

REGISTRATION OF ENGINEERS ACT 1967

NOTIFICATION OF SCALE OF FEES

IN exercise of the powers conferred by paragraph 4(1)(d) of the Registration of Engineers Act 1967 [Act 138], the Board of Engineers, with the approval of the Minister, fixes the following scale of fees to be charged by registered Professional Engineers for professional advice or services rendered:

1. Subject to paragraph 2, every consulting engineer who is engaged by a client to perform any of the professional services described in Part A shall be paid in accordance with the scale of fees described in Part B in addition to the other payments described in Part C.
2. (1) Notwithstanding paragraph 1 and if the consulting engineer is being paid in accordance with sub-subparagraph 1(1)(a) of the scale of fees described in Part B, the scale of fees provided in Table A of sub-subparagraph 1(1)(e) of Part B shall not apply to buildings in housing development works.

(2) For housing development works, if the buildings are not more than four storeys high, the "Scale of Fees for Housing Development" published on 24th July 1997 under *Gazette* Notification No. P.U. (B) 288/1997 shall apply.
3. In this Notification, unless the context otherwise requires -

"architect" means the architect appointed by the client to act as architect for the building works;

"builder's work drawings" means the drawings prepared by the contractor for approval by the consulting engineer which show details of work of a structural nature which is required to be carried out by a builder or other party to facilitate the execution of the engineering systems in the buildings;

"consulting engineer" means any Professional Engineer or body corporate, partnership or sole-proprietorship practising as consulting engineers engaged by the client to provide professional services;

"contractor" means any person, firm or company engaged under a contract with the client to perform any work or to supply goods in connection with the works or both, and includes a sub-contractor;

"cost of works" means the cost to the client of the works however incurred including-

- (a) any payment (before deduction of any amount of liquidated damages or penalties payable by the contractor to the client) made by the client to the contractor by way of bonus, incentive or ex-gratia payments or in settlement of claims;
- (b) a fair valuation of any labour, materials, manufactured goods, machinery or other facilities provided by the client, and of the full benefit accruing to the contractor from the use of any construction plant and equipment belonging to the client which the client has required the contractor to use in the execution of the works;
- (c) the market value, as if purchased new, of any second-hand materials, manufactured goods and machinery incorporated in the works;
- (d) the cost of geotechnical investigations; and
- (e) a fair proportion of the total cost to the client of any work executed in connection

with the provision or diversion of public utilities systems which is carried out, other than by the contractor, under arrangements made by the consulting engineer, assessed with reference to the cost incurred by the consulting engineer in making such arrangements,

but shall not include-

- (aa) the administration expenses incurred by the client;
- (bb) the costs incurred by the client under the agreement between the client and the consulting engineer for professional services for the works;
- (cc) the interest on capital during construction, and the cost of raising moneys for carrying out the construction of the works;
- (dd) the cost of land and wayleaves; and
- (ee) the price variation arising from the escalation of prices as may be provided in the works contract;

“engineering system” means all mechanical and electrical services, plant and equipment installed within a building lot, and comprises as may be required such items as are listed below:

- (a) the lighting, power and electrical distribution system;
- (b) the air-conditioning and mechanical ventilation system;
- (c) the fire-fighting and prevention system;
- (d) the stage lighting system and mechanism;
- (e) the hot and cold water system;
- (f) the steam generating system;
- (g) the gas distribution system;
- (h) the telephone distribution and intercommunication system;
- (i) the lightning protection system;
- (j) the electrical sub-station;
- (k) the public address system, personnel location and call system;
- (l) the radio and television system;
- (m) the security system;
- (n) the lift, hoist, dumbwaiter and escalator;
- (o) the standby generator;
- (p) the soil and waste water piping system;
- (q) the pumping installation within the building;
- (r) the integrated building management system;

- (s) the compressed air and vacuum system; and
- (t) the refrigeration and cooling water system;

“installation drawings” means the drawings, prepared by the contractor for approval by the consulting engineer, which show details of the contractor’s proposals for the execution of the engineering system;

“multiplier” means a factor derived from the elements covering -

- (a) the annual salary;
- (b) the fringe benefits including benefits from bonuses, the Employee’s Provident Fund, Social Security Organisation, staff savings fund, subscriptions to professional institutions, leave, medical aid and insurances, seminars, conferences and workshops;
- (c) the office administrative charges and expenses including rentals, telephone and telex, facsimile and postal charges, stationery, subscriptions to journals, promotion, training and scholarships, transport costs, legal and audit fees, bank charges and idle time; and
- (d) the profits;

and, in the case of site staff recruited especially for the project, the multiplier shall be derived from the elements covering the annual salary, gratuity, benefits from the Employee’s Provident Fund and Social Security Organisation, medical aid, insurance, overhead costs and profit only;

“project” means the project of which the works form a part;

“Memorandum of Agreement” means the Memorandum of Agreement entered into between the client and the consulting engineer in connection with the provision of professional services for the works;

“quantity surveyor” means the quantity surveyor appointed by the client to act as the quantity surveyor for the building works;

“record drawings” means drawings, prepared by the contractor for approval by the consulting engineer, which show clearly the general scheme and the details of the engineering system in the building as completed;

