande dat die professionele ingenieur die kliënt van die bykomende koste verwittig wat by wyse van gelde aangegaan mag word.

3.2.7 *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:

3.2.7.1 Alle sodanige planne en deursnitte van die projek 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 as wat redelikerwys nodig is vir die professionele ingenieur om sy dienste te verrig;

3.2.7.3 afskrifte van alle kontrakdokumente, tekeninge en ondersteunende dokumente wat betrekking het op daardie dele van die projek wat in verband staan met die ingenieurswerke, met inbegrip van die algemene kontrakvoorwaardes waar van toepassing;

3.2.7.4 afskrifte van alle wysigingstekeninge en -opdragte rakende die ingenieurswerke.

3.3 *Geldetarief vir siviele en strukturele ingenieursdienste in verband met bouprojekte.*

3.3.1 *Dienste van normale aard.*—Vir werke wat normale eise aan die professionele ingenieur se tyd stel, is die geld:

Indien die koste van die werke—			Die geld is die som van die primêre geld genoem in kolom 3 en die sekondêre geld bereken kragtens kolom 4	
	meer is as—	maar nie meer is nie as—	Primêre geld	Persentasie vir sekondêre geld bereken op die totale koste van die werke (Kolom 4)
	(Kolom 1)	(Kolom 2)	(Kolom 3)	
	R	R	R	%
(a).....	—	60 000	200	10,00
(b).....	60 000	120 000	800	9,00
(c).....	120 000	300 000	2 000	8,00
(d).....	300 000	600 000	3 500	7,50
(e).....	600 000	1 200 000	6 500	7,00
(f).....	1 200 000	3 000 000	12 500	6,50
(g).....	3 000 000	—	27 500	6,00

3.3.2 *Dienste van nie-normale aard.*

3.3.2.1 *Werke wat buitengewoon hoë eise stel.*—Ten opsigte van sekere werke of gedeeltes van werke soos hierin gelys wat buitengewoon hoë eise aan die professionele ingenieur stel, word die geld as volg bereken:

3.3.2.1.1 Vir wysigings aan bestaande werke word die geld soos neergelê in regulasie 3.3.1 verhoog met 25%;

3.3.2.1.2 indien werke op afsonderlike nie-aangrensende terreine onderneem word of waar die aaneenlopendheid van die werke onderbreek word of die werke buitengewoon gefragmenteer of in afsonderlik gedokumenteë stadiums

3.2.6 *Alterations or modifications to designs.*—In the event of circumstances arising which could not have been reasonably foreseen by the professional engineer or in the event of the client or principal agent of the client modifying the design requirements and thus 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 the subject of additional payment calculated on a time basis as set out in regulation 3.3.4: Provided that the professional engineer shall inform the client in respect of additional costs which may be incurred by way of fees.

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 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 services pertaining to building projects.*

3.3.1 *Services of normal character.*—In respect of works making normal demands on the time of the professional engineer the fee shall be:

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—	but does not exceed	Primary fee	Percentage for secondary fee calculated on the total cost of the works	
(Column 1)	(Column 2)	(Column 3)	(Column 4)	
	R	R	R	%
(a).....	—	60 000	200	10,0
(b).....	60 000	120 000	800	9,0
(c).....	120 000	300 000	2 000	8,0
(d).....	300 000	600 000	3 500	7,5
(e).....	600 000	1 200 000	6 500	7,0
(f).....	1 200 000	3 000 000	12 500	6,5
(g).....	3 000 000	—	27 500	6,0

3.3.2 *Services not of normal character.*

3.3.2.1 *Works making unusually high demands.*—In respect of certain works or parts of works as herein listed which make demands on the professional engineer which are unusually high, the fee shall be calculated as follows:

3.3.2.1.1 For alterations to existing works the fee stated in regulation 3.3.1 shall be increased by 25%;

3.3.2.1.2 where works are undertaken on separate non-contiguous sites or when continuity of the works is interrupted or the works are unusually fragmented or are being constructed as separately documented phases in accordance with the requirements or with the consent of the client, the fee may be calculated taking regulation 3.3.1 as applicable

uitgevoer word ooreenkomstig die vereistes of met die toestemming van die kliënt, kan die geld bereken word deur regulasie 3.3.1 te beskou as van toepassing op elke terrein, kontrak, of stadium asof hulle afsonderlike werke is of, indien onvanpas, dan lê die geld tussen die geld soos bepaal in regulasie 3.3.1 as van toepassing op die totale koste van die werke en die geld bepaal deur regulasie 3.3.1 te beskou as van toepassing op die koste van elk van die uiteenlopende soorte werke asof hulle afsonderlike werke is;

3.3.2.1.3 ten opsigte van ander soorte werke of gedeeltes van werke met inbegrip van, onder andere, dié genoem in regulasie 1.5.1 wat buitengewoon hoë eise aan die professionele ingenieur stel, word daar tussen die kliënt en die professionele ingenieur ooreengekom oor die byvoeging wat gedoen moet word tot die geld gemeld in regulasie 3.3.1 en wat billik is ooreenkomstig die oorsake en omvang van die buitengewoon hoë eise aan die professionele ingenieur: Met dien verstande dat die professionele ingenieur, so gou dit vir hom blyk en gewoonlik nie later as die voltooiing van die verslagstadium nie, die kliënt verwittig dat hy van oordeel is dat die werke van so 'n aard is dat dit 'n verhoging van die geld soos voornoem regverdig: Met dien verstande verder dat indien dit eers later blyk dat die werke van 'n buitengewone aard is, die professionele ingenieur die kliënt onmiddellik daarvan verwittig, in welke geval die gedeelte van die dienste wat reeds deur die professionele ingenieur voltooi is wanneer hy die kliënt aldus verwittig, nie aan die verhoogde geld onderworpe is nie tensy die kliënt andersins instem.

3.3.2.2 *Werke wat buitengewoon lae eise stel.*—Ten opsigte van werke of gedeeltes van werke wat buitengewoon lae eise aan die professionele ingenieur stel, kom die kliënt en die professionele ingenieur ooreen oor die geld vir sulke werke wat billik is ooreenkomstig die oorsake en omvang van die buitengewone verlaging van die eise wat aan die professionele ingenieur gestel word.

3.3.3 Bykomende dienste.

3.3.3.1 *Verskaffing van terreinpersoneel.*—Die professionele ingenieur se heffing vir die verskaffing van terreinpersoneel kragtens regulasie 3.1.2.1.1 word bereken as die bruto koste aan die professionele ingenieur met inbegrip van alle direkte koste en oorhoofse koste plus 10%.

3.3.3.2 *Hoofagent van die kliënt.*—Die bykomende geld vir dienste as hoofagent van die kliënt gelewer ooreenkomstig regulasie 3.1.2.2 is 1% van die finale koste van die projek.

3.3.3.3 Regsgedinge en soortgelyke dienste.

3.3.3.3.1 *Allerlei dienste.*—Die professionele ingenieur se geld vir dienste gelewer, word op 'n tydbasis bereken soos ooreengekom met die kliënt en is nie minder as die tarief kragtens regulasie 3.3.4 nie: Met dien verstande dat vir verskynings in die hof die geld bereken word ooreenkomstig regulasie 3.3.3.3.2.1.

3.3.3.3.2 Arbitrasie.

3.3.3.3.2.1 Vir optrede as arbiter wanneer daar meer as een is of vir optrede as assessor, moet die geld nie minder wees nie as die geld gehef op 'n tydbasis vir prinsipale, vennote en direkteure soos uiteengesit in regulasie 3.3.4.1 plus 25%, onderworpe aan 'n minimum heffing vir twee ure.

3.3.3.3.2.2 Vir optrede as alleenarbiter of -beoordelaar moet die geld nie minder wees nie as die geld gehef op 'n tydbasis vir prinsipale, vennote en direkteure soos uiteengesit in regulasie 3.3.4.1 plus 75%, onderworpe aan 'n minimum heffing vir twee ure.

3.3.3.3.2.3 Die geld voorgeskryf by regulasies 3.3.3.3.2.1 en 3.3.3.3.2.2 is van toepassing ten opsigte van die tyd wat bestee word aan die bywoning van die arbitrasiehof, die bestudering van die getuienis en die opstel van die beslissing.

to each site, contract or phase as if they were separate works or, if inappropriate, the fee shall lie between the fee as derived in regulation 3.3.1 as applicable to the total cost of the works and the fee derived taking regulation 3.3.1 as applicable to the cost of each of the dissimilar types of works as if they were separate works;

3.3.2.1.3 in respect of other types of works or parts of works including, inter alia, those mentioned in regulation 1.5.1 which make demands on the professional engineer which are unusually high, the client and professional engineer shall agree on the addition to be made to the fee stated in regulation 3.3.1 which shall be equitable in accordance with the causes and extent of the unusually high demands on the professional engineer: Provided that the professional engineer shall, as soon as it becomes evident to him and generally not later than at the 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 the fee as aforesaid: Provided further that if it only becomes evident at a later stage that the works are of unusual character, he shall inform the client without delay, in which event such portion of the services of the professional engineer as he has already completed when he informs the client shall not be subject to an increased fee unless the client agrees otherwise.

3.3.2.2 *Works making unusually low demands.*—In respect of works or parts of works which make demands on the professional engineer which are unusually low, the client and the professional engineer shall agree the fee for such works which shall be equitable in accordance with the causes and extent of the unusual reduction in the demands on the professional engineer.

3.3.3 Additional services.

3.3.3.1 *Provision of site staff.*—The professional engineer's charge for the provision of site staff in terms of regulation 3.1.2.1.1 shall be calculated as the gross cost to the professional engineer including all direct costs and overhead expenses plus 10%.

3.3.3.2 *Principal agent of the client.*—The additional fee for services performed under regulation 3.1.2.2 as principal agent of the client shall be 1% of the final cost of the project.

