



Invitation for Bids (IFB)
High Commission of India
Grant No.COL/INF/321/50/2010



Grant Name: Renovation of Rabindra Hall at Sripalee College in Horana

Bid No.	Title	Estimated Cost SLR Mn (Excluding VAT)	Contract Period	Required Grade
No. COL/DC/228/1/2013	Renovation of Rabindra Hall at Sripalee College in Horana	41.8	240 Days	C5 or above (Building)

1. Government of India has approved a grant for **Renovation of Rabindra Hall at Sripalee College in Horana** and intends to apply part of the proceeds of this grant to payments under the Contract named above.
2. The Government of India invites sealed bids from eligible and qualified bidders for the proposed renovation and refurbishment works to the Rabindra Hall & Existing Building at Sripalee College, Horana. The work consists of renovation and refurbishment works to the Existing Building (Rabindra Hall - at Sri Palee College) having approximate Total floor area of 430.145 square metres complete with other allied works as described in the Contract.
3. Bidding will be conducted through National Competitive Bidding Procedure – Single Stage – Two envelope bidding procedure (The technical bid and the financial bid documents (**in duplicate**) should be sealed by the bidder in separate covers).
4. To be eligible for contract award, the successful bidder shall not have been blacklisted and shall meet the requirements of ICTAD registration as above.
5. Qualification requirements are provided in the Bidding Data & Contract Data.
6. Interested bidders may obtain further information from Project Officer (Development Cooperation), High Commission of India, 36-38, Galle Road, Colombo-03 and bidding documents can be seen at mission's web site www.hcicolombo.org
7. A complete set of Bidding Documents in English language may be purchased by interested bidders from the Project Officer (Development Cooperation), High Commission of India, 36-38, Galle Road, Colombo-03 from 13 May 2014 to 10 June 2014 between 0930 hrs to 1600 hrs upon payment of a non refundable fee of Rs.10,000/-. The method of payment should be made by cash.
8. Bids should be sent to the address below at registered post or by hand to the Project Officer (Development Cooperation), High Commission of India, 36-38, Galle Road, Colombo-03 on or before 11 June 2014 at 1500 hrs. Late bids will be rejected. Bids will be opened soon after closing in the presence of the bidders' representatives who choose to attend.
9. Pre Bid meeting will be held at the High Commission of India, 36-38, Galle Road, Colombo-03 at 1500 Hrs on 28 May 2014
10. Each bidder shall provide the name and contact details of an individual to act as a point of contact during the tender process. That person may be asked to clarify the bid to provide additional information during the evaluation process.

11. The High Commission of India, Colombo shall provide a copy of all questions and answers provided during the tendering process to all bidders.
12. Only communications that are in writing from the High Commission of India, Colombo may be considered as properly authorized expressions on the Mission's behalf.
13. In submitting a bid to the Mission, the bidder will be deemed to have understood this bidding document, obtained all requisite information and verified the correctness of any information to be relied upon.
14. In submitting a bid to the Mission, the bidder will be deemed to be fully informed and to have accepted the terms and conditions outlined in this tender document.
15. The bidding company and its sister company or subsidiary should not bid separately in the same bid. A certificate to this effect should be given by the bidding company at the time of bidding.
16. The decision of High Commission of India in deciding the eligibility of the company to take part in the tender process is final.
17. The Mission reserves the right to accept or reject any or all Bid(s) and to annul the bidding process, at any time, thereby rejecting all bids, prior to any Contract being awarded.
18. The High Commission of India, Colombo reserves the right to clarify without restriction with bidders on any matter contained in the bids, without disclosing this to any other person.
19. The bidders should note that in the event of Contract having been awarded, the contractor will not assign in whole or in part its rights or obligations without the prior approval of the Mission.
20. The contract will also include provisions for the bidding company to adhere to all local laws applicable. The contract will also include provisions of *Force Majeure*, termination of contract, consequences of termination and re-tendering after termination of contract.
21. Any dispute or difference regarding the interpretation of the provisions of the Agreement/Contract shall be resolved amicably between the parties. If the dispute is not resolved through mutual consultations within a period of six months, either party may refer the dispute to arbitration in accordance with the Arbitration & Conciliation Act 1996 of India as amended from time to time. The number of arbitrators shall be one and that the place of arbitration shall be New Delhi, India. In such a situation the applicable law will be the law of India. The language of the Tribunal shall be English. The cost shall be borne by the parties equally unless otherwise determined by the Arbitral Tribunal.
22. All bids shall be accompanied by a Bid Security as in the Bidding Data.

INSTRUCTIONS TO BIDDERS

Note:

Instructions to Bidders applicable to this Contract are those given in Section-01 of the Standard Bidding Document for Procurement of Works, Published by Institute for Construction Training and Development (Publication No. ICTAD/SBD/01 Second Edition – January, 2007) including Addendum 01 issued in October, 2009 and Addendum 02 issued in February, 2011.

This publication will not be issued with this Bidding Document. Bidder is advised to purchase from ICTAD.

Instruction to Bidders shall be read in conjunction with Bidding Data under Section – 05 (Volume-02).

Instruction to Bidders will not be part of the Contract and will cease to have effect once the Contract is signed.

G. BIDDING DATA

Instructions to Bidders

Clause Reference

(1.1)

The Employer is:

Name : The High Commission of India

Address: 36-38, Galle Road,
Colombo 03.

The Works consists of:

Renovation and refurbishment Works to the Existing Building, (Rabindra hall) at Sripalee College having approximate Total floor area of 430.145 square meters (approximately) within a period of **240 calendar days**, further shown on the Drawings and described in the Bills of Quantities.

Located at: Sripalee College, Aguruwathota Road, Horana.

(1.2)

Intended Completion Date is 240 Days from the Start Date.

(1.3)

The office for collection of bid forms is:

Project Officer (Development Cooperation), The High Commission of India
36-38, Galle Road, Colombo 03.

The non-refundable tender fee is SLR 5,000/-

The tender will be issued from 13th May 2014 to 10th June 2014

(2.1)

The source of funds is form Government of India

(4.2)

The registration required:

Specialty **"Building Construction"**
Grade **C5**

(4.3)

The following information shall be provided in Section 04:

- * ICTAD Registration;
Registration number / Grade / Specialty / Expiry Date
- * VAT Registration number
- * Construction Programme
- * Legal Status (Attach copies of Memorandum of Articles/Association and details of company registration/ Incorporation of the Company/ Business registration for sole proprietor or partnership)
- * Authorization to sign / commit the Bid (Attach Power of Attorney or Board Resolution)
- * Average Annual turnover of construction work performed for each of the last five years;
- * Experience in works for a similar nature and complexity during last 05 years.
- * Major items of construction equipment proposed to carry out the Contract;
- * Qualifications and experience of key site management and technical personnel proposed for the Contract;
- * any other.

(4.4)

To qualify for the award of the Contract, the Bidders shall meet the following criteria.