“salary cost” means the annual salary of a person employed by the consulting engineer divided by 1800 (this being deemed to be the average annual total of effective working hours of an employee) and multiplied by the number of working hours spent by the person in performing any of the services in respect of which payment is to be made to the consulting engineer upon the basis of salary cost; and for the purpose of this definition, the annual salary of a person for a period of less than a full year shall be calculated *pro rata* to the person’s salary for such lesser period;

“structural engineering works in buildings” means all works in structural reinforced concrete, prestressed concrete, steel, timber and other materials or a combination of any of these, which are designed to transmit the weight of, and the loads on, the building to the ground and includes the foundations and excavations connected with them;

“tender drawings” means the drawings prepared by the consulting engineer in sufficient detail to enable those persons tendering to interpret correctly the design of the works and to submit competitive tenders for the execution of the works;

“the works” means the works in connection with which the client has engaged the consulting engineer to perform professional services, and which may comprise -

- (a) Type A works, namely, civil and structural engineering works (other than structural engineering works in buildings), mechanical engineering works and electrical engineering works (other than the engineering systems in buildings);
- (b) Type B works, namely, structural engineering works in buildings of more than four storeys high; and/or
- (c) Type C works, namely, engineering systems in buildings of more than four storeys high.

PART A

PROFESSIONAL SERVICES

1. (1) **Basic Professional Services (for civil and structural engineering works other than structural engineering works in buildings, mechanical engineering works and electrical engineering works other than the engineering systems in buildings)**

The professional services to be rendered by the consulting engineer in this paragraph comprise the provision of all technical advice and skills which are normally required for the works for which the consulting engineer has been engaged.

(a) ***Preliminary Stage***

The professional services to be provided by the consulting engineer at this stage comprise all or any of the following as may be necessary in a particular case:

- (i) investigating data and information relevant to the works and considering any reports relating to the works;
- (ii) advising the client on making any further topographical survey of the proposed site of the works which may be necessary to supplement available topographical information;
- (iii) advising the client on the need to carry out any geotechnical investigation which may be necessary to supplement the available geotechnical information, arranging for the investigation, certifying the amount of any payments to be made by the client to the persons, firms or companies carrying out the investigation under the consulting engineer’s direction, and advising the client on the results of the investigation;
- (iv) advising the client on the need for arrangements to be made, in accordance with subparagraph 2(1) of this Part, for the carrying out of special surveys, special investigations or model tests and advising the client of the results of any such surveys, investigations or tests carried out;
- (v) consulting any local or other approving authorities on matters of principle in connection with the works;
- (vi) consulting any architect appointed by the client in connection with the architectural treatment of the works; and

- (vii) preparing such reports and documents as are reasonably necessary to enable the client to consider the consulting engineer's proposals, including alternative proposals, for the construction of the works in the light of the investigations carried out by him at this stage, and to enable the client to apply for approval in principle from the appropriate authorities for the execution of the works in accordance with the proposals.

(b) Design Stage

The professional services to be provided by the consulting engineer at this stage comprise all or any of the following as may be necessary in a particular case:

- (i) preparing designs, including reinforced concrete and structural steel work designs, and tender drawings in connection with the works; and
- (ii) preparing such conditions of contract, specifications, schedules and bills of quantities as may be necessary to enable the client to obtain tenders or otherwise award a contract for carrying out the works.

(c) Tender Stage

The professional services to be provided by the consulting engineer at this stage comprise advising the client as to the suitability for carrying out the works of the persons, firms or companies tendering and as to the relative merits of the tenders, but excluding the relative merits of alternative tenders, prices and estimates received for carrying out the works.

(d) Construction Stage

The professional services to be provided by the consulting engineer at this stage comprise all or any of the following as may be necessary in a particular case:

- (i) advising on and preparing formal contract documents, including the letter of acceptance for carrying out the works or any part of them;
- (ii) inspecting and testing during manufacture and installation such electrical and mechanical materials, machinery and plant supplied for incorporation in the works as are necessary where the inspection and test are within the technical competence of the consulting engineer, and arranging and witnessing the acceptance test;
- (iii) advising the client on the need for a special inspection or test other than that referred to in sub-sub-subparagraph 1(1)(d)(ii) of this Part;
- (iv) advising the client on the appointment of site staff in accordance with paragraph 3 of this Part;
- (v) preparing any further designs and drawings relating to the works;
- (vi) examining and approving the contractor's proposals and his working drawings relating to the works;
- (vii) making such visits to the site as the consulting engineer considers necessary to satisfy himself as to the performance of any site staff appointed pursuant to paragraph 3 of this Part and to satisfy himself that the works are executed generally according to contract or otherwise in accordance with good engineering practice;

- (viii) giving all necessary instructions relating to the works to the contractor;
- (ix) issuing all certificates as are required in the contract;
- (x) performing any duties which the consulting engineer may be required to carry out under any document which he has prepared for the execution of the works;
- (xi) delivering to the client on the completion of the works such records and manufacturer's manuals as are reasonably necessary to enable the client to operate and maintain the works; and
- (xii) deciding any dispute or difference arising between the client and the contractor in connection with the works and submitted to the consulting engineer for his decision, provided that this professional service shall not extend to advising the client following the taking of any step in or towards any arbitration or litigation in connection with the works.