3.3.3.3 Litigation proceedings and similar services.

3.3.3.3.1 *Miscellaneous services.*—The professional engineer's fee for services performed shall be on a time basis as agreed by the client and shall be not less than the rate in accordance with regulation 3.3.4: Provided that for court appearances the fee shall be determined in accordance with regulation 3.3.3.3.2.1.

3.3.3.3.2 Arbitration.

3.3.3.3.2.1 For acting as arbitrator where there is more than one or for acting as assessor, the fee shall be not less than the time charged for principals, partners and directors as set out in regulation 3.3.4.1 plus 25%, subject to a minimum charge for two hours.

3.3.3.3.2.2 For acting as sole arbitrator or umpire the fee shall be not less than the time charged for principals, partners and directors as set out in regulation 3.3.4.1 plus 75%, subject to a minimum charge for two hours.

3.3.3.3.2.3 The fee set out in regulations 3.3.3.3.2.1 and 3.3.3.3.2.2 shall apply to time spent in attending the arbitration court, in studying evidence and in framing the award.

3.3.4 *Geld op 'n tydbasis.*—Die geldetarief op 'n tydbasis is soos volg:

3.3.4.1 *Prinsipaal, vennoot of direkteur*—15c per uur vir elke R100 van die bruto jaarlikse salaris van die Hoofdirekteur: Ingenieursdienste, Departement van Gemeenskapontwikkeling, soos van toepassing op 1 Januarie van die jaar waarin die diens gelewer word;

3.3.4.2 *tegniese personeel*—15c per uur per R100 of gedeelte daarvan van die totale jaarlikse salaris plus bonus, as daar is: Met dien verstande dat hierdie tariewe geag word vestigingsheffings en tyd deur klerklike personeel bestee, in te sluit, wat dus nie afsonderlike heffings uitmaak nie.

3.3.5 *Reistyd.*—'n Bedrag teen die tarief uiteengesit in regulasie 3.3.4 word gehef vir al die tyd, met 'n maksimum van agt uur per dag, wat die professionele ingenieur en lede van sy personeel aan reis bestee: Met dien verstande dat waar die reistyd nie een uur per dag oorskry nie, die professionele ingenieur nie vergoed word vir die tyd aan reis bestee nie tensy betaling van die geld op 'n tydbasis geskied.

4. MEGANIESE EN ELEKTRIESE INGENIEURSDIENSTE IN VERBAND MET BOUPROJEKTE.

4.1 *Dienste deur die professionele ingenieur verrig te word.*

4.1.1 *Normale dienste.*—Die normale dienste deur die professionele ingenieur verrig te word, behels:

4.1.1.1 *Verslagstadium.*—Die opstel en voorlegging van 'n verslag met voorlopige voorstelle of gangbaarheidstudies en kosteramings vir oorweging deur die kliënt en, indien nodig, met inbegrip van—

4.1.1.1.1 oorlegpleging met die kliënt of sy gemagtigde verteenwoordiger en enige ander professionele raadgevers deur die kliënt aangestel in verband met die projek;

4.1.1.1.2 inspeksie van die terrein van die werke;

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

4.1.1.1.4 oorlegpleging met plaaslike owerhede;

4.1.1.1.5 raadgewing aan die kliënt oor die noodsaaklikheid van opmetings van enige aard, ontledings, toetse en terrein- of ander ondersoeke wat nodig mag wees vir die afhandeling van die verslag, en die tref van reëlins om dit op koste van die kliënt te laat uitvoer.

4.1.1.2 *Voorlopige ontwerp stadium.*—Die ontwikkeling van 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 die kliënt dit verlang;

4.1.1.2.2 bepaling van finale ontwerpmaatstawwe;

4.1.1.2.3 raadgewing aan die kliënt oor die noodsaaklikheid van enige verdere opmetings van enige aard, ontledings, toetse en terrein- of ander ondersoeke waar nodig, en die tref van reëlins om dit op koste van die kliënt te laat uitvoer;

4.1.1.2.4 raadgewing aan die kliënt, na gelang dit nodig is, oor die aanstelling en die omskrywing van die dienste van ander professionele ingenieurs of deskundige raadgevers, en die tref van reëlins vir sodanige aanstellings en oorlegplegings met sodanige raadgevers oor sake rakende die werke;

4.1.1.2.5 opstel en voorlegging van voorlopige ontwerp tekeninge en aangesuiwerde ramings.

3.3.4 *Time basis fee.*—The scale of fees on a time basis shall be as follows:

3.3.4.1 *Principal, partner or director*—15c per hour for each R100 of the gross annual salary of the Chief Director: Engineering Services, Department of Community Development, prevailing at 1 January of the year in which the services are performed;

3.3.4.2 *technical staff*—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 time expended by clerical staff which shall, therefore, not be chargeable separately.

3.3.5 *Travelling time.*—A charge at the rate set out in regulation 3.3.4 shall be made for all time spent by the professional engineer and members of his staff in travelling, such time not exceeding eight hours per day: Provided that where the travelling time does not exceed one hour per day the professional engineer shall not be reimbursed for time spent in travelling unless payment of the fee is being made on a time basis.

4. MECHANICAL AND ELECTRICAL ENGINEERING SERVICES 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 or his authorised representatives and any other professional advisers 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 any of these are required for determination of feasibility;

4.1.1.1.4 consultation with local authorities;

4.1.1.1.5 advice to the client as to the need for surveys of any kind, analyses, tests and 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.*—The development of 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 advice to the client as to the need for any further surveys of any kind, analyses, tests and 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 advice to the client, as may be necessary, upon the appointment and delineation of the services of other professional engineers or specialist advisers and arranging such appointments and consultations 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 *Gedetailleerde ontwerp- en tenderstadium.*—Die ontwikkeling van die voorlopige ontwerpe tot gedetailleerde ontwerpe en, indien nodig, met inbegrip van—

4.1.1.3.1 opstel van ontwerpe, tendertekeninge, dokumente en spesifikasies;

4.1.1.3.2 verskaffing van die omskrywende inligting wat nodig mag wees vir die ontwerp van ander dienste;

4.1.1.3.3 opstel of wysiging van tenderadvertensies, tendervoorwaardes, tendervorms en kontrakvoorwaardes;

4.1.1.3.4 ontledings van tenders en voorlegging van aanbevelings oor die aanvaarding van tenders en kosteerings van die werke.

4.1.1.4 *Konstruksiestadium.*—Die algemene administrasie 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 raadgewing aan die kliënt oor die opstel van die kontrakdokumente, of opstel van die kontrakdokumente;

4.1.1.4.3 raadgewing aan die kliënt oor die aanstelling van terreinpersoneel kragtens regulasie 4.1.2.1;

4.1.1.4.4 verskaffing van sodanige verdere 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 nasiening van kontrakteurs se tegniese voorstelle en kontrolering van kontrakteurs se tekeninge om seker te maak dat dit aan die ontwerp- en spesifikasievereistes voldoen, maar uitgesonderd die gedetailleerde kontrolering van tekeninge vir koördinasie, oprigting of installasiejuistheid;

4.1.1.4.6 raadgewing aan die kliënt oor alternatiewe ontwerpe en tenders maar uitgesonderd gedetailleerde inspeksie, hersiening en kontrolering van alternatiewe ontwerpe en tekeninge wat nie deur die professionele ingenieur opgestel is nie en deur 'n kontrakteur of voornemende kontrakteur voorgelê is;

4.1.1.4.7 uitreiking van opdragte aan kontrakteurs, koördinerende en algemene inspeksie van die uitvoering van die werke by tussenpose soos deur die professionele ingenieur nodig geag maar uitgesonderd toesig, gedetailleerde en daaglikse inspeksie van die werke en terreinadministrasie waarvoor in regulasie 4.1.2.1 voorsiening gemaak word;

4.1.1.4.8 bywoning van terreinvergaderings tydens die uitvoering van die ingenieurswerke, gemiddeld een keer elke 14 dae;

4.1.1.4.9 periodieke waardering van voltooide werk vir die uitreiking van sertifikate vir betaling aan kontrakteurs;

4.1.1.4.10 beslegting van, of bystand aan die kliënt se hoofagent by die beslegting van geskille of verskille wat tussen die kliënt en kontrakteurs mag ontstaan, maar uitgesonderd regsdinge en arbitrasie;

4.1.1.4.11 uitreiking van wysigingsopdragte of inligting sodat wysigingsopdragte deur ander uitgereik kan word;

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

4.1.1.4.13 kontrolering van kontrakteurs se eise ten opsigte van toelaatbare skommelings in die koste van die kontrak;

4.1.1.4.14 raadgewing aan die kliënt oor die inspeksie en toets van sodanige materiaal en toerusting as wat normaalweg nagegaan en getoets word, en die tref van reëlins om sodanige inspeksie en toetsing op koste van die kliënt te laat uitvoer;

4.1.1.3 *Detailed design and tender 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 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 analyses of tenders and submission of recommendations on the acceptance of tenders and estimates of the cost of the works.