- * Average annual turnover of construction work performed in the last five years shall be at least **Rs. 70 Million**
- * Experience in the construction of at least one contract of a nature and complexity similar to the proposed works as a Main Contractor during last 05 years. Recent Documentary evidence obtained from Client should be attached as proof for the above which should include Project cost, time duration taken to complete the Project, number of stories and date of completion etc.
- * Major items of Construction Equipment proposed.

Concrete Mixer, Portable Generator, Vibrator, Bar Bending & Cutting M/C, Material Hoist, Tractor, Water Pumps.

- * Technical and Managerial Staff;

1. TECHNICAL (SITE)

- (i) Engineer with NDT (in Civil Engineering) or equivalent with 05 years experience-01 person.
- (ii) Quantity Surveyor with NCT (in Quantity Surveying) or equivalent with 05 years experience-01 person.

2. MANAGERIAL(HEAD OFFICE)

Construction Manager with B.Sc. Degree in Civil Engineering with 05 years Construction Management experience.

- * The minimum amount of liquid assets and/or credit facilities after setting apart for other Contractual commitments and exclusive of any advance payments which may be made under this contract shall not be less than SLR 20 million and required to mention utilization balance for this contract.
- * Details of work in hand of the Bidder duly attested in the form of an affidavit should be provided. The Statement showing the value of existing commitment for on-going works as well as stipulated time period remaining for each of the works listed should be countersigned by the Engineer / Consultant.
- * Documentary proof to establish the availability of working Capital requirement for the work in hand should be furnished. (Generally working Capital required for the work in hand is considered as 20% of value of work in hand)
- * The total value of work in hand at the time of closing of the Bid including corrected Bid Price of this Contract should not exceed the ICTAD registration value of the Bidder.
- * Even though the Bidder meets the above qualifying criteria they are subjected to be disqualified, if they have made misleading or false statements in proof of the qualification requirements.
- * Non submission or partial submission of the Document listed above shall lead to rejection of the Bid.
- * Bidders who are listed as a defaulter in the Credit information Bureau of Sri Lanka shall be rejected.

(9.1)

Employer's address for the purpose of clarification is;
The High Commission of India, 36-38, Galle Road, Colombo 03.

(11.1)

The language of the bidding document shall be English

(13.3)

VAT component shall not be included in the rates. The amount written in the Form of Bid shall be without VAT. However VAT component shall be shown separately at the end of the Grand Summery of the Bills of Quantities

If, any bidder is not registered for VAT, he shall indicate the net value of the bid. Under this category bidder shall obtain a letter from the Commissioner General of Inland Revenue Department certifying that the company has not been registered for VAT and attach to the bid. Any bidder who does not comply with this requirement will be liable for rejection of his bid.

(13.4) This Contract is **not subjected to Price adjustment** in accordance with Clause 47 of the Conditions of Contract.

(15.1) The Bid shall be valid up to 120 days

(16.1) Bid shall include a Bid Security using the form included in Section 9.

(16.2) Bid Security shall be:
* for an amount of Sri Lanka Rupees 850,000/- (Eight Hundred and Sixty Thousand only)
* valid up to 150 days
* Bid Security shall be issued by a reputed commercial bank operating in Sri Lanka or an agency acceptable to the Employer, using the form for Bid Security (Unconditional and on-demand Guarantee)

(17.0) A Pre-Bid meeting will take place at the Office of the
The High Commission of India
36-38, Galle Road, Colombo 03
On 28th May 2014 at 1500 hrs.

(19.2)a The Employer's address for the purpose of Bid submission is:
The Project Officer (Development Cooperation)
The High Commission of India
36-38, Galle Road, Colombo 03

The sealed Bids shall be sent by registered post to the above address or deposited in the above address before the dead line for submission of Bids

(19.2)b **Contract name: Proposed Renovation and Refurbishment Works to Rabindra Hall and Conversion of Existing Building at Sripalee College – Horana**

Contract No. COL/DC/228/1/2013

(20.1) The deadline for submission of Bids shall be at 1500 hrs on 11th June 2014
(34.0) The amount of Performance Security is 10% of the Initial Contract Price.

(36.0) Any dispute or difference regarding the interpretation of the provisions of the Agreement/Contract shall be resolved amicably between the parties. If the dispute is not resolved through mutual consultations within a period of six months, either party may refer the dispute to arbitration in accordance with the Arbitration & Conciliation Act 1996 of India as amended from time to time. The number of arbitrators shall be one and that the place of arbitration shall be New Delhi, India. In such a situation the applicable law will be the law of India. The language of the Tribunal shall be English. The cost shall be borne by the parties equally unless otherwise determined by the Arbitral Tribunal.

CONDITIONS OF CONTRACT

Conditions of Contract that will be applicable for this Contract are those given in Section - 03 of the Standard Bidding Document for Procurement of Works, Published by Institute for Construction Training and Development (Publication No. ICTAD/SBD/01 Second Edition – January, 2007) including Addendum 01 issued in October, 2009 and Addendum 02 issued in February, 2011.

This Publication will not be issued with this Bidding Documents. Bidder is advised to purchase from ICTAD.

Condition of Contract shall be read in conjunction with Section – 05 Contract Data (Volume-02) of the Bidding Document which shall take Precedence over the Conditions of Contract.

CONTRACT DATA

(Please note that the Clause numbers given hereunder are that of Conditions of Contract. The information given under Contract Data will take precedence over the condition of contract)

(1.1)

The Employer is:

Name: The High Commission of India

Address: 36-38, Galle Road, Colombo 03.

Name of Authorized Representative:

Name: Director (Engineering Services)

Address: Ministry of Education
Isurupaya, Pelawatta,
Battaramulla

(1.1)

The Works consists of:

Renovation and refurbishment Works to the Existing Building, (Ravindra hall) at Sripalee College having approximate Total floor area of 430.145 square metres (approximately) within a period of **240 calendar days**, further shown on the Drawings and described in the Bills of Quantities.

(1.1)

The Site is Located at: Sripalee College, Aguruwathota Road, Horana.

(1.1)

The Start Date shall be **14 days** from the issue of the Letter of Acceptance

(2.3)

The following documents also form part of the Contract:

1. Pricing Preambles
2. Instruction on Supervision of Works
3. Warranties and Billing Formats

(8.1)

Schedule of other contractors: None

Name	Period
.....
.....
..... None.....	..... None
.....

(9.1)

Schedule of Key Personnel;

Minimum Persons with Qualifications and Experience to be defined. (Head Office and Site Staff)

(a) Technical (Site)

- (i) Engineer with NDT (in Civil Engineering) or equivalent with 05 years experience-01 person.
- (ii) Quantity Surveyor with NCT (in Quantity Surveying) or equivalent with 05 years experience-01 person.

(b) Manager (Head Office)

Contract Manager with BSc Degree in Civil Engineering and 05 years Contract Management Experience.

- (13.1) The minimum insurance covers shall be:
- (a) The minimum cover for insurance of the Works and of Plant and Materials is **110% of the initial Contract Price**.
The maximum deductible for insurance of the Works and of Plant and Materials is **5% of initial Contract Price**
 - (b) The minimum cover for loss or damage to Equipment is full replacement cost.
The maximum deductible for insurance of Equipment is 5% of minimum cover for Equipment.
 - (c) The minimum cover for insurance of other property (other than the site) is Rs.5,000,000/=
 - (d) The minimum cover for personnel injury or death
for Third party and Employees of the Employer and other persons engaged by the Employer in the Works is Rs.1,000,000/= per event.