1. (2) **Basic Professional Services (for structural engineering works in buildings)**

The professional services to be rendered by the consulting engineer in this paragraph comprise the provision of all technical advice and skills which are normally required for the works for which the consulting engineer has been engaged.

(a) ***Preliminary Stage***

The professional services to be provided by the consulting engineer at this stage comprise all or any of the following as may be necessary in a particular case:

- (i) investigating data and information relevant to the works and considering any reports relating to the works;
- (ii) advising the client on making any further topographical survey of the proposed site of the works which may be necessary to supplement available topographical information;
- (iii) advising the client on the need to carry out any geotechnical investigation which may be necessary to supplement the available geotechnical information, arranging for the investigation, certifying the amount of any payments to be made by the client to the persons, firms or companies carrying out the investigation under the consulting engineer's direction, and advising the client on the results of such investigation;
- (iv) advising the client on the need for arrangements to be made, in accordance with subparagraph 2(2) of this Part, for the carrying out of special surveys, special investigations or model tests and advising the client of the results of any the surveys, investigations or tests carried out;
- (v) consulting any local or other approving authorities on matters of principle in connection with the works;
- (vi) consulting the architect appointed by the client in connection with the architectural treatment of the works;
- (vii) providing sufficient structural information to enable the architect to produce his sketch plans; and

- (viii) preparing such reports and documents as are reasonably necessary to enable the client to consider the consulting engineer's proposals, including alternative proposal, for the construction of the works in the light of the investigations carried out by him at this stage, and to enable the client to apply for approval in principle from the appropriate authorities for the execution of the works in accordance with the proposals.

(b) Design Stage

The professional services to be provided by the consulting engineer at this stage comprise all or any of the following as may be necessary in a particular case:

- (i) developing the design of the works in collaboration with the architect and others, preparing calculations, drawings and specifications for the works to enable a bill of quantities to be prepared by others, consulting any local or other approving authorities in connection with the design of the works, and preparing typical details and typical calculations; and
- (ii) preparing such calculations and details relating to the works as may be required for submission to any appropriate authority, preparing all other drawings in sufficient details to enable construction to be carried out, and advising on conditions of contract and specifications relevant to the works and on forms of tender and invitations to tender as they relate to the works.

(c) Tender Stage

The professional services to be provided by the consulting engineer at this stage comprise advising the client as to the suitability for carrying out the works of the persons, firms or companies tendering and as to the relative merits of tenders, but excluding relative merits of alternative tenders, prices and estimates received for carrying out the works.

(d) Construction Stage

The professional services to be provided by the consulting engineer at this stage comprise all or any of the following as may be necessary in a particular case:

- (i) advising on the preparation of formal contract documents relating to accepted tenders for the works;
- (ii) advising the client on the appointment of site staff in accordance with paragraph 3 of this Part;
- (iii) preparing any further designs, specifications and drawings to enable the contractor to carry out the works but shall not include the preparation of any shop details relating to the works or any part of them;
- (iv) examining and approving the contractor's proposals and working drawings relating to the works;
- (v) checking shop details for general dimensions and adequacy of members and connections;
- (vi) approving the contractor's testing procedures and inspecting the works on completion;

- (vii) advising the client or the architect as to the need to vary any part of the works;
- (viii) making such visits to site as the consulting engineer considers necessary to satisfy himself as to the performance of any site staff appointed pursuant to paragraph 3 of this Part and to satisfy himself that the works are executed generally according to contract or otherwise in accordance with good engineering practice;
- (ix) giving all necessary instructions relating to the works to the contractor;
- (x) advising on certificates of payment to the contractor;
- (xi) inspecting and testing during manufacture and installation such materials supplied for incorporation in the works as are necessary where the inspection and test are within the technical competence of the consulting engineer, and arranging and witnessing the acceptance tests;
- (xii) performing any duties which the consulting engineer may be required to carry out under any document which he has prepared for the execution of the works;
- (xiii) advising the client on the need for special inspection or test other than that referred to in sub-sub-subparagraph 1(2)(d)(xi) of this Part;
- (xiv) delivering to the client on completion of the works such records and manufacturer's manuals as are reasonably necessary to enable the client to operate and maintain the works; and
- (xv) deciding any dispute or difference arising between the client and the contractor in connection with the works and submitted to the consulting engineer for his decision, provided that this professional service shall not extend to advising the client following the taking of any step in or towards any arbitration or litigation in connection with the works.

1. (3) **Basic Professional Services (for engineering systems in buildings)**

The professional services to be rendered by the consulting engineer in this paragraph comprise the provision of all technical advice and skills which are normally required for the works for which the consulting engineer has been engaged.

(a) ***Preliminary Stage***

The professional services to be provided by the consulting engineer at this stage comprise all or any of the following as may be necessary in a particular case:

- (i) consulting any local or other approving authorities on matters of principle in connection with the design of the works;
- (ii) providing sufficient preliminary information and approximate estimates (based on unit volume, unit surface area or similar bases of estimation) regarding the works to enable the client or the architect to prepare architectural sketch plans and budget estimates for the project;
- (iii) investigating data and information relevant to the works and considering any reports relating to them;
- (iv) consulting the architect and others appointed by the client in connection

with the architectural treatment of the works; and

- (v) preparing such reports and documents as are necessary to enable the client to consider the consulting engineer's proposals, including the alternative proposals for the installation of the works in the light of the investigations carried out by him at this stage, and to enable the client to apply for approval in principle from the appropriate authorities for the execution of the works in accordance with the proposals.