4.1.1.4 *Construction stage.*—The general administration and other services in connection with the carrying out of the engineering works, including, as may be necessary—

4.1.1.4.1 placing orders for the engineering works on behalf of the client;

4.1.1.4.2 advice to the client as to the preparation of the contract documents or preparation of the contract documents;

4.1.1.4.3 advice to the client as to the appointment of site staff in accordance with regulation 4.1.2.1;

4.1.1.4.4 provision 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 designs and specification requirements, but excluding detailed checking of drawings for co-ordination, erection or installation fit;

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

4.1.1.4.7 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 detailed any day-to-day inspection of the works and site administration as provided for under regulation 4.1.2.1;

4.1.1.4.8 attendance at site meetings during the construction of the engineering works at an average frequency of once per fortnight;

4.1.1.4.9 periodic valuation of work completed for the purpose of issuing certificates for payment to contractors;

4.1.1.4.10 deciding in or assisting the principal agent of the client to decide in 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 advice to 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 kontrolering van kontrakteurs se ingebruiknemingsprosedures en aanwesigheid by werkverrigting-of aanvaardingstoetse op die terrein maar uitgesonderd daaglikse roetinetoeitse;

4.1.1.4.16 die tref van reëlins, namens die kliënt, vir die verskaffing en reproduksie van sodanige tekeninge en dokumente as wat die kontrakteurs en terreinpersoneel nodig mag hê om die ingenieurswerke uit te voer;

4.1.1.4.17 die tref van reëlins om die kliënt, na voltooiing van die ingenieurswerke, van sodanige rekordtekeninge en handleidings te voorsien as wat vir die bedryf en instandhouding van die ingenieurswerke nodig mag wees en voorbereiding van sodanige dokumente as wat nodig mag wees om die tekeninge en handleidings wat voorsien is, te koördineer;

4.1.1.4.18 opstel van finale rekening.

4.1.2 *Bykomende dienste*.—Dienste in verband met onderstaande items is bykomend by die normale dienste van die professionele ingenieur, wat die kliënt se goedkeuring moet verkry vir die verrigting van sodanige dienste:

4.1.2.1 *Verskaffing van terreinpersoneel*.

4.1.2.1.1 Indien die kliënt dit verlang van die professionele ingenieur belas met die dienste omskryf in regulasie 4.1.1.4, stel die professionele ingenieur sodanige bevoegde terreinpersoneel aan as wat nodig mag wees vir die doeltreffende kontrolering van die uitsetting, daaglikse inspeksie van die konstruksie van die werke, die opmeet van werk op die terrein en die vasstelling van die hoeveelhede saam met die verteenwoordigers van die kontrakteurs.

4.1.2.1.2 Indien voldoende terreinpersoneel nie aangestel is nie, moet die professionele ingenieur sodanige bykomende dienste lewer as wat nodig mag wees om die funksies omskryf in regulasie 4.1.2.1.1 uit te voer.

4.1.2.2 *Hoofagent van die kliënt*.—Indien die professionele ingenieur as hoofagent van die kliënt aangestel word, is sy bykomende dienste die volgende:

4.1.2.2.1 Raadgewing oor die aanstelling en die omskrywing van die dienste van ander professionele raadgevers deur die kliënt;

4.1.2.2.2 leierskap van die professionele span;

4.1.2.2.3 voorlegging van voorlopige en ontwikkelde voorstelle in die vorm van verslae, tekeninge en spesifikasies, tesame met kosteramings vir die projek in die geheel;

4.1.2.2.4 verantwoordelikheid vir die algehele administrasie van alle gedeeltes van die projek met inbegrip van dié wat binne die bestek val van die ander professionele raadgevers in die span;

4.1.2.2.5 verantwoordelikheid vir die algehele koördinerende, programmering van ontwerp en finansiële beheer van die projek;

4.1.2.2.6 beslegting van verskille wat tussen die kliënt en kontrakteurs mag ontstaan, uitgesonderd regsgedinge en arbitrasie;

4.1.2.2.7 goedkeuring van sertifikate vir betaling aan kontrakteurs, uitgereik deur die ander professionele raadgevers in die span, voor voorlegging aan die kliënt vir vereffening;

4.1.2.2.8 goedkeuring van die finale rekening vir die projek in die geheel.

4.1.2.3 *Hoeveelheidslyste*.—Die professionele ingenieur moet die kliënt van raad dien oor die nodigheid vir die opstel van die dokumente bedoel in regulasies 4.1.1.3.1 en 4.1.1.3.3, in die vorm van hoeveelheidslyste ten opsigte van die ingenieurswerke, sodat kontrakte op 'n gemete basis geadministreer kan word en, indien goedgekeur deur die kliënt en uitgevoer deur die professionele ingenieur, word die volgende as bykomende dienste beskou:

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 site staff for the execution 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 and preparing such documents as may be necessary to co-ordinate the drawings and manuals provided;

4.1.1.4.18 preparation of final account.

4.1.2 *Additional services*.—Services in connection with the items listed below are additional to the normal services of the professional engineer, who shall obtain the approval of the client for any such services to be carried out:

4.1.2.1 *Provision of site staff*.

4.1.2.1.1 Should the client require the provisional engineer charged with the services in regulation 4.1.1.4 so to do, the professional engineer shall appoint such competent site staff as is necessary for the efficient checking of setting out, day-to-day inspection of construction of the works, measuring up of work on site and agreeing quantities with contractors' representatives.

4.1.2.1.2 Where adequate site staff are not appointed the professional engineer shall provide such additional services as are necessary for carrying out the functions described in regulation 4.1.2.1.1.

4.1.2.2 *Principal agent of the client*.—The additional services of the professional engineer when appointed as principal agent of the client shall be as follows:

4.1.2.2.1 Advice as to the appointment and delineation of services of other professional advisers by the client;

4.1.2.2.2 leadership of the professional team;

4.1.2.2.3 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;

4.1.2.2.4 responsibility for the overall administration of all sections of the project, including those which fall within the ambit of the other professional advisers in the team;

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

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

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

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

4.1.2.3 *Schedules of quantities*.—The professional engineer shall advise the client on the need for preparing the documents referred to in regulations 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 shall be as set out below:

4.1.2.3.1 Opstel van elementale en werkverrigtingshoeveelheidslyste vir die ingenieurswerke of, indien die ontwerp van die projek nie ver genoeg gevorder is nie, voorlopige hoeveelhedslyste: Met dien verstande dat waar voorlopige hoeveelhede bereken word hulle weer daarna gemeet moet word;

4.1.2.3.2 meet van die hoeveelhede, opstel en waardeering van die finale rekening en onderhandeling vir vereffening met die kontrakteurs;

4.1.2.3.3 die verstrekking van die normale inligting aan die bourekenaar wat nodig is vir die opstel van hoeveelhedslyste indien die kliënt 'n bourekenaar aangestel het om hierdie funksie ten opsigte van die ingenieurswerke te verrig.

4.1.2.4 *Regsgedinge en soortgelyke dienste.*—Indien die kliënt aan die professionele ingenieur opdrag gee om die ondergemelde dienste te onderneem, is die omvang daarvan onderworpe aan ooreenkoms tussen die twee partye:

4.1.2.4.1 Verkryging van parlementêre of ander statutêre goedkeuring, lisensies of permitte;

4.1.2.4.2 bystand by beoogde of werklike regs- of arbitrasieverrigtinge;

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

4.1.2.5 *Diverse bykomende dienste.*

4.1.2.5.1 Onderhandeling met ander owerhede as plaaslike owerhede.

4.1.2.5.2 Opmetings, ondersoeke, koste-analises, en so meer, van bestaande strukture.

4.1.2.5.3 Tref van reëlins vir deurgangsregte, servitude of onteienings.

4.1.2.5.4 Onderhandeling oor en tref van reëlins vir die verskaffing of verskuiwing van utiliteitsdienste wat nie deel van die ingenieurswerke uitmaak nie.

4.1.2.5.5 Aanbring van sodanige wysigings as wat nodig mag wees om formele goedkeuring te verkry van die betrokke staatsdepartemente of openbare owerhede, voortspruitende uit besluite deur sodanige departemente of owerhede as gevolg van beleidsveranderings en ander oorsake buite die beheer van die professionele ingenieur.

4.1.2.5.6 Uitvoer van spesiale ondersoeke of toetse.

4.1.2.5.7 Opstel of gedetailleerde kontrolering van tekeninge vir terreincoördinering, installasietekeninge en werkwinkeltekeninge vir coördinering, oprigting of installasiejuistheid.

4.1.2.5.8 Gedetailleerde inspeksie, hersiening en kontrolering van ontwerpe en tekeninge wat nie deur die professionele ingenieur opgestel is nie en deur 'n kontrakteur of voornemende kontrakteur voorgelê is as alternatief vir dié wat ingesluit is by die tender of soortgelyke dokumente wat deur die professionele ingenieur opgestel is.

4.1.2.5.9 Bywoning van terreinvergaderings benewens dié bedoel in regulasie 4.1.1.4.8, tensy die professionele ingenieur aangestel is as die hoofagent van die kliënt.

4.1.2.5.10 Dienste wat ontstaan indien 'n kontrakteur in gebreke bly om sy kontrak te voltooi.

4.1.2.5.11 Dienste deur die professionele ingenieur verrig wat gebruikelikwys of kontraktueel die plig van die kontrakteur is, hetsy uit hoofde van spesiale kontraktuele bepalinge wat die kontrakteur onthef van sy gebruikelike verpligtinge of as gevolg daarvan dat die kontrakteur in gebreke bly om sy kontraktuele verpligtinge na te kom.

4.1.2.3.1 Preparation of elemental and operational schedules of quantities for the engineering works, or, if the design of the project is not sufficiently advanced, provisional schedules of quantities: Provided that where provisional quantities are prepared, these shall subsequently be remeasured;

4.1.2.3.2 measurement of quantities, preparation and pricing of the final account and negotiation of settlement with contractors;

4.1.2.3.3 providing the quantity surveyor with the normal information required for preparing schedules of quantities if the client has appointed a quantity surveyor to perform quantity surveying services in respect of the engineering works.

4.1.2.4 *Litigation proceedings and similar services.*—Where the client instructs the professional engineer to undertake the services listed below, the extent thereof shall be subject to agreement between the two parties:

4.1.2.4.1 Obtaining Parliamentary or other statutory approval, licences or permits;

4.1.2.4.2 assisting with contemplated or actual litigation or arbitration proceedings;

4.1.2.4.3 officiating at or attending courts and commissions of inquiry, select committees and similar bodies convened by statute, regulation or decree.