- (13.2)
- (a) The minimum cover for the personal Injury or death
 - Contractor's employees other than workmen is Rs.1,000,000/- per event
 - For the Contractor's workmen is Rs.1,000,000/- per event

- (17.1) The Intended Completion Date for the whole of Works shall be 240 Calendar Days from the Start Date.

(19.2) **Health and Safety Protection**

The contractor shall take all necessary precautions to protect the health and safety of all persons on, and surrounding the site, including but not limited to the following.

- (a) Ensuring that its employees and subcontractors wear protective clothing and use safely equipment when constructing the Works, such as protective footwear, helmets, eye goggles and gloves;
- (b) Ensuring that its employees and subcontractors do not engage in any unsafe work practices;
- (c) Providing any temporary works which may be necessary for the protection of person on or surrounding the Site, such as roadways, footpaths, fencing and lighting; and
- (d) Providing first aid facilities on Site for the immediate treatment of injuries

- (21.1) The Site Possession Date shall be immediately from the signing of contract

- (27.1) The Contractor shall submit a revised Programme in MS Project for the Works within **14 days** of delivery of the Letter of Acceptance.

(27.1) a **Add Clause 27.1 a – (Macro Programme Chart)**

The Work Plan (Macro Programme) in MS Project given on page- 61 of the Document is the Planed Worked Programme by Built Environment Consultants. It is a typical specimen Format showing the General Methods, Arrangements, Order and Timing for all the Activities in the Works, within the time stated in Clause 17.1 above.

However, the Contractor could change the Programme to suit his work plan in his Programme in MS Project the order the Number of Items, the Target, Timing and the Sequence of the Activities.

(27.1) b Work Force Records and Rainfall Records

Two different Ledgers should be maintained for these purpose at the Site Office. All the records of number of workers in different trades working on a daily basis, should be maintained at the site office and it should be signed by the Resident Agent of the Contractor and the Site representative of the Architects. This register should not be removed from the site office and should be available to be seen by the Officers of the Architect and the authorised Officers of the Owner. Similarly, rainfall records should be maintained in a register on a daily basis.

A small description of the work disturbed in each block by rain should be stated and such a statement should be signed by the Contractor's Resident Agent, Architect's representative at site on the very same day.

(27.3) The period between Programme update is **Monthly**.

(27.4) The amount to be withheld for late submission of an updated Programme is **2% of initial Contract Price**.

(35.1) The Defects Liability Period is **365 Calendar Days**.

(39.2) Engineer / Architect may order variations in consultation with the Employer.

(42.1) a Monthly Bills - FORMAT

Contractor should submit his monthly valuation in a format given by BUILT ENVIRONMENT CONSULTANTS. Specimen Forms are attached. (see page 32 to 43)

(42.1) b Contractor's Billing for Payment

Contractor's Billing should follow the Clauses as given in General Conditions and Clauses as given in Particular Conditions and the following instructions.

1. Prior to submitting the Bill, the Contractor should submit measurements (in 4 sets) of all work done, each set in a firmly bound booklet form having a printed hard cover, complying with the following instructions and the printed hard cover should have the name of the project, the client and the contractor name, claim No. and the month and each copy marked as Client, Consultants, Contractors and site copy.
2. All measurement sheets should be numbered with the Claim No. as a prefix eg. 4/13 of 19.
3. Details of work done during the month to be entered clearly in ink under the respective columns of the specimen measurement sheet and the total quantity done during the month computed. If work had been done earlier on a particular item, this quantity should be carried forward from the previous month's measurement sheets with the reference clearly indicated if such quantity is carried forward.
4. No corrections should be made by the Contractor to his own measurement. If the need arises, a fresh sheet should be used.

5. Measurements should be clearly indicated leaving alternate Columns/lines vertically for corrections to be made by the Architects/Engineer.
6. Measurements for different items and different floors should preferably be on separate pages.
7. A summary sheet should be attached giving the total quantity claimed for each item and the pages of the measurement sheets covering such measurements.
8. When an item is completed, the note, "FINAL MEASUREMENT" should be clearly indicated on the top of the measurements and reference to earlier approvals may be given by page by page numbers, But all measurements should be repeated in full so as to constitute an independent and complete document.
9. The corrected measurements with the signature of the Contractor and Architects in a standard caption will be issued to the Contractor who will prepare the bill using these corrected and approved measurements.
10. In items not involving measurements for payments, where payments are to be made on percentages, as far as possible measurements should be given so that these will form the basis for arriving at a percentage.
11. In items where no such measurements are possible, a statement "ITEM COMPLETED" should be given.
12. The Valuation as per sample form given by the Architect should be filled in a similar original form prepared by the Contractor after the measurements are approved.
13. Corrected measurement sheets, valuation sheets and any other relevant documents such as illustrations, purchase receipts etc. should be submitted along with all interim bills with reference.
14. When claims are made for price variations of labour and material, the relevant labour gazette or price list photocopies should be forwarded in the same number of copies as the bills.
15. The 21 days referred to in Clause 42.2 of Conditions of Contract shall commence from the date of submission of the full bill which should include all attachments referred to above. (ie. corrected measurement sheets, valuation sheets, copies of price lists, illustrations, labour gazettes and all documents necessary for evaluation purposes). The bill will be accepted only if all these above said conditions are complied.

(44.1) The following events shall also be compensation events;

1. Exceptional adverse weather conditions
2. Other special circumstances determined by the Engineer as compensation events.

(47.1) The Contract Price is not subjected to price adjustment

Weightings of Inputs

(48.1) The retention from each payment shall be **Ten (10%) percent** of the Certified Value of work done.

The limit of retention shall be **Five (5%) percent** of the Initial Contract Price.

(49.1) The liquidated damages for the whole of the Works shall be 0.01% of the initial contract price per day.

The Maximum amount of liquidated damages for the whole of the works shall be **Ten (10 %) percent** of the Initial Contract Price.