(b) Design Stage

The professional services to be provided by the consulting engineer at this stage comprise all or any of the following as may be necessary in a particular case:

- (i) preparing designs and tender drawings, and providing information as to plant rooms, main service ducts and other similar elements to be incorporated in the building structure, and information as to the approximate weights of items of heavy plant and equipment which are to be incorporated in the works; and
- (ii) advising on conditions of contract, preparing specifications and schedules as may be necessary to enable the client to obtain tenders or otherwise award a contract for carrying out the works, and preparing such calculations and details relating to the works as may be required for submission to any appropriate authorities.

(c) Tender Stage

The professional services to be provided by the consulting engineer at this stage comprise advising the client as to the suitability for carrying out the works of the persons, firms or companies tendering and as to the relative merits of tenders, but excluding relative merits of alternative tenders, prices and estimates received for carrying out the works.

(d) Construction Stage

The professional services to be provided by the consulting engineer at this stage comprise all or any of the following as may be necessary in a particular case:

- (i) advising on the preparation of formal contract documents relating to accepted tenders for carrying out the works or any part of them;
- (ii) advising the client on the appointment of site staff for the purposes of paragraph 3 of this Part;
- (iii) providing the contractor with such further information as are necessary, in the opinion of the consulting engineer, to enable the installation drawings to be prepared;
- (iv) examining the contractor's proposals;
- (v) making such visits to the site as the consulting engineer considers necessary to satisfy himself as to the performance of any site staff appointed pursuant to paragraph 3 of this Part and to satisfy himself that the works are executed generally according to his designs and specifications or otherwise in accordance with good engineering practice;
- (vi) checking shop details and installation drawings;

- (vii) giving all necessary instructions to the contractor;
- (viii) advising the client or the architect as to the need to vary any part of the works;
- (ix) approving the contractor's commissioning procedures and performance tests and inspecting the works on completion;
- (x) advising on interim valuation, issuing certificates for payment to the contractor where appropriate and advising on the settlement of the contractor's final accounts;
- (xi) performing any services which the consulting engineer may be required to carry out under any document which he has prepared in relation to the works;
- (xii) delivering to the client on completion of the works, copies of record drawings, contractor's operating instructions, manufacturer's manuals, and, where appropriate, the certificate of works tests, and arranging for the delivery of spares and tools, if necessary;
- (xiii) deciding any dispute or difference arising between the client and the contractor in connection with the works and submitted to the consulting engineer for his decision, provided that this professional service shall not extend to advising the client following the taking of any step in or towards any arbitration or litigation in connection with the works;
- (xiv) inspecting and testing during manufacture and installation such materials and equipment supplied for incorporation in the works where the inspection and test are within the technical competency of the consulting engineer, and arranging and witnessing acceptance tests; and
- (xv) advising the client on the need for special inspection or test other than that referred to in sub-sub-subparagraph 1(3)(d)(xiv) of this Part.

2. (1) **Additional Professional Services Not Included In Basic Services (for civil and structural engineering works other than structural engineering works in buildings, and mechanical engineering works and electrical engineering works other than engineering systems in buildings)**

The additional professional services to be provided by the consulting engineer, if requested or consented to by the client, include the following:

- (a) (i) preparing any report or other additional documents required for consideration of proposals for the carrying out of alternative works;
- (ii) carrying out work consequent upon a decision by the client to seek or comply with amendments to existing laws affecting the works;
- (iii) carrying out work in connection with any application made by the client for any order, sanction, licence, permit or other consent, approval (not including the normal approval required from the relevant technical authorities, such as building authorities, water-works authorities, electricity authorities and telecommunications authorities) or authorisation necessary to enable the works to proceed;
- (iv) carrying out work arising from the failure of the client to award a

- contract in due time;
- (v) preparing details for shop fabrication of ductwork, metal, plastic and timber framework;
 - (vi) carrying out work consequent upon any abandonment of a contract by the contractor or upon the failure of the contractor to properly perform any contract or upon delay by the client in fulfilling his obligations or in taking any other step necessary for the due execution of the works;
 - (vii) advising the client and carrying out work following the taking of any step in or towards any litigation or arbitration relating to the works;
 - (viii) carrying out work in conjunction with others employed to provide any of the services specified in sub-subparagraph 2(1)(b) of this Part;
 - (ix) providing project management services; and
 - (x) carrying out such other additional services, if any, as are specified in the Memorandum of Agreement.
- (b)
- (i) obtaining specialist technical advice on any abnormal aspects of the works;
 - (ii) obtaining architectural, legal, cost consultancy, financial and other professional services;
 - (iii) providing services in connection with the valuation, purchase, sale or leasing of land and the obtaining of wayleaves;
 - (iv) carrying out of marine, air and land surveys other than those referred to in sub-sub-subparagraph 1(1)(a)(ii) of this Part and making model tests or special investigations; and
 - (v) carrying out special inspection or test advised by the consulting engineer under sub-sub-subparagraph 1(1)(d)(iii) of this Part.