4.1.2.5 *Diverse additional services.*

4.1.2.5.1 Dealing with authorities other than local authorities.

4.1.2.5.2 Surveys, investigations, cost analyses, etc., of existing structures.

4.1.2.5.3 Making arrangements for wayleaves, servitudes or expropriations.

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

4.1.2.5.5 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.

4.1.2.5.6 Carrying out special investigations or tests.

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

4.1.2.5.8 Detailed inspection, reviewing and checking of designs and 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.

4.1.2.5.9 Attendance at site meetings in addition to those referred to in regulation 4.1.1.4.8 unless the professional engineer is appointed as the principal agent of the client.

4.1.2.5.10 Services arising from the failure of any contractor to perform his contract.

4.1.2.5.11 Services performed 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 contractual obligations.

4.1.2.5.12 Dienste wat die professionele ingenieur verrig deur remediërende maatreëls te bepaal, bykomende of meer uitgebreide besoeke aan die terrein te bring of geskille te besleg wat die direkte en noodwendige gevolg is van die versuim deur die kontrakteur om aan enige spesifikasies, tekeninge, prosedures, konstruksieprogramme, tydtafel of vasgestelde voltooiingsdatum ooreenkomstig die kontrak te voldoen.

4.1.2.5.13 Kontrolering, koördinerings of raadgeving oor enige deel van die projek wat nie deel van die ingenieurswerke uitmaak nie.

4.1.2.5.14 Uitvoering van of die tref van reëlins vir die periodieke kontrolering en aanpassing van die ingenieurswerke om behoorlike funksionering van enige proses of stelsel te optimiseer of te handhaaf.

4.1.2.5.15 Onderzoek na en verslagdoening oor tariewe of gelde wat deur die kliënt heef kan word.

4.1.2.5.16 Vooruitbestelling of reservering van materiale, die verkryging van lisensies en permitte en die kontrolering van werklike arbeidstoerusting- en materiaal-opgawes vir die vasstelling of wysiging van die kontrak-prys.

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

4.1.2.5.18 Onderhandelings met leweransie-owerhede vir spesiale tariewe.

4.1.2.5.19 Versameling, ondersoek en vergelyking van die pertinente gegewens gelys in regulasie 4.2.7 en nie aan die professionele ingenieur beskikbaar gestel nie.

4.1.2.5.20 Bedinging van 'n kontrak met 'n gekose kontrakteur anders as deur mededingende aanbiedinge, met inbegrip van die kontrolering en die bepaling by onderlinge ooreenkoms van die hoeveelhede en netto koste van materiaal en arbeid en die kontrolering en die bepaling by onderlinge ooreenkoms van toegevoegde persentasies ter dekking van algemene koste en winste.

4.1.2.5.21 Bykomende werk as gevolg van die gebruik van tweedehandse materiale of toerusting verskaf deur die kliënt.

4.1.2.5.22 Uitvoering van indiensnemingsprosedures of werkverrigtingstoets.

4.1.2.5.23 Opstel van handleidings en ander dokumente waarin die ontwerp, werkverrigting en instandhouding van die ingenieurswerke, bykomende by dié genoem in regulasie 4.1.1.4.17 beskryf word.

4.1.2.5.24 Die tref van reëlins vir die kontrolering en aanbeveling van instandhoudingskontrakte.

4.1.2.5.25 Bykomende dienste soos omskryf in—
regulasie 4.1.2.1.2—terreinpersoneel nie aangestel nie;

regulasie 4.2.4—skade aan of vernietiging van die werke;

regulasie 4.2.5—uitstel, kansellering of abandonnering van die werke;

regulasie 4.2.6—veranderings of wysigings aan ontwerpe.

4.1.2.5.26 Enige bykomende dienste van welke aard ook al uitgesonderd dié wat spesifiek in regulasie 4.1.2 genoem word.

4.2 Vergoeding van en basis van betaling aan die professionele ingenieur vir meganiese en elektriese ingenieursdienste wat met bouprojekte in verband staan.

4.2.1 Vergoeding.

4.2.1.1 Volledige normale dienste.—Behoudens regulasie 4.2.1.1.5 word die vergoeding van die professionele ingenieur vir die normale dienste wat hy ooreenkomstig

4.1.2.5.12 Services performed by the professional engineer in determining any remedial measure, making any additional or more extended site visits or resolving any disputes which are the direct and necessary consequence of any failure by the contractor to comply with any specifications, drawings, procedures, construction programmes, time-table or due completion date with which he is required to comply in terms of the contract.

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

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

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

4.1.2.5.16 Advance ordering or reservation of materials, the obtaining of licences and permits and the checking of actual labour, plant and material returns for the purpose of contract price establishment or adjustment.

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

4.1.2.5.18 Negotiating with supply authorities for special tariffs.

4.1.2.5.19 Collection, investigation and collation of the pertinent data listed in regulation 4.2.7 and not made available to the professional engineer.

4.1.2.5.20 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.

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

4.1.2.5.22 Carrying out commissioning procedures or performance tests.

4.1.2.5.23 Preparing manuals and other documents describing the design, operation and maintenance of the works in addition to those referred to in regulation 4.1.1.4.17.

4.1.2.5.24 Arranging for checking and recommending maintenance contracts.

4.1.2.5.25 Additional services as defined in—

regulation 4.1.2.1.2—site staff not appointed;

regulation 4.2.4—damage or destruction of the works;

regulation 4.2.5—postponement, cancellation or abandonment of works;

regulation 4.2.6—alterations or modifications to designs.

4.1.2.5.26 Any additional services of whatever nature other than those specifically referred to in regulation 4.1.2.

4.2 Remuneration and basis of payment of the professional engineer in respect of mechanical and electrical engineering services pertaining to building projects.

4.2.1 Remuneration.

4.2.1.1 Full normal services.—Subject to regulation 4.2.1.1.5, the remuneration of the professional engineer for the normal services performed by him under regulation

regulasie 4.1.1 verrig, bereken op die basis en wyse soos in regulasie 4.3.1 en 4.3.2 uiteengesit en is dit as volg aan die professionele ingenieur betaalbaar, tensy anders ooreengekom:

4.2.1.1.1 *Verslagstadium—regulasie 4.1.1.1.*—10% van die geld sodra sodanige dienste as wat vir die verslagstadium nodig is, voltooi is.

4.2.1.1.2 *Voorlopige ontwerpstadium—regulasie 4.1.1.2.*—'n Verdere 10% van die geld sodra sodanige dienste as wat vir die voorlopige ontwerpstadium nodig is, voltooi is.

4.2.1.1.3 *Gedetailleerde ontwerpstadium—regulasie 4.1.1.3.*—'n Verdere 40% van die geld wanneer sodanige dienste as wat vir die gedetailleerde ontwerpstadium nodig is, voltooi is.

4.2.1.1.4 *Konstruksiestadium—regulasie 4.1.1.4.*

4.2.1.1.4.1 'n Verdere 35% van die geld na gelang die installeringswerk vorder in verhouding tot die koste van die werk voltooi.

4.2.1.1.4.2 Die oorblywende 5% van die geld by afhandeling van die finale kontrakrekening.

4.2.1.1.5 *Gedeeltelike normale dienste.*—Indien die professionele ingenieur aangestel word om dienste te verrig wat nie al die stadia uiteengesit in regulasies 4.1.1.1, 4.1.1.2, 4.1.1.3 en 4.1.1.4 bevat nie, word die geld as volg toegeedel:

4.2.1.1.5.1 *Verslag- en voorlopige ontwerpstadium alleenlik*—30% van die geld;

4.2.1.1.5.2 *verslag-, voorlopige ontwerp- en gedetailleerde ontwerpstadium alleenlik*—70% van die geld;

4.2.1.1.5.3 *konstruksiestadium alleenlik*—50% van die geld.

4.2.1.2 *Bykomende dienste.*—Die geld of heffing vir bykomende dienste verrig ooreenkomstig regulasie 4.1.2 is soos volg:

4.2.1.2.1 *Verskaffing van terreinpersoneel.*—Die heffing vir bykomende dienste deur die professionele ingenieur verrig ter verskaffing van terreinpersoneel kragtens regulasie 4.1.2.1.1 is soos neergelê in regulasie 4.3.3.1.

4.2.1.2.2 *Hoofagent van die kliënt.*—Die geld vir die bykomende dienste deur die professionele ingenieur verrig as hoofagent van die kliënt ooreenkomstig regulasie 4.1.2.2 is soos neergelê in regulasie 4.3.3.2 en word toegedeel soos vir normale dienste ooreenkomstig regulasie 4.2.1.1.

4.2.1.2.3 *Hoeveelheidslyste.*—Die geld vir die bykomende dienste deur die professionele ingenieur verrig ooreenkomstig regulasie 4.1.2.3, word bereken soos neergelê in regulasie 4.3.3.3 en word as volg toegedeel:

(a) 70% van die geld sodra hoeveelheidslyste voltooi is;

(b) 'n verdere 10% van die geld na gelang die werke vorder in verhouding tot die koste van die werke voltooi;

(c) die oorblywende 20% van die geld by afhandeling van die finale kontrakrekening.

4.2.1.2.4 *Regsgedinge en soortgelyke dienste.*—Die geld vir die dienste deur die professionele ingenieur verrig kragtens regulasie 4.1.2.4, word bereken op 'n tyd basis soos in regulasie 4.3.3.4 uiteengesit.

4.2.1.2.5 *Diverse bykomende dienste.*—Die geld vir diverse bykomende dienste deur die professionele ingenieur verrig kragtens regulasie 4.1.2.5, word bereken op 'n tyd basis soos in regulasie 4.3.4 uiteengesit.