- (51.1) The advance payment guarantee should be **unconditional on demand** and shall be from reputed commercial bank registered with the Central Bank of Sri Lanka or any other acceptable organization by the employer.
- (51.2) 75% of the Advance money so received be utilized to purchase Building Materials required for the project, which items to be identified by the Architect and the balance money could be utilized as per clause 51.2.
- (52.1) The Performance Security shall be Ten (10%) percent of the Initial Contract Price and only from a reputed Commercial Bank operating in Sri Lanka.
- (58.1) Schedule of operation and maintenance manuals for Water Pumps and Generator and As-Built Drawings shall be furnished by the Contractor upon the completion of works as directed by the Engineer / Architect and before the date of Certificate of Completion.
- (58.2) The warranties for the following works shall be submitted by the Contractor in writing according to the Specimen forms given in Contract Data as stated below if applicable:
- Electrical wiring and wires – Five years (05)
 - Pipe works – Two years (02)
 - Paint works – Two years (02)
 - Guarantee for Pumps and Motors – One Year (01)
 - Timber works – Ten years (10)
 - Waterproofing treatment – Ten years (10)
 - Pre-construction soil treatment against Termites – Ten Years (10)
 - Aluminium units and Glass to Windows, Doors, Partitions etc. – Ten years (10)
- (60.1) The percentage to apply to the value of the work not completed, representing the Employer's additional cost for completing the Works, is **Twenty Five (25%) percent**.
- (63.7) The attendance fee payable to the Contractor on nominated subcontractors work, shall not be exceeded 8% on certified amount by the Engineer / Architect.
- (65.0) **Add Clause 65.0 – (Special Conditions of Contracts)**
- (65.1) **Environmental Protection and Minimization of Community Disruption**
- The Contractor shall:
- (a) take all necessary precautions to avoid causing damage to the environment when constructing the Works;
 - (b) rectify any environmental damage on or surrounding the Site, including unlawful pollution, arising from or in connection with the acts or omission of the Contractor's employees, subcontractors and/or agents; and
 - (c) take all necessary precautions to minimize the impact of construction on school children surrounding communities, including noise.
- (65.2) **Child Protection Protocols**
- The Contractor shall comply with Child Protection Protocols, and ensure that its Employees, Sub-Contractors and agents comply with such protocols at all times when carrying out Works under this Contract.
- Definition** : A minor is any person who is less than 18 years old. The **"Contractor" includes all people who are working under contract on a paid or voluntary basis on any project funded by the Employer.**

The Protocols below applies to all minors whom the Contractor comes into contact with while working at the Sri Palee College project. This will include :

- Minors in and around the site in which the Contractor is working;
- Minors visiting site to meet any person;
- Minors who approach the Contractor while the Contractor is working

The Child Protection Behaviour Protocols are as follows:

- Behaviour with minors should not be intimate in any manner
- Unwelcome flattering or making suggestive comments to minors will not be allowed
- To stay overnight alone with one or more non-related minors is not permitted;
- Contractors must not employ minors to carry out the Works under this Contract.

The following inappropriate conduct towards minors will not be tolerated and will constitute grounds for termination of a contract by Employer.

- Verbal conduct such as derogatory comments or sexual advances, invitations, or using power and authority to abuse should not be done.
- Visual conduct such as derogatory posters, pornography of any kind, cartoons, drawings or gestures, any form of written/verbal communication should not be done;
- Physical conduct such as uninvited or unwanted blocking normal movement as well as taking a child to the project site should not be done
- Threats or demands to the child to submit to sexual requests should not be done
- Involvement in one-to-one counselling with minors and children concerning personal problems must be avoided.

The Contractor must ensure that the following core principals are applied:

- Exploitation and abuse by the Contractor constitute acts of gross misconduct and are therefore grounds for termination of contract;
- Sexual activity with minors is prohibited regardless of the age. Mistaken belief in the age of a child is not a defence;
- Exchange of money, employment, goods, or services including sexual favours or other forms of humiliating, degrading or exploitation is prohibited. This includes exchange of assistance that is due to beneficiaries;
- Sexual relationships between the Contractor and beneficiaries are strongly discouraged.
- Where the Contractor develops concerns or suspicion regarding abuse or exploitation by a fellow worker, He must report such concerns to Employer's child protection officer and the Technical Officer, and
- The Contractor is obliged to support the creation and maintenance of an environment, which prevents exploitation, and abuse of children when carrying out its work under the contract.

(65.3)

Protection and Maintenance of Civil Society Harmony

The Contractor shall ensure:

- a) To take all necessary precautions to Maintain the peaceful Harmony and the Co-existence of the Civil Society Living in the Neighbour Hood and the Surrounding areas of his Work / Construction Site; School Children and Teachers in the School.
- b) That his staff, Sub-contractor & its Staff, and Supplier's Staff from creating or causing to create by words, deeds, action or any means individually or collectively to hurt the feelings and bring disharmony on grounds of Race, Language, Religion, Culture and Custom, practiced by the Civil Society living in the neighbour-hood and the surrounding areas of this Work / Construction Site.
- c) That his Staff, Sub-contractor & its Staff and Supplier's Staff does not get involved or take part in any political activities to cause Disharmony, Violence or Riots and bring disruptions to the Work progress and delays.

FORM OF BID

Name of Contract: Proposed Renovation and Refurbishment Works to Rabindra Hall & Conversion of Existing Building to a Reference Library at Sripalee College – Horana.

To:
.....,
.....

Gentleman,

1. Having examined the Standard Bidding Document – Procurement of Works [ICTAD/SBD/01 – Second Edition, January 2007 including addendum 01 issued in October, 2009 and Addendum 02 issued in February, 2011], Specifications, Drawings and Bills of Quantities and Addenda for the execution of the above-named Works, we the undersigned, offer to execute and complete such Works and remedy any defect therein in conformity with the aforesaid Conditions of Contract, Specifications, Drawings, Bills of Quantities and addenda.....
.....for the sum of Sri Lankan.....
Rupees.....
(LKR.....) or such other sums as may be ascertained in accordance with the said Conditions.

2. We acknowledge that the Contract Data forms part of our Bid.

3. We undertake, if our Bid is accepted, to commence the Works as stipulated in the Contract Data, and to complete the whole of the Works comprised in the Contract within the time stated in the Contract Data.

4. We agree to abide by this Bid for the period of **Ninety One (91) Calendar Days** from the date fixed for receiving or any extended period and it shall remain binding upon us and may be accepted at any time before the expiration of that period.

5. Unless and until a formal agreement is prepared and executed this Bid, together with your written acceptance thereof, shall constitute a binding contract between us.

6. We accept / we do not accept the Adjudicator.

7. We understand that you are not bound to accept the lowest or any Bid you may receive.

Dated thisday of.....20..... in the capacity ofduly authorized to sign tenders for and on behalf of

(Name of the Company –In Block Capitals)

(Name of Company)

by Power of Attorney / Board resolution (certified copies attached)

Signature :

Name :

Designation :

Address :

Date :

Bidder's Seal

Witnesses

(Company Seal)

1. Signature :
Name :
Address :
Date :

2. Signature :
Name :
Address :
Date :

QUALIFICATION INFORMATION

(To be completed and submitted by the bidder, with the Bid)

ICTAD Registration	
Registration Number	(Attach copies of relevant pages from the registration book)
Grade	
Speciality	
Expiry Date	
Blacklisted Contractors	
Have you been declared as a defaulted contractor by NPA or any other Agency? (Yes/No)	
IF yes provide details	
VAT Registration Number	
Construction Program* (Work Plan on MS Project (See Page....) refer Contract Data 27.1a – Page-.... You may change or add the item in the Work Plan given in Page 66 to suit your Programme.)	(attach as an annex to your Bid)
Legal status	(attach relevant status copies, as annex)
Value of Construction works performed in last 5 years*	(attach certified copies of certificate of Completion etc., and other document such as profit-loss, income expenditure statement & audited financial statement etc.
Year	
Year	
Year	
Year	
Year	
Value of similar works completed in last 05 years (indicate only the three largest projects)	1. Value Year 2. Value Year 3. Value Year (attach certified copies of Certificate of Completion etc., as annex)
Major items of construction equipment proposed	1. Type Capacity..... 2. Type Capacity..... 3. Type Capacity..... 4. Type Capacity..... 5. Type Capacity.....
Qualification and Experience of key staff-Site & Head Office (Permanent, Contract basis & Consultants)*	Technical: 1. 2. 3.
	Managerial: 1. 2. 3.
Other information requested under ITB Clause -4	