2. (2) Additional Professional Services Not Included In Basic Services (for structural engineering works in buildings)

The additional professional services to be provided by the consulting engineer, if requested or consented to by the client, include the following:

- (a)
- (i) preparing any report or other additional documents required for consideration of proposals for the carrying out of alternative works;
 - (ii) carrying out work consequent upon a decision by the client to seek or comply with amendments to existing laws affecting the works;
 - (iii) carrying out work in connection with any application made by the client for any order, sanction, licence, permit, consent, or other approval (not including the normal approval required from the relevant technical authorities such as the building authorities, waterworks authorities, electricity authorities and telecommunications authorities), or authorisation necessary to enable the works to proceed;
 - (iv) checking and advising on any part of the project not designed by the consulting engineer;

- (v) carrying out work arising from the failure of the client to award a contract in due time;
 - (vi) carrying out work consequent upon any abandonment of a contract by the contractor or upon the failure of the contractor to properly perform any contract or upon delay by the client in fulfilling his obligations or in taking any other steps necessary for the due execution of the works;
 - (vii) advising the client and carrying out work following the taking of any step in or towards any litigation or arbitration relating to the works;
 - (viii) preparing interim or other reports or detailed valuations including estimates or cost analysis based on measurement or forming an element of a cost planning service;
 - (ix) carrying out work in conjunction with any other persons employed to provide any of the services specified in sub-subparagraph 2(2)(b) of this Part;
 - (x) preparing preliminary estimates for the works which are normally prepared by others including such persons as the architects, quantity surveyors and contractors;
 - (xi) providing project management services; and
 - (xii) carrying out such other additional services, if any, as are specified in the Memorandum of Agreement;
- (b)
- (i) obtaining specialist technical advice on any abnormal aspects of the works;
 - (ii) surveying the site or existing works and installations;
 - (iii) providing investigation on the nature and strength of existing works and the making of model tests or special investigations;
 - (iv) providing services in connection with the valuation, purchase, sale or leasing of land and the obtaining of wayleaves;
 - (v) carrying out marine, air and land surveys and making model tests or special investigations; and
 - (vi) carrying out special inspection or tests advised by the consulting engineer under sub-sub-subparagraph 1(2)(d)(xiii) of this Part.

2. (3) Additional Professional Services Not Included In Basic Services (for engineering systems in buildings)

The additional professional services to be provided by the consulting engineer, if request or consented to by the client, include the following:

- (a) (i) preparing any report or other additional documents required for consideration of proposals for the carrying out of alternative works;
- (ii) carrying out work consequent upon a decision by the client to seek or comply with amendments to existing laws affecting the works;

- (iii) carrying out work in connection with any application made by the client for any order, sanction, licence, permit, consent, or other approval (not including the normal approval required from the relevant technical authorities such as building authorities, waterworks authorities, electricity authorities and telecommunications authorities), or authorisation necessary to enable the works to proceed;
 - (iv) checking and advising upon any part of the project not designed by the consulting engineer;
 - (v) negotiating and arranging for the provision or diversion of utility services;
 - (vi) negotiating any contract or sub-contract with a contractor selected otherwise than by competitive tendering including checking and agreeing on the quantities and nett costs of materials and labour, arithmetical checking and agreeing on the added percentages to cover overhead costs and profit;
 - (vii) carrying out work arising from the failure of the client to award a contract in due time;
 - (viii) carrying out work consequent upon any abandonment of a contract by the contractor or upon the failure of the contractor to properly perform any contract or upon delay by the client in fulfilling his obligations or in taking any other step necessary for the due execution of the works;
 - (ix) carrying out special cost investigations or detailed valuations including estimates or cost analysis based on measurement or forming an element of a cost planning service;
 - (x) providing manuals and other documents describing the design, operation and maintenance of the works;
 - (xi) advising the client and carrying out work following the taking of any step in or towards any litigation or arbitration relating to the works;
 - (xii) carrying out work in conjunction with any other persons employed to provide any of the services specified in sub-subparagraph 2(3)(b) of this Part;
 - (xiii) providing project management services;
 - (xiv) preparing builder's work drawings, record drawings or any detailed schedules where necessary; and
 - (xv) carrying out such other additional services, if any, as are specified in the Memorandum of Agreement;
- (b)
- (i) obtaining specialist technical advice on any abnormal aspects of the works;
 - (ii) obtaining architectural, legal, cost consultancy, financial and other professional services;
 - (iii) surveying the site or existing works and installations;
 - (iv) providing services in connection with the valuation, purchase, sale or

leasing of land and the obtaining of wayleaves;

- (v) making model tests or special investigations;
- (vi) carrying out special inspection or test advised by the consulting engineer under sub-sub-subparagraph 1(3)(d)(xv) of this Part; and
- (vii) carrying out commissioning procedures or performance tests.

3. Supervision On Site

- (1) Unless otherwise agreed to by the approving authorities concerned, the consulting engineer shall be in full control of, and be responsible for, construction supervision of the works on site.
- (2) If in the opinion of the consulting engineer the nature of the work including the carrying out of any geotechnical and other investigations, topographic survey, and tests warrants full-time or part-time supervision on site in addition to the site visits made by the consulting engineer under to sub-sub-subparagraphs 1(1)(d)(vii), 1(2)(d)(viii) and 1(3)(d)(v) of this Part, whichever is applicable, he shall advise the client of the fact and also the desired qualification and experience which the site staff shall possess.
- (3) All site staff shall be under the control of, and take instructions from, the consulting engineer only.