4.2.1.2.6 *Terreinpersoneel nie aangestel nie.*—Indien voldoende terreinpersoneel nie aangestel is nie, hef die professionele ingenieur geld op 'n tyd basis soos uiteengesit in regulasie 4.3.4 vir die nodige bykomende dienste deur hom of sy personeel gelewer en vir terreinbesoeke bo en behalwe dié in regulasie 4.1.1.4.8 genoem.

4.1.1 shall be calculated on the basis and in the manner set out in regulations 4.3.1 and 4.3.2 and shall, unless otherwise agreed, become due to the professional engineer as follows:

4.2.1.1.1 *Report stage—regulation 4.1.1.1.*—10% of the fee when such services as may be necessary for the report stage have been completed.

4.2.1.1.2 *Preliminary design stage—regulation 4.1.1.2.*—A further 10% of the fee when such services as may be necessary for the preliminary design stage have been completed.

4.2.1.1.3 *Detailed design stage—regulation 4.1.1.3.*—A further 40% of the fee when such services as may be necessary for the detailed design stage have been completed.

4.2.1.1.4 *Construction stage—regulation 4.1.1.4.*

4.2.1.1.4.1 A further 35% of the fee as and when the installation work proceeds in proportion to the cost of work completed.

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

4.2.1.1.5 *Partial normal services.*—Where the professional engineer is appointed to perform services not constituting all the stages set out in regulations 4.1.1.1, 4.1.1.2, 4.1.1.3 and 4.1.1.4, the fee shall be apportioned as follows:

4.2.1.1.5.1 *Report stage and preliminary design stage only*—30% of the fee;

4.2.1.1.5.2 *report stage, preliminary design stage and detailed design stage only*—70% of the fee;

4.2.1.1.5.3 *construction stage only*—50% of the fee.

4.2.1.2 *Additional services.*—The fee or charge for additional services carried out under regulation 4.1.2 shall be as follows:

4.2.1.2.1 *Provision of site staff.*—The charge for the additional services performed by the professional engineer in providing site staff in terms of regulation 4.1.2.1.1 shall be in accordance with regulation 4.3.3.1.

4.2.1.2.2 *Principal agent of the client.*—The fee for the additional services performed by the professional engineer as principal agent of the client under regulation 4.1.2.2 shall be in accordance with regulation 4.3.3.2 apportioned as for normal services under regulation 4.2.1.1.

4.2.1.2.3 *Schedules of quantities.*—The fee for the additional services performed by the professional engineer under regulation 4.1.2.3 shall be in accordance with regulation 4.3.3.3 apportioned as follows:

(a) 70% of the fee when schedules of quantities have been completed;

(b) a further 10% of the fee as the work proceeds in proportion to the cost of the works completed;

(c) the remaining 20% of the fee on completion of the contract final account.

4.2.1.2.4 *Litigation proceedings and similar services.*—The fee for the services performed by the professional engineer under regulation 4.1.2.4 shall be calculated on a time basis as set out in regulation 4.3.3.4.

4.2.1.2.5 *Diverse additional services.*—The fee for diverse additional services performed by the professional engineer under regulation 4.1.2.5 shall be calculated on a time basis as set out in regulation 4.3.4.

4.2.1.2.6 *Site staff not appointed.*—Where adequate site staff are 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 regulation 4.1.1.4.8 on a time basis as set out in regulation 4.3.4.

4.2.1.3 *Gelde vir hergebruik van voltooide ontwerpe, en so meer.*—Indien 'n kliënt verlang om een of meer duplikasies van 'n bepaalde werke op te rig waarvoor die professionele ingenieur ondersoek, ontwerpe, tekeninge, spesifikasies, en so meer kragtens 'n vorige ooreenkoms voltooi het en waarvoor hy reeds vergoed is, is die geld wat die professionele ingenieur hef vir die hergebruik van sodanige dokumente 'n kwart van die toegedeelde geld vir die normale en bykomende dienste verrig en die verslag-, voorlopige ontwerp- en gedetailleerde ontwerpstadium, gegrond op die aangesuiwerde waarde van die werke wat gedupliseer of herhaal word: Met dien verstande dat die professionele ingenieur daarbenewens vergoed word vir sodanige nuwe werk as wat hy noodsaaklikerwys moet verrig, en dat hy betaal word vir alle uitbetalings en uitgawes: Met dien verstande verder dat indien die professionele ingenieur se dienste behou word vir die konstruksiestadium, die geld wat die professionele ingenieur hef vir sy dienste en enige bykomende dienste wat hy gedurende hierdie stadium uitvoer, die volle toegedeelde geld vir die konstruksiestadium is, gegrond op die aangesuiwerde koste van die werke wat gedupliseer of herhaal word, plus alle uitbetalings en uitgawes.

4.2.2 *Tussentydse betalings aan die professionele ingenieur.*

4.2.2.1 Om die tussentydse betalings verskuldig ooreenkomstig regulasies 4.2.1.1 en 4.2.1.2.3 te bepaal, is die koste van die ingenieurswerke, uitgesonderd enige voorlopige toelaes gemaak ter dekking van gebeurlikhede en eskalasie, soos volg:

4.2.2.1.1 Die netto bedrag van die aanvaarde tender; of

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

4.2.2.1.3 indien die kontrak by wyse van onderhandeling toegeken is, die bedonge prys; of

4.2.2.1.4 indien geen tenders ingewin is of indien geen geskikte tenders ontvang is of indien geen onderhandeling enduit gevoer is nie, die beraming waaroor onderling ooreengekom word.

4.2.2.2 Sodanige tussentydse betalings tel alleenlik as gedeelte van die totale geld wat uiteindelik betaalbaar is en word bereken op die finale koste van die werke soos in regulasie 4.2.3 omskryf.

4.2.3 *Koste van die ingenieurswerke.*

4.2.3.1 Om die totale gelde te bereken wat uiteindelik betaalbaar is ooreenkomstig regulasie 4.2.2.2 is die koste van die ingenieurswerke, of enige gedeelte daarvan, die volgende:

4.2.3.1.1 Die bedrag gesertifiseer vir betaling aan die kontrakteurs ten opsigte van werke wat ontwerp, gespesifiseer of geadministreer is deur die professionele ingenieur, voor aftrekking van gelikwideerde skadevergoeding of boetes (as daar is);

4.2.3.1.2 indien die kliënt arbeid, gereedskap, konstruksietoerusting of -materiaal, vervaardigde goedere of masjinerie verskaf vir insluiting in die werke, 'n regstreekse en billike waardasie gegrond op normale tariewe van kontrakteurs vir soortgelyke items met inbegrip van waardevermindering, verspilling en herstelwerk, oorhoofse koste en winste;

4.2.3.1.3 'n billike ooreengekome waardasie van die verskil tussen die koste van enige tweedehandse materiale, vervaardigde goedere of masjinerie wat in die werke ingesluit is en die markwaarde van sulke materiale, vervaardigde goedere of masjinerie asof hulle nuut aangekoop is;

4.2.1.3 *Free for re-use of completed designs, etc.*—

Where the client wishes to erect one or more duplicates of a particular work 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, the fee to be charged by the professional engineer for the re-use of such documents shall be 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: Provided further that if the professional engineer's services should be retained for the construction stage, the fee to be charged by the professional engineer for services and any additional services carried out during this stage shall be the full apportioned fee for the construction stage 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 regulations 4.2.1.1 and 4.2.1.2.3, the cost of the engineering works, which shall exclude any provisional allowances made to cover contingencies and escalation, shall be—

4.2.2.1.1 the net amount of the accepted tender; or

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

4.2.2.1.3 if the contract is awarded by negotiation, the negotiated price; 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 regulation 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 regulation 4.2.2.2, the cost of the engineering works or any part thereof shall be—

4.2.3.1.1 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);

4.2.3.1.2 where the client provides labour, tools, construction plant or materials, manufactured goods or machinery for incorporation in the works, a direct and fair valuation based on normal charges by contractors for similar items including depreciation, waste and repairs, overheads and profit;

4.2.3.1.3 a fair valuation to be agreed of the difference between the cost price of any second-hand materials, manufactured goods or machinery incorporated in the works and the market value of such materials, manufactured goods or machinery as though they were purchased new;

4.2.3.1.4 een derde, of sodanige ander toepaslike deel waaroor met die kliënt ooreengekom word, van die koste van enige skoorstene en lugreëling- en ventilasieleidings en die isolering daarvan wat deur die professionele ingenieur gespesifiseer of ontwerp word en deel uitmaak van die boustruktuur; en

4.2.3.1.5 die koste van enige toetsboorwerk, meet van grondweerstand, en so meer, waarvoor die professionele ingenieur kontrakdokumente moet opstel en wat hy moet inspekteer of administreer.

4.2.3.2 Indien die ingenieurswerke uitgevoer word as 'n gedeelte van die kontrak hetsy deur die subkontraakteur of andersins dan sluit die koste van die ingenieurswerke die volgende in:

4.2.3.2.1 Voorsiening in die kontrak om bywoning en winste in verband met die ingenieurswerke te dek;

4.2.3.2.2 die koste van items van bouwerk benodig is verband met die ingenieurswerke en gespesifiseer of ontwerp deur die professionele ingenieur;

4.2.3.2.3 die koste van items vervat in die voorlopige en algemene afdeling van die kontrakhoeveelheidslyste wat enigsins verband hou met die ingenieurswerke, ten volle; en

4.2.3.2.4 behalwe in die geval waar subkontraakteurs benoem is, 'n gedeelte van die koste van al die ander items vervat in die voorlopige en algemene afdeling van die kontrakhoeveelheidslyste in die verhouding waarin die koste van die werke soos bepaal ooreenkomstig regulasies 4.2.3.1, 4.2.3.2.1, 4.2.3.2.2 en 4.2.3.2.3 staan tot die totale koste van die projek nadat alle sodanige ander voorlopige en algemene items afgetrek is.