ELECTRICAL INSPECTION TEST REPORT

1. Name of Project :
2. Address of Site :
3. Name of Electrical Contractor :
4. Name of Electrical Superintendent
Supervised the Works :
5. Telephone Number :
6. Name of Electrician who wired :
7. Telephone Number :
8. Date checked on :

ITEM	DESCRIPTION	YES	NO
1	Connection of conductors		
2	Identification of conductors		
3	Routing of cables in safe Zones or protected against mechanical damage		
4	Selection of conductors for current and voltage drop		
5	Connection of single-pole devices for protection or switching in phase conductors only		
6	Correct connection of socket-outlets and lamp holders		
7	Presence of fire barriers and protection against thermal effects		
8	Method of protection against electric shock		
8a	Protection against both direct and indirect contact		
	SELV		
	Limitation of discharge of energy		
8b	Protection against direct contact		
	Insulation of live parts		
	Barrier or enclosure		
	Obstacles		
	Placing out of reach		
	PELV		
8c	Protection against indirect contact		
8c(i)	Earthed equipotential bonding and automatic disconnection of supply		
	Presence of earthing conductors		
	Presence of protective conductors		
	Presence of main equipotential bonding conductors		
	Presence of supplementary equipotential bonding conductors		
ITEM	DESCRIPTION	YES	NO

8c(ii)	Use of class II equipment or equivalent insulation		
8c(iii)	Non-conducting location		
	Absence of protective conductors		
8c(iv)	Earth-free local equipotential bonding		
	Presence of earth-free equipotential bonding conductors		
8c(v)	Electrical separation		
9	Prevention of mutual detrimental influence Proximity of non-electrical services and influences		
	Separation of Band I and II circuits or Bank II insulation used		
	Separation of fire alarm and emergency lighting cables		
10	Presence of correctly located appropriate devices for isolating and switching		
11	Presence of under voltage protective devices where appropriate		
12	Choice and setting of protective and monitoring devices (for protection against indirect contact and / or over current)		
	Residual Current Devices		
	Over-current Devices		
13	Labelling of protective devices, switches and terminals		
14	Selection of equipment and protective measures appropriate to external influences		
15	Adequacy of access to switchgear and equipment		
16	Presence of danger notice and other warnings		
17	Presence of diagrams instructions and necessary information		
18	Erection methods		
19	Requirements of special locations		

1.0 ELECTRICAL WRING OF THE ABOVE BUILDING HAS BEEN TESTED BY ME ON
..... (INSERT DATE)

2.0 ANY OTHER OBSERVATIONS :
.....
.....

.....
SIGNATURE OF CHARTERED ELECTRICAL ENGINEER

NAME :
TEL. NO :
FAX NO :
ADDRESS :
DATE :

**SEAL OF CHARTERED
ELECTRICAL ENGINEER**

SPECIMEN FORMS OF WARRANTIES

(To be typed on the Contractor's letter head)

.....,
.....,
.....,
.....,
.....,
.....

(Name, Designation and Address of the Employer or Employer's Authorized person)

Dear Sir,

WARRANTY FOR ELECTRICAL WIRING

1. PROJECT:

.....

2. LOCATION:

3. DATE OF PRACTICAL COMPLETION:

.....

4. EFFECTIVE PERIOD OF WARRANTY: From:
To:

.....

We hereby certify that all wiring was carried out according to the drawings and specifications of the Contract and to the current requirements of the Institution of Electrical Engineers-London Wiring Regulations, the Ceylon Electricity Board Regulations and the relevant Local Authority. We are forwarding herewith the Megger Reading Certificates for each Unit of the Project certified by a Chartered Electrical Engineer.

We confirm that all Circuit Diagrams were checked by the Chartered Electrical Engineer who certifies the Megger Readings & the same Circuit Diagrams are being printed and laminated and fixed to the relevant Circuit Boards.

In terms of this warranty any faults detected within the next **Five Years** due to faulty wiring and/or fault of the wires will be replaced and/or repaired free of charge.

We will not be liable if the fault is due to overloading of the conductors.

Yours faithfully,

.....

Signature of Managing Director/Partner

Name of Signatory:-

Date :

Company Seal

(To be typed on the Contractor's Letter Head/OR on the Letter Head of the Chartered Electrical Engineer who is authorized to certify this Test Certificate)

NOTE: Engineer may use his own Format instead of this Format if it is acceptable to the CEB or the relevant Electricity Company of the Area.

ELECTRICAL WORKS

INSPECTION/TEST CERTIFICATE

.....;
.....;
.....;
.....;
.....;
.....;

I certify that the Electrical Installation at the has been inspected and tested in accordance with the requirements of I.E.E. Regulations for the Electrical Equipment of buildings and that the results are as indicated below:-

(1) The Installation consists of the following.

- a. Lamps: Nos.
- b. Fans: Nos.
- c. Bells: Nos.
- d. 5 Amp. socket outlets Nos.
- e. 15 Amp. Socket outlets Nos.
- f. 15 Amp. Cooker Points Nos.
- g. 30 Amp. Cooker Points Nos.
- h. Motors: Single phase/three phase Hp.
- i. Others:
- j. Description of Premises:-

Residence/Business/Office/Religious.

- (2)
- a. Size of master main switch:
 - b. Size of load wire:
 - c. No. of final sub circuits:

- (3)
- a. Continuity, Polarity and Standard Colour Coding throughout the installation are correct.
 - b. All single - pole control devices are in live conductors only.
 - c. Earth leakage protection is afforded by an earth – Leakage circuit breaker, the Operation of which is effective.
 - d. The earth loop impedance at the Consumer's terminals is..... ohms.
 - e. All flexible cords, switches, fuses, plugs and socket – outlets are in good serviceable condition.
 - f. There is no sign of overloading of conductors or accessories.

- (4) The insulation resistance of the installation of each part of the installation is not less than 01M.ohm.

,

Insulation
resistance of each

Between all poles
connected together

Between
poles

part is as follows

and earth

.....
.....
.....
.....
.....
.....
.....
.....
.....
.....

.....
.....
Signature of Chartered Electrical Engineer

Engineer's Seal

Name of Engineer :

Membership Number

Address :

.....

.....

.....

Date :

.....

(To be typed on the Contractor's letter head)

.....,
.....,
.....,
.....,
.....,
.....

(Name, Designation and Address of the Employer or Employer's Authorized person)

Dear Sir,

WARRANTY FOR PIPE WORKS

1. PROJECT:

.....