PART B

SCALE OF FEES

1. Scale Of Fees For Basic Professional Services

The consulting engineer in performing the professional services described in subparagraphs 1(1), 1(2) and 1(3) of Part A shall be paid in accordance with only one of the following modes of remuneration as described in subparagraphs 1(1) and 1(2) of this Part.

(1) Payment Depending Upon The Cost Of The Works

- (a) The fee to be paid to the consulting engineer shall be an amount equal to the product of the total cost of the works times the percentage determined from the Scale of Fees set out in sub-subparagraph 1(1)(b) of this Part.
- (b) The Scale of Fees referred to in sub-subparagraph 1(1)(a) of this Part shall be as follows:

Total Cost Of Components Of The Works In The Respective Type in RM	P(max)	P(min)
100,000 & below	10.00%	8.25%
250,000	8.65%	7.45%
500,000	7.60%	6.85%
1,000,000	6.80%	6.30%
2,500,000	6.00%	5.65%
5,000,000	5.50%	5.20%
10,000,000	5.00%	4.75%

Total Cost Of Components Of The Works In The Respective Type in RM	P(max)	P(min)
20,000,000	4.65%	4.25%
25,000,000	4.50%	4.10%
50,000,000	4.25%	3.80%
75,000,000	4.10%	3.70%
100,000,000	3.95%	3.60%
150,000,000	3.70%	3.40%
200,000,000	3.55%	3.25%
250,000,000	3.40%	3.10%
300,000,000	3.30%	3.00%
350,000,000	3.20%	2.90%
400,000,000	3.10%	2.80%
500,000,000	2.95%	2.70%
600,000,000	2.85%	2.60%
700,000,000	2.75%	2.50%
800,000,000	2.67%	2.40%
900,000,000	2.60%	2.33%
1,000,000,000 & above	2.54%	2.28%

Intermediate values shall be interpolated linearly from the adjacent percentages of P(max) or P(min), as the case may be.

The actual percentage to be used in sub-subparagraph 1(1)(a) of this Part shall be a value within the range P(min) to P(max), and shall be agreed to between the client and the consulting engineer prior to the engagement. Selection of the actual percentage shall be based on the complexity of the works.

- (c) If bar bending schedules for reinforced concrete work are prepared and furnished by the consulting engineer he shall be paid an additional fee calculated at 3/4 (three quarters) percent of the cost of the reinforced concrete work for which the bar bending schedules are prepared and furnished. In this context, reinforced concrete work comprises concrete, reinforcements, prestressing tendons and anchorages, formwork, inserts and all labour, together with the relevant portion of the preliminaries.
- (d) If the works are to be constructed in more than one phase and as a consequence the services which the consulting engineer has to perform under subparagraphs 1(1), 1(2) and 1(3) of Part A have to be undertaken by the consulting engineer separately in respect of each phase, then these provisions for payment shall apply separately to each phase as if the expression “the works” as used in this paragraph means the works comprised in each phase.
- (e) If the design of any unit of works is adopted again in the construction of subsequent units by the same client under one works contract or under other works contracts at the same site or other sites under the same consultancy agreement, and the consulting engineer’s same drawings, specifications and other documents are used with or without modification of foundations to suit site conditions, the fees shall be reduced for each of the second and subsequent units in accordance with the following Tables A or B:

Table A: Applicable to Type A Works

Unit Concerned	Fees as % of the full fee for all stages for first Unit		
	For design copyright only	Up to & including tender stage	Up to & including construction stage
First Unit	(Apply subparagraph 1(1) or 1(2) of this Part, whichever is applicable)		
Second Unit	30	35	65
Third Unit	20	25	55
Fourth Unit	10	15	45
Each of the fifth and Subsequent Units	Free of charge	5	35

Table B: Applicable to Type B and Type C Works

Unit Concerned	Fees A For Structural Engineering Works (As % of fee for First Unit)	Fees B For Engineering Systems (As % of fee for First Unit)
First Unit	100	100
Each of the Second to Fifth Units	75	75
Each of the Sixth to Tenth Units	50	50
Each of the Eleventh to Twentieth Units	40	40
Each of the Twenty First and Subsequent Units	30	30

- (f) The scale of fees for repetitive work mentioned in sub-subparagraph 1(1)(e) of this Part shall be applied subject to the following conditions:
- (i) a block of shops, flats, apartments or condominium shall be considered as a unit;
 - (ii) the cost of a single unit shall be computed by including the apportioned preliminaries;
 - (iii) if it is necessary to modify the design of the standard unit to accommodate the ground level for the substructure of any repetitive unit or part of any repetitive unit due to variation in site conditions or other reasons, the modified unit shall still be considered as a repetitive unit provided that the additional work involved in modifying the design and preparation of additional drawings is paid for by the client to the consulting engineer on a time basis (i.e. salary cost times a multiplier) together with relevant disbursements as provided in paragraphs 2 and 3 of Part C; and
 - (iv) if a development has units comprising different numbers of shops, flats, apartments or condominiums of similar designs in each unit (i.e. the intermediate shops, flats, apartments or condominiums of the units having identical or mirror plans each to each, and the end shops, flats, apartments or condominiums of the units having identical or mirror plans each to each), then for the purpose of application of the Scale for repeated works prescribed in sub-subparagraph 1(1)(e) of this Part, the cost of every one of the units shall be taken as equal to the average cost of all such units of similar design including apportioned preliminaries.