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 uitgawes;

4.2.3.3.3 opmetingskoste;

4.2.3.3.4 salarisse, reiskoste en toevallige en kantooruitgawes van die terreinpersoneel;

4.2.3.3.5 finansieringskoste en -heffings aangegaan deur die kliënt;

4.2.3.3.6 die koste van grond, servitude en deurgangsregte;

4.2.3.3.7 die koste van permanente beskutting vir toerusting of uitrusting, tensy uitdruklik ontwerp en gedetailleer deur die professionele ingenieur.

4.2.3.4 Indien 'n kontrak bepaal dat betalings aan kontraakteurs vermeerder of verminder word tydens die duur van die kontrak na gelang van enige skommeling in die werklike koste van gespesifiseerde items of in voorgeskrewe indeks-syfers word, ondanks die bepaling van regulasie 4.2.3.1, die waarde van sodanige toenames of afnames in die koste, na gelang van die geval, soos volg in berekening gebring by die bepaling van die koste van die werke met die oog op die berekening van die totale geld wat uiteindelik betaalbaar is:

4.2.3.4.1 Ten opsigte van daardie gedeelte van die totale geld wat gedurende die konstruksiestadium verskuldig word kragtens regulasie 4.2.1.1.4, die totaal van die toenames of afnames in die koste wat werklik vir betaling kragtens die kontrakte gesertifiseer word;

4.2.3.4.2 ten opsigte van daardie gedeelte van die geld wat voor die konstruksiestadium verskuldig word kragtens regulasies 4.2.1.1.1, 4.2.1.1.2 en 4.2.1.1.3 en, waar van toepassing, ten opsigte van enige gedetailleerde tekeninge wat voltooi is voor die plasing van die werke soos bepaal in regulasie 4.2.1.1.4, die totaal van die toenames of afnames in die koste werklik gesertifiseer vir betaling of 10% van die oorspronklike kontrakbedrag, d.w.s. 10% van die totale

4.2.3.1.4 one-third, or such other appropriated proportion as may be agreed with the client, of the cost of any chimneys and airconditioning and ventilation ducts and their insulation specified or designed by the professional engineer and forming part of the building structure; and

4.2.3.1.5 the cost of any exploratory drilling, soil resistivity measurement, etc., for which the professional engineer is required to prepare contract documents and which he is required to inspect or administer.

4.2.3.2 Where the engineering works are carried out as a portion of the contract, whether by subcontract or otherwise, the cost of the engineering works shall include—

4.2.3.2.1 the allowance in the contract to cover attendance and profit relating to the engineering works;

4.2.3.2.2 the cost of items of builders' work required in connection with the engineering works and specified or designed by the professional engineer;

4.2.3.2.3 the cost of items under the preliminary and general section of the contract bills of quantities which are in any way related to the engineering works in full; and

4.2.3.2.4 except in the case of nominated sub-contractors, a portion of the cost of all other items under the preliminary and general section of the contract bills of quantities in the ratio that the cost of the engineering works as determined according to regulations 4.2.3.1, 4.2.3.2.1, 4.2.3.2.2 and 4.2.3.2.3 bears to the total cost of the project after deducting all such other preliminary and general items.

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 site staff;

4.2.3.3.5 finance costs and charges incurred by the client;

4.2.3.3.6 cost of land, servitudes 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.

4.2.3.4 Notwithstanding the provisions of regulation 4.2.3.1, where any contract provides that payment to contractors shall be increased or decreased during the currency of the contract in accordance with any fluctuation in actual cost of specified items or in prescribed indices, the value of such increases or decreases in cost, as the case may be, shall be brought into account in determining the cost of the works for purposes of calculating the total fee ultimately payable in the following manner:

4.2.3.4.1 In respect of that portion of the total fee becoming due during the construction stage in accordance with regulation 4.2.1.1.4, the total of the increases or decreases in cost actually certified for payment in terms of the contracts;

4.2.3.4.2 in respect of that portion of the fee becoming due prior to the construction stage in accordance with regulations 4.2.1.1.1, 4.2.1.1.2 and 4.2.1.1.3 and, where applicable, in respect of any detailed drawings completed prior to the placing of the works as provided in regulation 4.2.1.1.4, the total of the increases or decreases in cost actually certified for payment or 10% of the original contract amount, i.e. 10% of the original contract amount, i.e.

bedrae wat kragtens sodanige kontrakte goedgekeur sou word vir betaling aan kontrakteurs indien daar nie voorsiening gemaak was vir prysskommelings nie, watter ook al die minste is;

4.2.3.4.3 indien daar nie met die konstruksie of installasie van die werke voortgegaan word nie, word die bepaling van regulasie 4.2.3.4.2 toegepas op die onderling ooreengekome beraming van die waarde van die toenames of afnames in die koste wat gemaak sou gewees het indien met die konstruksie of installasie voortgegaan is.

4.2.4 *Skade aan of vernietiging van die werke.*—Indien enige gedeelte van die werke of die toerusting daarvoor te eniger tyd as gevolg van oorlog, brand, storms, vloedwater of ander oorsake buite die beheer van die professionele ingenieur beskadig of vernietig word voordat die werke voltooi is, betaal die kliënt die professionele ingenieur die toepaslike geld vir enige bykomende dienste wat van hom verlang word, met inbegrip van ontwerp, inspeksie en administrasie as gevolg van sodanige skade of vernietiging.

4.2.5 *Uitstel, kansellering of abandonnering van die werke.*

4.2.5.1 Indien die werke in die geheel of gedeeltelik uitgestel, gekanselleer of geabandonneer word nadat die kliënt opdrag aan die professionele ingenieur gegee het om voort te gaan met enige van die stadiums genoem in regulasies 4.1.1.1, 4.1.1.2, 4.1.1.3 en 4.1.1.4, word die betaling aan die professionele ingenieur vir dienste verrig ten opsigte van daardie deel van die werke wat aldus uitgestel, gekanselleer of geabandonneer is, bereken ooreenkomstig regulasie 4.2.1.1, plus 'n toeslag van een tiende, en ooreenkomstig enige ander toepaslike regulasies, in verhouding tot die dienste verrig voordat die werke uitgestel, gekanselleer of geabandonneer is.

4.2.5.2 Indien daar binne twee jaar met die uitgestelde werke, of enige gedeelte daarvan, voortgegaan word, is die betaling kragtens regulasie 4.2.5.1 finaal vir dienste alreeds verrig en word betaling vir toekomstige dienste afsonderlik bereken ooreenkomstig die toepaslike bepalinge van hierdie Bylae.

4.2.5.3 Indien bykomende dienste van die professionele ingenieur verlang word ten opsigte van die hervatting van die uitgestelde werke, het die professionele ingenieur vir sulke verdere dienste geld op 'n tydskied soos uiteengesit in regulasie 4.3.4.

4.2.5.4 Ingeval die ingenieurswerke, of enige gedeelte daarvan, langer as twee jaar uitgestel word, word sodanige werke geag geabandonneer te wees.

4.2.5.5 Vir doeelindes van regulasie 4.2.5 is die koste van die werke die onderling ooreengekome beraming van die koste van die betrokke gedeelte van die werke wat voltooi was ten tyde van die uitstel, kansellering of abandonnering daarvan.

4.2.6 *Veranderings of wysigings aan ontwerpe.*—Indien omstandighede hulle voordoen wat redelikerwys nie deur die professionele ingenieur voorsien kon gewees het nie of as die kliënt of sy hoofagent die ontwerpvereiste wysig wat veranderings aan voltooië ontwerpe noodsaak, 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 algehele koste van enige hersiening, wysiging of reproduksie van sodanige ontwerpe, tekeninge of dokumente om die werk te bring tot die stadium waar dit gewysig is, onderworpe aan bykomende betaling op 'n tydskied bereken soos in regulasie 4.3.4 uiteengesit: Met dien verstande dat die professionele ingenieur die kliënt van die bykomende koste verwittig wat by wyse van gelde aangegaan mag word.

10% of the total amounts which would have been certified for payment to contractors in terms of such contracts had there been no provision for fluctuations in cost, whichever shall be the lesser;

4.2.3.4.3 if the construction or installation of the works is not proceeded with, the provisions of regulation 4.2.3.4.2 shall be applied to the mutually agreed estimate of the value of the increases or decreases in cost which would have been made if construction or installation had been proceeded with.

4.2.4 *Damage to or destruction of the 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 operation 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 services which may be required of him including design, inspection and administration as a result of such damage or destruction.

4.2.5 *Postponement, cancellation or abandonment of the 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 regulations 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, 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 regulation 4.2.1.1, plus a surcharge of one-tenth, and in accordance with such other regulations as may be applicable, in proportion to the services performed prior to the works being postponed, cancelled or abandoned.

4.2.5.2 If, within two years, the postponed works or any part thereof shall again proceed, the payment defined in regulation 4.2.5.1 shall be final for the services already performed and payment for subsequent services shall be separately determined in accordance with the relevant provisions of this Schedule.

4.2.5.3 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 as set out in regulation 4.3.4.

4.2.5.4 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.

4.2.5.5 For the purpose of regulation 4.2.5 the cost of the works shall be the mutually agreed estimate of the cost of the relevant part of the works 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 by the professional engineer or in the event of the client or principal agent of the client modifying the design requirements and thus 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 the subject of additional payment calculated on a time basis as set out in regulation 4.3.4: Provided that the professional engineer shall inform the client in respect of additional costs which may be incurred by way of fees.