2. LOCATION:

.....

3. DATE OF PRACTICAL
COMPLETION:.....

4. EFFECTIVE PERIOD OF WARRANTY: From

.....

To

We hereby certify that all pipe work such as Water Supply pipes, Waste Water, Sewerage and Drainage Pipes have been constructed as per the Drawings and Specifications according to the Plumbing Regulations and other requirements of the relevant Local Authorities. We warrant that all these pipes will perform free of leaks during the next **Two Years** and would repair/replace any section not found to perform up to the required standards, bearing all direct and indirect expenses.

Yours faithfully,

.....

Signature of Managing Director/Partner

Name of Signatory:-

Date :

Company Seal

(To be typed on the Contractor's letter head)

.....,
.....,
.....,
.....,
.....,
.....

(Name, Designation and Address of the Employer or Employer's Authorized person)

Dear Sir,

WARRANTY FOR PAINTING AND DECORATING WORK

1. PROJECT:
.....

2. LOCATION:
.....

3. DATE OF PRACTICAL COMPLETION:
.....

4. EFFECTIVE PERIOD OF WARRANTY: From
.....
To
.....

We are forwarding herewith guarantees obtained from the Manufacturer/ Agent in favour of the Employer. We hereby certify that the whole of the Oil Paint, Emulsion Paint, Bituminous Paint, Whether Shield Paint, Enamel Paint and the like used upon the work for Internal & External Work on this project has been carried out according to the Specification of the Contract and to the Manufacturers Specification and procedure given below. We warrant that all the Painting & Decorating Work will not Discolour, Peel off or Fade off during the next **Two Years** and would repair, repaint rectify and make good any areas not found to perform up to the required standards, bearing all direct and indirect expenses to rectify the defect and any other area damaged as a result of the faults will also be repaired at our own cost.

Description of Painting Material used & Method of Application

.....
...
.....
...
.....
...
.....
...
.....
...

Treatment Procedure used is given below

(a) Surface Preparation:

.....
.....
...
.....
...

(b) Chemical used and
quantities:.....

.....
.....
...
.....

(c) Application procedure
used:.....

.....
.....
...
.....

Yours faithfully,

.....

Signature of Managing Director/Partner

Name of Signatory:-

Date:

Company Seal

(To be typed on the Contractor's letter head)

.....,
.....,
.....,
.....,
.....,
.....

(Name, Designation and Address of the Employer or Employer's Authorized person)

Dear Sir,

WARRANTY ON PUMPS AND MOTORS INSTALLED

1. PROJECT:
.....

2. LOCATION:
.....

3. DATE OF PRACTICAL COMPLETION:
.....

4. EFFECTIVE PERIOD OF WARRANTY:
From:.....
To:
.....

5.

	Make of the Pumps	Model	Serial Number
a.			
b.			
c.			
d.			
e.			
f.			

We are forwarding herewith guarantees for the above pumps installed with the Maintenance Manuals.

We confirm that the pumps installed are in accordance with the above specifications and we would replace and/or repair any not performing to the manufacturer's specification within **One Year** of installation.

Yours faithfully,

.....

Signature of Managing Director/Partner

Name of Signatory:-

Date:

Company Seal

(To be typed on the Contractor's letter head)

.....,
.....,
.....,
.....,
.....,
.....

(Name, Designation and Address of the Employer or Employer's Authorized person)

Dear Sir,

WARRANTY FOR ALL TIMBER WORK

1. PROJECT:
.....

2. LOCATION:
.....

3. DATE OF PRACTICAL COMPLETION:
.....

4. EFFECTIVE PERIOD OF WARRANTY:
From:.....
To:
.....

We hereby certify that all timber used on this Project has been kiln seasoned and treated for insect attacks according to the Architect's specifications. Certificates covering seasoning and pressure impregnation are attached herewith. If within the next **Ten years** any of the Timber rots, gets warped, if attacked by insects, or becomes unusable as a result of any other defects, we will replace, repair and make good bearing all direct and indirect expenses involved and any other part that becomes defective as a result of defective timber at our Own Cost.

Please note that this Warranty applies to new Timber used by our contract but this warranty does not apply to old timber on this works.

Yours faithfully,

.....

Signature of Managing Director/Partner

Name of Signatory:-

Date:

Company Seal

(To be typed on the Contractor's letter head)

.....,
.....,
.....,
.....,
.....,
.....

(Name, Designation and Address of the Employer or Employer's Authorized person)

Dear Sir,

WARRANTY FOR WATERPROOFING TREATMENT TO WATER-TANK FLOOR SLAB, CONCRETE WASH-TROUGHS, CONCRETE SUNSHADE

1. PROJECT:
.....

2. LOCATION:
.....

3. DATE OF PRACTICAL COMPLETION:
.....

4. EFFECTIVE PERIOD OF WARRANTY:
From:.....
To:
.....

We are forwarding herewith guarantees obtained from the Manufacturer/ Local Agent in favour of the Employer. We hereby certify that the Waterproofing treatment work of Water-Tank Floor Slab, Concrete Wash-troughs, Concrete Sunshade on this project has been carried out by

.....
.. ofunder the Direction and Supervision of Products Manager of the said Company, according to the Specification of this Contract and to the manufacturer's specification and the procedure given below. We warrant that all the Waterproofing Treatment Work will prevent any leaks during the next **Ten Years** and would repair, replace rectify and make good any section not found to perform up to the required standards, bearing all direct and indirect expenses to rectify the defects and any other area damaged as a result of the leaks will also be repaired at our own cost.

The Offered Guarantee will be invalid due to the following reasons:

- i. Any type of damage of failure to the structure and the surface where the treatment is carried out
- ii. Damage to the structure by Acts of God or Natural Causes

Description of Waterproofing Material used & Method of Application

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...

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...
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.....
...

Treatment Procedure used is given below

(a) Surface Preparation:

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...
.....
...

(b) Chemical used and quantities:

.....
.....
....
.....
....

(c) Application procedure used:

.....
.....
.....
.....

Yours faithfully,

.....

**Signature of Managing Director/Partner
of Treatment Company**

M/s.

.....
Name of Signatory:
Date:

Company Seal

.....

**Signature of Managing Director
Main Contractor**

M/s.

.....
Name of Signatory:
Date:

Company Seal

(To be typed on the Contractor's letter head)

.....,
.....,
.....,
.....,
.....,
.....

(Name, Designation and Address of the Employer or Employer's Authorized person)

Dear Sir,

WARRANTY FOR PEST CONTROL AND SOIL TREATMENT

1. PROJECT:
.....

2. LOCATION:
.....

3. DATE OF PRACTICAL COMPLETION:
.....

4. EFFECTIVE PERIOD OF WARRANTY:
From:.....
To:
.....

We hereby certify that the Pest Control and Soil Treatment has been carried out by
.....
ofunder the Direction
and Supervision of Managing Director of the said Company, in
accordance with the specifications of the contract and in accordance to the manufacturer's
specifications and procedure given below.

We hereby guarantee the work performed for the next **Ten Years**. If any white ants or any other insects
attack any part of the building, we will retreat and repair any damage caused to any part of the Building
at our Own Cost.