(2) Payment On The Basis Of Salary Cost Times Multiplier

- (a) In respect of the provision by the consulting engineer of professional services described in the following paragraphs:

Subparagraphs 1(1), 1(2) And 1(3) of Part A	Basic Professional Services
Subparagraphs 2(1), 2(2) And 2(3) of Part A	Additional Professional Services Not Included In Basic Professional Services
Part C	Other Payments,

the consulting engineer shall be paid:

- (i) salary cost times the multiplier in respect of the times spent in providing the services by partners, consultants, and technical supporting staff; and
 - (ii) the fee for the use of computers or other special equipment under paragraph 1 of Part C.
- (b) The consulting engineer shall not be entitled to any payment in respect of time spent by secretarial staff or by staff engaged on general accountancy or administration duties in the consulting engineer's office.

2. Scale Of Fees – Additional Professional Services Not Included In Basic Services Payment For Additional Services

The consulting engineer who has rendered any of the additional professional services described in subparagraphs 2(1), 2(2) and 2(3) of Part A shall be paid in accordance with the following scale of fees:

- (a) the input of partners and consultants shall be paid for at the hourly rate or rates agreed between the client and the consulting engineer or at rates derived from the salary cost times the appropriate multiplier;
- (b) the input of technical and supporting staff shall be paid for at the rates derived from the salary cost times the appropriate multiplier;
- (c) the time spent by partners, consultants, technical and supporting staff in travelling in connection with Additional Professional Services shall be paid for as provided in subparagraphs 2(a) and 2(b) of this Part;
- (d) consulting engineer shall not be entitled to any payment in respect of time spent by secretarial staff or by staff engaged on general accountancy or administration duties in the consulting engineer’s office;
- (e) if the consulting engineer has obtained the advice of a specialist under sub-subparagraphs 2(1)(b), 2(2)(b) and 2(3)(b) of part A, the consulting engineer shall be paid by the client a co-ordinating fee of 5% of the specialist fee paid to the specialist by the client provided that such co-ordinating fee shall not be applicable when the method of payment for the professional services rendered is agreed between the consulting engineer and the client to be as described in subparagraph 1(2) of this Part.

3. Stages Of Payment Of Fees

The proportions of the total fee for the works to be paid to the consulting engineer against the relevant stages of professional services shall be as follows:

	Type A Works	Type B Works	Type C Works
1. Preliminary stage	20%	20%	20%
2. Design stage (i)	35%	35%	35%
3. Design stage (ii)	20%	20%	20%
4. Tender stage	5%	5%	5%
5. Construction stage	20%	20%	20%

Unless otherwise specified or mutually agreed beforehand between the client and the consulting engineer, the fee apportioned to each stage shall be paid in full even if, under the circumstances in a particular case, the consulting engineer is not required to perform some of the professional services listed under that stage in Part A.

PART C
OTHER PAYMENTS

1. Payment For Use Of Computer Or Other Special Equipment

If the consulting engineer is to be paid by the client -

- (a) in accordance with subparagraph 1(2) of Part B for the performance of his basic professional services described in subparagraphs 1(1), 1(2) and 1(3) of Part A or of any additional professional services described in subparagraphs 2(1), 2(2) and 2(3) of Part A; or
- (b) in accordance with subparagraph 1(1) of Part B for the performance of his basic professional services described in subparagraphs 1(1), 1(2) and 1(3) of Part A and with subparagraph 1(2) of Part B for the performance of any additional professional services described in subparagraphs 2(1), 2(2) and 2(3) of Part A,

and in both instances computers or other special equipment had been utilised for specialised designs and studies with the prior approval, or at the request, of the client, the consulting engineer shall be paid for:

- (i) the time spent in connection with the use of the computers or other special equipment, the development and writing of programmes, and the operation of the computers and other special equipment in trial and final runs, in accordance with subparagraph 1(2) of Part B, whenever applicable, or in accordance with the scale of fees described in paragraph 2 of Part B; and
- (ii) the actual hiring charge for the use of the computers or other special equipment.

2. Disbursements

The consulting engineer shall in all cases be reimbursed by the client for the disbursements actually incurred in connection with:

- (a) the printing, reproduction and purchase of all documents, drawings, maps and records;
- (b) telegrams, telex, facsimile, courier service and telephone calls other than local calls;
- (c) travelling, hotel expenses and other similar disbursements;
- (d) the advertisements for tenders and for site staff;
- (e) the provision of additional professional services to the client under sub-subparagraphs 2(1)(b), 2(2)(b) and 2(3)(b) of Part A;
- (f) the service tax as required by law for the professional fee; and
- (g) any fees, costs or charges paid by the consulting engineer to the local authority or other authorities in connection with the seeking and obtaining of statutory approvals.