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 sodanige planne en deursnitte van die projek en alle sodanige terreinplanne op 'n praktiese skaal met hoogtes en alle sodanige tersaaklike detailtekeninge as wat die professionele ingenieur redelikerwys nodig mag hê;

4.2.7.2 alle tersaaklike gegewens en inligting tesame met sodanige hulp as wat redelikerwys nodig is vir die professionele ingenieur om sy dienste te verrig;

4.2.7.3 afskrifte van alle kontrakdokumente, tekeninge en ondersteunende dokumente wat betrekking het op daardie dele van die projek wat in verband staan met die ingenieurswerke, met inbegrip van die algemene kontrakvoorwaardes waar van toepassing;

4.2.7.4 afskrifte van alle wysigingstekeninge en -opdragte rakende die ingenieurswerke.

4.3 *Geldtarief vir meganiese en elektriese ingenieursdienste in verband met bouprojekte.*

4.3.1 *Dienste van normale aard.*—Vir werke wat normale eise aan die professionele ingenieur se tyd stel, is die geld soos in regulasies 4.3.1.1 en 4.3.1.2 neergelê.

4.3.1.1 Basiese geld.

Indien 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 die totale koste van die werke (Kolom 4)	
R	R	R	%	
(a).....	—	150	10,0	
(b).....	30 000	450	9,0	
(c).....	60 000	1 050	8,0	
(d).....	150 000	1 800	7,5	
(e).....	300 000	3 300	7,0	
(f).....	700 000	6 800	6,5	
(g).....	1 500 000	14 300	6,0	

4.3.1.2 *Bykomende geld 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% van die koste van die bykomende werke; en

4.3.1.2.2 2,5% van die koste van weggelate werke: Met dien verstande dat die bykomende geld nie gehef word nie in gevalle waar hoeveelheidslyste deur die professionele ingenieur opgestel is waarvoor betaling ooreenkomstig regulasie 4.3.3.3 gemaak is.

4.3.2 Dienste van nie-normale aard.

4.3.2.1 *Werke wat buitengewoon hoë eise stel.*—Ten opsigte van sekere werke of gedeeltes van werke soos hierin gelys wat buitengewoon hoë eise aan die professionele ingenieur stel, word die geld as volg bereken:

4.3.2.1.1 Vir wysigings aan bestaande werke word die geld soos neergelê in regulasie 4.3.1 verhoog met 25%;

4.3.2.1.2 indien die werke meer as een van die hoofkategorieë, naamlik meganiese en elektries behels, word die geld apart bereken ooreenkomstig regulasie 4.3.1 ten opsigte van die totale koste van die werk in elke sodanige kategorie;

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 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 to 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 services pertaining to building projects*

4.3.1 *Services of normal character.*—In respect of works making normal demands on the time of the professional engineer the fee shall be as provided in regulation 4.3.1.1 and 4.3.1.2.

4.3.1.1 Basic fee.

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).....	—	150	10,0
(b).....	30 000	450	9,0
(c).....	60 000	1 050	8,0
(d).....	150 000	1 800	7,5
(e).....	300 000	3 300	7,0
(f).....	700 000	6 800	6,5
(g).....	1 500 000	14 300	6,0

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% of the cost of additional works; and

4.3.1.2.2 2,5% of the value of omitted works: 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 regulation 4.3.3.3.

4.3.2 Services not of normal character.

4.3.2.1 *Works making unusually high demands.*—In respect of certain works or parts of works as herein listed which make demands on the professional engineer which are unusually high, the fee shall be calculated as follows:

4.3.2.1.1 For alterations to existing works the fee stated in regulation 4.3.1 shall be increased by 25%;

4.3.2.1.2 where the works comprise more than one of the main categories, i.e. mechanical and electrical, the fee shall be separately calculated in accordance with regulation 4.3.1 in respect of the total cost of the works in each such category;

4.3.2.1.3 indien die werke aansienlike gedeeltes van uiteenlopende soorte werk behels binne die hoofkategorieë genoem in regulasie 4.3.2.1.2, lê die geld tussen die geld soos bepaal in regulasie 4.3.1 as van toepassing op die totale koste van die werke binne sodanige hoofkategorie en die geld bepaal deur regulasie 4.3.1 te beskou as van toepassing op die koste van elk van die uiteenlopende soorte van werk asof hulle afsonderlike werke is en na gelang van die mate waarin die eise aan die professionele ingenieur ooreenstem met die eise van elk van die uiteenlopende soorte werk indien dit ingevolge 'n aparte opdrag uitgevoer was;

4.3.2.1.4 indien werke op afsonderlike nie-aangrensende terreine onderneem word of waar die aaneenlopendheid van die werke onderbreek word of die werke buitengewoon gefragmenteer of in afsonderlik gedokumenteerde stadiums uitgevoer word ooreenkomstig die vereistes of met die toestemming van die kliënt, kan die geld bereken word deur regulasie 4.3.1 te beskou as van toepassing op elke terrein, kontrak, of stadium asof hulle afsonderlike werke is of, indien onvanpas, dan lê die geld tussen die geld soos bepaal in regulasie 4.3.1 as van toepassing op die totale koste van die werke en die geld bepaal deur regulasie 4.3.1 te beskou as van toepassing op die koste van elk van die uiteenlopende soorte werke asof hulle afsonderlike werke is;

4.3.2.1.5 ten opsigte van ander soorte werke of gedeeltes van werke met inbegrip van, onder andere, dié genoem in regulasie 1.5.1 wat buitengewoon hoë eise aan die professionele ingenieur stel, word daar tussen die kliënt en die professionele ingenieur ooreengekom oor die byvoeging wat gedoen moet word tot die geld gemeld in regulasie 4.3.1 en wat billik is ooreenkomstig die oorsake en omvang van die buitengewoon hoë eise aan die professionele ingenieur. Met dien verstande dat die professionele ingenieur, so gou dit vir hom blyk en gewoonlik nie later as die voltooiing van die verslagstadium nie, die kliënt verwittig dat hy van oordeel is dat die werke van so 'n aard is dat dit 'n verhoging van die geld soos voornoem regverdig: Met dien verstande verder dat indien dit eers later blyk dat die werke van 'n buitengewone aard is, die professionele ingenieur die kliënt onmiddellik daarvan verwittig, in welke geval die gedeelte van die dienste wat reeds deur die professionele ingenieur voltooi is wanneer hy die kliënt aldus verwittig, nie aan die verhoogde geld onderworpe is nie tensy die kliënt andersins instem.

4.3.2.2 *Werke wat buitengewoon lae eise stel.*—Ten opsigte van werke of gedeeltes van werke wat buitengewoon lae eise aan die professionele ingenieur stel, kom die kliënt en die professionele ingenieur ooreen oor die geld vir sulke werke wat billik is ooreenkomstig die oorsake en omvang van die buitengewone verlaging van die eise wat aan die professionele ingenieur gestel word.

4.3.3 Bykomende dienste.

4.3.3.1 *Verskaffing van terreinpersoneel.*—Die professionele ingenieur se heffing vir die verskaffing van terreinpersoneel kragtens regulasie 4.1.2.1.1 word bereken as die bruto koste aan die professionele ingenieur met inbegrip van alle direkte koste en oorhoofse koste plus 10%.

4.3.3.2 *Hoofagent van die kliënt.*—Die bykomende geld vir dienste as hoofagent van die kliënt gelewer ooreenkomstig regulasie 4.1.2.2 is 1% van die finale koste van die projek.

4.3.3.3 *Hoeveelheidslyste.*—Die bykomende geld bo en behalwe die basiese geld soos neergelê in regulasie 4.3.1.1 vir dienste verrig ooreenkomstig regulasie 4.1.2.3 word bereken kragtens regulasies 4.3.3.3.1 of 4.3.3.3.2 of 4.3.3.3.3 na gelang van die prosedure wat gevolg is.

4.3.2.1.3 where the works comprise substantial portions of dissimilar types of work within the main categories stated in regulation 4.3.2.1.2 the fee shall lie between the fee as derived in regulation 4.3.1 as applicable to the total cost of the works within such main category and the fee derived taking regulation 4.3.1 as applicable to the cost of each of the dissimilar types of work as if they were separate works according to the extent to which the demands on the professional engineer correspond to the demands of each such dissimilar type of work had it been executed under a separate assignment;

4.3.2.1.4 where works are undertaken on separate non-contiguous sites or when continuity of the works is interrupted or the works are unusually fragmented or are being constructed as separately documented phases in accordance with the requirements or with the consent of the client, the fee may be calculated taking regulation 4.3.1 as applicable to each site, contract or phase as if they were separate works or, if inappropriate, the fee shall lie between the fee as derived in regulation 4.3.1 as applicable to the total cost of the works and the fee derived taking regulation 4.3.1 as applicable to the cost of each of the dissimilar types of work as if they were separate works;

4.3.2.1.5 in respect of other types of works or parts of works including, *inter alia*, those mentioned in regulation 1.5.1 which make demands on the professional engineer which are unusually high, the client and professional engineer shall agree the addition to be made to the fee stated in regulation 4.3.1 which shall be equitable in accordance with the causes and extent of the unusually high demands on the professional engineer: Provided that the professional engineer shall, as soon as it becomes evident to him and generally not later than at the 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 the fee as aforesaid: Provided further that if it only becomes evident at a later stage that the works are of unusual character, he shall inform the client without delay, in which event such portion of the services of the professional engineer as he has already completed when he informs the clients shall not be subject to an increased fee unless the client agrees otherwise.

4.3.2.2 *Works making unusually low demands.*—In respect of works or parts of works which make demands on the professional engineer which are unusually low, the client and the professional engineer shall agree the fee for such works which shall be equitable in accordance with the causes and extent of the unusual reduction in the demands on the professional engineer.

4.3.3 Additional services.

4.3.3.1 *Provision of site staff.*—The professional engineer's charge for the provision of site staff in terms of regulation 4.1.2.1.1 shall be calculated as the gross cost to the professional engineer including all direct costs and overhead expenses plus 10%.

4.3.3.2 *Principal agent of the client.*—The additional fee for services performed under regulation 4.1.2.2 as principal agent of the client shall be 1% of the final cost of the project.