Treatment Procedure used is given below

(a) Surface Preparation:
.....
.....
.....
...

(b) Chemical used and quantities:
.....
.....
....

.....
....

(c) Application procedure used :

.....
.....
....
.....
....

Yours faithfully,

.....
**Signature of Managing Director/Partner
of Treatment Company**

M/s.

.....
Name of Signatory:
Date:

Company Seal

.....
**Signature of Managing Director
Main Contractor**

M/s.

.....
Name of Signatory:
Date:

Company Seal

(To be typed on the Contractor's letter head)

.....,
.....,
.....,
.....,
.....,
.....

(Name, Designation and Address of the Employer or Employer's Authorized person)

Dear Sir,

WARRANTY FOR FLOOR FINISHES

1. PROJECT:

.....

2. LOCATION:

.....

3. DATE OF PRACTICAL COMPLETION:

.....

4. EFFECTIVE PERIOD OF WARRANTY:

From:.....

To:

.....

We hereby certify that Floor Finish was carried out according to the Drawings and Specifications of the Contract and to the Instructions of the Supplier of

.....under
the direction ofof the said Company.

In terms of this warranty any Floor Surface cracks, peeling off due to faulty application of the Chemical Treatment will be replaced and/or repaired free of charge during the next **FIVE YEARS**.

We will not be liable if the fault is due to very heavy hammering over the Floor.

Treatment Procedure used is given below

(a) Surface Preparation:

.....
.....
.....
.....

(b) Chemical used and quantities:

.....
.....
.....

.....
....

(c) Application procedure used :
.....
....
.....
....

Yours faithfully,

.....
**Signature of Managing Director/Partner
of Floor Finishing Company**
M/s.

.....
**Signature of Managing Director
Main Contractor**
M/s.

.....
Name of Signatory:
Date:

.....
Name of Signatory:
Date:

Company Seal

Company Seal

(To be typed in the Contractors letter head)

.....,
.....,
.....,
.....,
.....,
.....

(Name, Designation and Address of the Employer or Employer's Authorized person)

Dear Sir,

**WARRANTY FOR ALUMINIUM UNITS AND ROLLER SHUTTER DOORS, GLASS TO WINDOWS,
DOORS AND PARTITIONS**

1. PROJECT:
.....

2. LOCATION:
.....

3. DATE OF PRACTICAL COMPLETION:
.....

4. EFFECTIVE PERIOD OF WARRANTY:
From:.....
To:
.....

We hereby certify that the Aluminium Roller Shutter Doors including Hardware Fittings and Locks on this project has been carried out according to the Specifications of the Contract and to the Manufacturers specifications and instructions.

We warrant against faulty workmanship and material, faulty expansion joint, installation, structural failure and distortion of the installation, non-uniformity of surface finish, water penetration, corrosion, body finish, inferior and defective other parts, defects or design faults during the next **TEN YEARS** and shall replace, rectify or make good any defects which may occur during the guarantee period, bearing all consequential expenses on our own.

Yours faithfully,

.....

Signature of Managing Director/Partner

Name of Signatory:-

Date :

Company Seal

SECTION – 02

STANDARD FORMS (CONTRACT)

- Letter of Acceptance
- Agreement
- Performance Security
- Advance Payment Security
- Retention Money Guarantee

Notes on Standard Forms:

- Bidders shall submit the completed Form of Bid Security in compliance with the requirements of the bidding documents.
- Bidders should not complete the Form of Agreement at the time of preparation of bids.
- The successful bidder will be required to sign the Form of Agreement, after the award of contract.
- Any corrections or modifications to the accepted bid resulting from arithmetic corrections, acceptable deviations, or quantity variations in accordance with the requirements of the bidding documents should be incorporated into the Agreement.
- The Form of Performance Security, Form of Advance Payment Security and Form of Retention Money Guarantee should not be completed by the bidders at the time of submission of bids.
- The successful bidder will be required to provide these securities in compliance with the requirements herein or as acceptable to the Employer.

FORM OF LETTER OF ACCEPTANCE

..... [date]

[LETTER HEADING PAPER OF THE PROCURING ENTITY]

To:
[name and address of the Contractor]

This is to notify you that your bid dated [date] for the construction and remedying defects of the
[name of the Contract and identification number] for the Contract price of Rupees
..... [amount in figures and words] as corrected in accordance with Instructions to Bidders and/or modified by a Memorandum of Understanding, is hereby accepted.

The adjudicator shall be [name and address of the Adjudicator If agreed] / shall be appointed by the Institute for Construction Training and Development (ICTAD).

You are hereby instructed to precede with the execution of the said Works in accordance with the Contract documents.

The Start Date shall be: (fill the date as per Conditions of Contract).

The amount of Performance Security is: (fill the amount as per Conditions of Contract).

The Performance Security shall be submitted on or before (fill the date as per Conditions of Contract).

Authorized Signature :

Name and title of Signatory :

Name of Agency :

STANDARD FORM: AGREEMENT

This AGREEMENT, made the[day] day of [month] 20..... [year] between
.....
.....
[name and address of Contractor] (hereinafter called "the contractor") of the other part.

WHEREAS the Employer desires that the contractor execute.....
.....[name and identification number of contract] (hereinafter called
"the Works") and the Employer has accepted the Bid by the Contractor for the execution and completion of such Works
and the remedying of any defects therein.

NOW THIS AGREEMENT WITNESSETH as follows:

01. In this agreement, words and expressions shall have the same meetings as are respectively assigned to them in the conditions of Contract hereinafter referred to and they shall be deemed to form and be read and construed as part of this Agreement.
02. In consideration of the payment to be made by the Employer to the Contractor as hereinafter mentioned, the Contractor hereby covenants with the Employer to execute and complete the Works and remedy any defects therein in conformity in all respects with the provisions of the Contract.
03. The Employer hereby covenants to pay the Contractor in consideration of the execution and completion of the Works and the remedying of defects wherein the Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.

In Witness whereof the parties thereto have caused this Agreement to be executed the day and year aforementioned, in accordance with Law of Sri Lanka.

.....
Authorized Signature of Contractor

.....
Authorized Signature of Employer

Common Seal

Common Seal

In the Presences of
Witnesses:

01. Name and NIC No.....
Signature
Address
.....
02. Name and NIC No.....
Signature
Address
.....

FORM OF PERFORMANCE SECURITY

(Unconditional)

.....
[Issuing Agency's Name and Address of Issuing Branch or Office]

Beneficiary:
[Name and Address of the Employer]

Date:

PERFORMANCE GUARANTEE NO:

We have been informed that [name of Contractor]
(hereinafter called "the Contractor") has entered into Contract No..... [reference number
of the contract] dated with you, for the
[insert "construction"] of [name of contract and brief
description of Works] (hereinafter called "the Contract").

Furthermore, we understand that, according to the conditions of the Contract, a performance guarantee is
required.