3. Payment For Alteration or Modification To Design

If after the completion by the consulting engineer of his professional services under sub-subparagraphs 1(1)(a), 1(2)(a) and 1(3)(a) of Part A, whichever is applicable, any design whether

completed or in progress or any specifications, drawings or other documents prepared in whole or in part by the consulting engineer is required to be modified or revised by reason of instructions received by the consulting engineer from the client, or by reason of circumstances which could not reasonably have been foreseen, the consulting engineer shall be paid an additional payment by the client as provided in subparagraph 1(2) of Part B calculated in accordance with paragraph 2 of Part B, and also any appropriate reimbursements provided in paragraphs 1 and 2 of this Part for making any necessary modification or revision and for any consequential reproduction of documents.

4. Payment For Site Supervision

- (1) In addition to any other payments to be made by the client to the consulting engineer under Part B, the consulting engineer shall be -
 - (a) reimbursed for all salary costs made by the consulting engineer to his own staff seconded to the site in the discharge of the consulting engineer's responsibilities under paragraph 3 of Part A times a multiplier; and
 - (b) reimbursed for all salaries and wage payments made by the consulting engineer to site staff specially recruited by the consulting engineer in the discharge of his responsibilities under paragraph 3 of Part A times a multiplier, and for all other expenditures actually incurred by the consulting engineer in connection with the selection, engagement and employment of the site staff.
- (2) The consulting engineer shall also in all cases be reimbursed for the actual cost of providing such site office accommodation, furniture, telephones, equipment and transport as shall be reasonably necessary for the use of the consulting engineer's site staff, and for the actual running costs of the site accommodation and other facilities including those of any stationery, telephone calls, telegrams, telex, facsimile, courier service and postage unless they are provided by the client.

5. Payment When Works Are Damaged Or Destroyed

If at any time before completion of the works, any part of the works or any materials, plant or equipment whether incorporated in the works or not are damaged or destroyed, resulting in additional work being required by the client to be carried out by the consulting engineer, then the consulting engineer shall be paid by the client on a time basis (i.e. salary cost times a multiplier) for the additional works together with any reimbursements as provided in paragraph 2 of this Part.

6. Payment Following Termination Or Suspension By The Client

- (1) In the event of a termination or suspension by the client of the works or of the consulting engineer's services (unless in the case of the latter where the termination or suspension had been occasioned by the default or negligence of the consulting engineer), the consulting engineer shall be paid the following sums (less the amount of payments previously made to the consulting engineer):
 - (a) a sum deducible from the stage of professional services completed at the time of termination or suspension;
 - (b) a disruption charge equal to one sixth of the difference between the sum, which would have been payable to the consulting engineer under subparagraphs 1(1) and 1(2) of Part B, whichever may be applicable (as if the full scope of professional services has been completed by the consulting engineer under the terms of his engagement), but for the termination or suspension, and the sum payable under sub-subparagraph 6(1)(a) of this Part, provided that the professional services have advanced beyond the preliminary stage; and

- (c) amounts due to the consulting engineer under any other paragraphs of Part B.
- (2) If the consulting engineer is required to recommence his professional services for the works suspended by the client, the consulting engineer shall be paid for the performance of his professional services the sum payable to the consulting engineer under subparagraph 1(1) and/or subparagraph 1(2) of part B, whichever may be applicable, the payments under subparagraphs 6(1)(a) and 6(1)(c) of this Part being treated as payments on account, provided that the consulting engineer shall retain as an additional payment the disruption charge referred to in sub-subparagraph 6(1)(b) of this Part.
- (3) If tendering for the works (or any part of them) is or is likely to be delayed for more than nine months or postponed at the request of the client, then for the purpose of computing the fee to be paid to the consulting engineer for the performance of his professional services the cost of the works applicable shall be the estimated cost of the works (or any relevant part of them) at the time of completion of the design.
- (4) If the works are suspended or postponed after tenders have been called, the fees payable to the consulting engineer shall be as follows:
 - (a) for the preliminary stage, design stage and tender stage, the fees shall be computed on the lowest acceptable tender provided that if no acceptable tender is received then the fees shall be computed on the estimate made by the consulting engineer of the cost of the works at the date of calling for tenders;
 - (b) if the works subsequently resumed and the tenders recalled, the total fees payable to the consulting engineer, inclusive of the fees paid under sub-subparagraph 6(4)(a) of this Part, shall be as follows:
 - (i) for the preliminary stage, design stage and tender stage -the fees shall be as computed in sub-subparagraph 6(4)(a) of this Part; and
 - (ii) for the construction stage - the fees shall be computed on the final contract sum of the works at the time of completion of the works.
- (5) If the consulting engineer is required to perform any additional services in connection with the resumption of his professional services in accordance with subparagraph 6(2) of this Part, the consulting engineer shall be paid for the performance of the additional professional services on a time basis (i.e. salary cost times a multiplier) and also any appropriate reimbursements in accordance with paragraph 2 of this Part.

7. Payment Following Termination By The Consulting Engineer

If there is a termination by the consulting engineer of his professional services (unless the termination had been occasioned by the default or negligence of the consulting engineer), the consulting engineer shall be entitled to be paid the sums specified in sub-subparagraphs 6(1)(a) and 6(1)(c) of this Part less the amount of payments previously made to the consulting engineer.

Made 7 December 1998.

[KKR/U/26/1; PN(PU²)47/V]

DATO' IR. HAJI OMAR BIN IBRAHIM
President,
Board of Engineers Malaysia

Approved 7 December 1998.

[KKR/U/26/1; PN(PU²)47/V]

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Minister of Works