4.3.3.3 *Schedules of quantities.*—The additional fee, over and above the basic fee in regulation 4.3.1.1, for services performed under regulation 4.1.2.3, shall be based on regulations 4.3.3.3.1 or 4.3.3.3.2 or 4.3.3.3.3, according to the procedure adopted.

4.3.3.3.1 Vir die opstel van elementale en werkverrigtingshoeveelheidslyste:

Indien 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 die totale koste van die werke in die skedules — (Kolom 4)	
R	R	R	%	
(a).....	—	60 000	150	3,000
(b).....	60 000	300 000	900	2,750
(c).....	300 000	800 000	1 900	2,500
(d).....	800 000	1 600 000	3 900	2,375
(e).....	1 600 000	2 400 000	6 900	2,750
(f).....	2 400 000	3 600 000	11 400	2,125
(g).....	3 600 000	—	—	2,000

4.3.3.3.2 Vir die opstel van voorlopige hoeveelhedslyste:

4.3.3.3.2.1 Vir die opstel van voorlopige hoeveelhedslyste en sodanige voorlopige ontwerpdiens as wat nodig mag wees vir die doel om sulke voorlopige hoeveelhedslyste op te stel, is die geld 1½% van die tenderprijs;

4.3.3.3.2.2 vir die daaropvolgende hermeting van die hoeveelhede en die opstel van die elementale en werkverrigtingshoeveelheidslyste is die geld, bykomend by dié uiteengesit in regulasie 4.3.3.3.2.1, die geld vir die opstel van die elementale en werkverrigtingshoeveelheidslyste soos uiteengesit in regulasie 4.3.3.3.1.

4.3.3.3.3 Indien 'n bourekenaar deur die kliënt aangestel is om bourekenaarsdienste ten behoeve van die ingenieurswerke te lewer moet die geld vir die verstreking aan die bourekenaar van die normale inligting wat nodig is vir die opstel van hoeveelhedslyste, teen die volgende skale bereken word:

4.3.3.3.3.1 Op die koste van die ingenieurswerke in die hoeveelhedslyste aldus opgestel—1% op die eerste R1 miljoen en ½% op die balans;

4.3.3.3.3.2 op die koste van die ingenieurswerke in die voorlopige hoeveelhedslyste aldus opgestel—¾% op die eerste R1 miljoen en ½% op die balans.

4.3.3.4 Regsgedinge en soortgelyke dienste.

4.3.3.4.1 *Allerlei dienste.*—Die professionele ingenieur se geld vir dienste gelewer, word op 'n tydbasis bereken soos ooreengekom met die kliënt en is nie minder as die tarief kragtens regulasie 4.3.4 nie: Met dien verstande dat vir verskynings in die hof die geld bereken word ooreenkomstig regulasie 4.3.3.4.2.1.

4.3.3.4.2 Arbitrasie.

4.3.3.4.2.1 Vir optrede as arbiter wanneer daar meer as een is of vir optrede as assessor, moet die geld nie minder wees nie as die geld gehef op 'n tydbasis vir prinsipale, vennote en direkteure soos uiteengesit in regulasie 4.3.4.1 plus 25%, onderworpe aan 'n minimum heffing vir twee ure.

4.3.3.4.2.2 Vir optrede as alleenarbiter of -beoordelaar moet die geld nie minder wees nie as die geld gehef op 'n tydbasis vir prinsipale, vennote en direkteure soos uiteengesit in regulasie 4.3.4.1 plus 75%, onderworpe aan 'n minimum heffing vir twee ure.

4.3.3.4.2.3 Die geld voorgeskryf by regulasies 4.3.3.4.2.1 en 4.3.3.4.2.2 is van toepassing ten opsigte van die tyd wat bestee word aan die bywoning van die arbitrasiehof, die bestudering van die getuienis en die opstel van die beslissing.

4.3.3.3.1 For the preparation of elemental and operational Schedules of quantities:

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).....	—	60 000	150	3,000
(b).....	60 000	300 000	900	2,750
(c).....	300 000	800 000	1 900	2,500
(d).....	800 000	1 600 000	3 900	2,375
(e).....	1 600 000	2 400 000	6 900	2,750
(f).....	2 400 000	3 600 000	11 400	2,125
(g).....	3 600 000	—	—	2,000

4.3.3.3.2 For the preparation of provisional Schedules of quantities—

4.3.3.3.2.1 For the preparation of provisional Schedules of quantities and such preliminary design services as may be necessary for the purpose of preparing such provisional Schedules of quantities the fee shall be 1½% of the tender price;

4.3.3.3.2.2 for the subsequent remeasurement of the quantities and the preparation of the elemental and operational Schedules of quantities the fee in addition to that set out in regulation 4.3.3.3.2.1 shall be the fee for the preparation of the elemental and operational Schedules of quantities as set out in regulation 4.3.3.3.1.

4.3.3.3.3 If a quantity surveyor is appointed by the client to perform quantity surveying services in respect of the engineering works, the fee for providing the quantity surveyor with the normal information required for preparing the bills of quantities shall be at the following rates:

4.3.3.3.3.1 On the cost of the engineering works in the bills so prepared 1% on the first R1 million and ½% on the balance;

4.3.3.3.3.2 on the cost of the engineering works in provisional bills of quantities so prepared—¾% on the first R1 million and ½% on the balance.

4.3.3.4 Litigation proceedings and similar services.

4.3.3.4.1 *Miscellaneous services.*—The professional engineer's fee for services performed shall be on a time basis as agreed by the client and shall be not less than the rate in accordance with regulation 4.3.4: Provided that for court appearances the fee shall be determined in accordance with regulation 4.3.3.4.2.1.

4.3.3.4.2 Arbitration.

4.3.3.4.2.1 For acting as arbitrator where there is more than one or for acting as assessor, the fee shall be not less than the time charged for principals, partners and directors as set out in regulation 4.3.4.1 plus 25%, subject to a minimum charge for two hours.

4.3.3.4.2.2 For acting as sole arbitrator or umpire the fee shall be not less than the time charged for principals, partners and directors as set out in regulation 4.3.4.1 plus 75%, subject to a minimum charge for two hours.

4.3.3.4.2.3 The fee set out in regulations 4.3.3.4.2.1 and 4.3.3.4.2.2 shall apply to time spent in attending the arbitration court, in studying evidence and in framing the award.

4.3.4 *Geld op 'n tydbasis.*—Die geldetarief op 'n tydbasis is soos volg:

4.3.4.1 Prinsipaal, vennoot of direkteur—15c per uur vir elke R100 van die bruto jaarlikse salaris van die Hoofdirekteur: Ingenieursdienste, Departement van Gemeenskapsontwikkeling, soos van toepassing op 1 Januarie van die jaar waarin die diens gelewer word;

4.3.4.2 tegniese personeel—15c per uur per R100 of gedeelte daarvan van die totale jaarlikse salaris plus bonus, as daar is: Met dien verstande dat hierdie tariewe geag word vestigingsheffings en tyd deur klerklike personeel bestee, in te sluit, wat dus nie afsonderlike heffings uitmaak nie.

4.3.5 *Reistyd.*—'n Bedrag teen die tarief uiteengesit in regulasie 4.3.4 word gehef vir al die tyd, met 'n maksimum van agt uur per dag, wat die professionele ingenieur en lede van sy personeel aan reis bestee: Met dien verstande dat waar die reistyd nie een uur per dag oorskry nie, die professionele ingenieur nie vergoed word vir die tyd aan reis bestee nie tensy betaling van die geld op 'n tydbasis geskied.

4.3.4 *Time basis fee.*—The scale of fees on a time basis shall be as follows:

4.3.4.1 Principal, partner or director—15c per hour for each R100 of the gross annual salary of the Chief Director: Engineering Services, Department of Community Development, prevailing at 1 January of the year in which the services are performed;

4.3.4.2 technical staff—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 time expended by clerical staff which shall, therefore, not be chargeable separately.

4.3.5 *Travelling time.*—A charge at the rate set out in regulation 4.3.4 shall be made for all time spent by the professional engineer and members of his staff in travelling, such time not exceeding eight hours per day: Provided that where the travelling time does not exceed one hour per day the professional engineer shall not be reimbursed for time spent in travelling unless payment of the fee is being made on a time basis.

DIE BLOMPLANTE VAN AFRIKA

Hierdie publikasie word uitgegee as 'n geïllustreerde reeks, baie na die aard van Curtis se "Botanical Magazine". Die doel van die werk is om die skoonheid en variasie van vorm van die flora van Afrika aan die leser bekend te stel, om belangstelling in die studie en kweek van die inheemse plante op te wek, en om plantkunde in die algemeen te bevorder.

Die meeste van die illustrasies word deur kunstenaars van die Navorsingsinstituut vir Plantkunde gemaak, dog die redakteur verwelkom geskikte bydraes van 'n wetenskaplike en kunststandaard afkomstig van verwante inrigtings.

Onder huidige omstandighede word twee dele van die werk gelyktydig gepubliseer, maar met onreëlmatige tussenpose; elke deel bevat tien kleurplate. Intekengeld bedra R5 per deel (buitelands R5,25 per deel): Vier dele per band. Vanaf band 27 is die prys per band in linne gebind R30; in moroccoleer gebind R35. (Buitelands, linne gebind R31; moroccoleer R36).

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CONTENTS

No.		Bladsy No.	Staats- koerant No.	No.		Page No.	Gazette No.
Gemeenskapsontwikkeling, Departement van				Community Development, Department of			
Algemene Kennisgewing				General Notice			
657	Wet op Professionele Ingenieurs (81/1968): Kennisgewing ingevolge artikel 7 (4)	1	7750	657	Professional Engineers' Act (81/1968): Notice in terms of section 7 (4)	1	7750