At the request of the Contractor, we [name of Agency] hereby
irrevocably undertake to pay you any sum or sums not exceeding in total an amount of
.....[amount in figures] (.....
.....) [amount in words], upon receipt by us of your first demand in writing accompanied by a
written statement stating that the Contractor is in breach of its obligation(s) under the Contract, without your
needing to prove or to show grounds for your demand or the sum specified therein.

This guarantee shall expire, not later than the day of 20 [insert date, 28 days beyond
the Intended Completion Date] and any demand for payment under it must be received by us at this office on or
before that date.

.....
[Signature(s)]

FORM OF ADVANCE PAYMENT SECURITY

.....
[Name and address of Agency, and Address of Issuing Branch or Office]

Beneficiary:
[Name and Address of the Employer]

Date:

ADVANCE PAYMENT GUARANTEE NO:

We have been informed that [name of Contractor]
(hereinafter called "the Contractor") has entered into Contract No.....
[reference number of the contract] dated with you, for the Construction of
..... [name of contract and brief description]
(hereinafter called "the Contract").

Furthermore, we understand that, according to the conditions of the Contract, an advance payment in the sum
..... [amount in figures] (.....
.....) [amount in words] is to be made against an advance
payment guarantee.

At the request of the Contractor, we [name of issuing agency]
hereby irrevocably undertake to pay you any sum or sums not exceeding in total an amount of
.....[amount in figures] (.....
.....) [amount in words] upon receipt by us of your first demand
in writing accompanied by a written statement stating that the Contractor is in breach of its obligation in
repayment of the Advance payment under the Contract.

The maximum amount of this guarantee shall be progressively reduced by the amount of the advance payment
repaid by the Contractor.

This guarantee shall expire on (insert the date, 28 days beyond the Intended
Completion Date)

Consequently, any demand for payment under this guarantee must be received by us at this office on or before
that date.

.....
[Signature(s)]

FORM OF RETENTION MONEY GUARANTEE

.....
[Issuing Agency's Name, and address of Issuing Branch or Office]

Beneficiary:
[Name and Address of the Employer]

Date:

RETENTION MONEY GUARANTEE NO:

We have been informed that [name of Contractor]
(hereinafter called "the Contractor") has entered into Contract No..... [reference number
of the contract] dated with you, for the execution of[name of
contract and brief description of Works] (hereinafter called "the Contract").

Furthermore, we understand that, according to the conditions of the Contract, when the works have being taken
over and the first half of the Retention Money has been certified for payment, payment of the second half of the
retention Money may be made against a Retention Money guarantee

At the request of the Contractor, we [name of agency] hereby
irrevocably undertake to pay you any sum or sums not exceeding in total an amount of
.....[amount in figures] (.....
.....) [amount in words] upon receipt by us of your first demand
in writing accompanied by a written statement stating that the Contractor is in breach of its obligation under the
Contract because the Contractor has not attended to the defects in accordance with the Contract.

This guarantee shall expire, at the latest, [insert date, 28 Days after the end of the
Defects Liability Period] Consequently, any demand for payment under this guarantee must be received by us at
this office on or before that date.

.....
[Signature(s)]

PRICING PREAMBLES

PRICING PREAMBLES

(To apply to all items in this Bills of Quantities)

1.0 GENERAL

1.1 Rates must be net but otherwise comprehensive

1.1.1 The rates for each item of measured work must be net otherwise comprehensive and must include for complying with the details on the Drawings, description in the Specification and the Bills of Quantities, cover all the obligations under the Contract and all matters and things necessary for the proper Construction, Completion and Maintenance of the Works inclusive of Over heads and Profit. applicable to all items Priced gross, Exclusive of VAT Components. No claims for additional payment will be allowed for any error or misunderstanding by the Contractor of the work involved. The VAT Component to be indicated separately and added on the Grand Summary Page No.

1.1.2 The rates for each item must allow for complying in all respects with the requirements as stated above and include for all the following:

- (a) Labour and all costs in connection therewith.
- (b) Materials and goods including all costs in connection other than, where materials and goods supplied by the Owner
- (c) Fitting and fixing materials and goods in position including hoisting to any height or lowering to any depth.
- (d) Use of plant, equipment and tools and all costs in connection therewith.

1.1.3 Where the word "Allow" occurs the cost of the items shall be at the risk of the Contractor.

1.2 Units of measurements

1.2.1 The units of measurements are the Metric System.

1.2.2 In the Bills of Quantities the following abbreviations have been used.

mm	Millimetre	m ³	Cubic Metre
m	Metre	nr.	Number
m ²	Square Meter	kg	Kilogram

1.3 All Quantities Net

All quantities will be the net measurement as fixed in position. The Contractor must allow in his rates for all laps, waste and trade or any traditional allowances. Laps necessary in reinforcement will however be paid.

1.4 Discrepancies between Drawings, Specifications and Bills of Quantities

In the event of any discrepancy between the details on the Drawings, description in the Specification or in the Bills of Quantities, then the item shall be deemed to have been priced in accordance to the order of priority given in the condition of contract clause 2.3 (page 38).

1.5 Attendance on Nominated Sub-Contractors supplying and fixing goods and materials

The expression "Add for attendance" in respect of Nominated Sub-Contractors supplying and fixing goods and materials as used hereinafter shall be deemed to include on the part of the Contractor the following:

1.5.1 Allowing free use of standing scaffolding, mess rooms, sanitary accommodation and welfare facilities; providing office accommodation and sheds for storage of plant and materials; inclusive of necessary lighting, power and water, providing light and water for their work; clearing away all rubbish. If the Contractor should strike any scaffolding before ascertaining whether it is required by any Sub Contractor, he will have to re-erect it, if so required, at his own expense.

- 1.5.2 (a) Provision of all Transport for Labour, Plant and materials at Site
- (b) i. Taking delivery at the Site of all materials Plant Equipment and Tools.
ii. Unloading or providing assistance thereof
iii. Getting in stacking or placing adjacent to the works or under cover, where the nature of the materials is such that they may be damaged by inclement weather.
- (c) Provision of all necessary Labour and plant for general assistance in unloading, hoisting and distributing materials and plant for Nominated Sub-Contractors, for the provision of all necessary information and assistance, for setting out, and for the provision of adequate and proper working space.
- (d) Provision of electric power
- (e) Provision of all general facilities and supplies inclusive of fuels for testing the Nominated Sub-Contractors' Work.

1.5.3 The Contractor shall obtain from Nominated Sub-Contractors their requirements for recesses, chases holes and the like so that these may be formed correctly as the work proceeds. In the event of Contractor failing to obtain and/or use this information, no extra charges shall be allowed for cutting recesses, chases holes and the like and making good after in-completed or partially completed work.

1.5.4 The amounts to be set against "profit" on work executed by Nominated Sub-Contractors are also to include for Overheads and all additional fees and charges in connection with Letter of Credit, Bank Charges and Interest.

1.6 **Materials for the works**

1.6.1 Trades/Brands Names given in the Body of the B.O.Q. for Various Items

- (a) Eventhough particular Trade/Brand Names are been used in the Specification, Pricing Preambles and the Body of the B.O.Q. for various items if S.L.S.I. certified Materials are available, They could be used.
- (b) Wherever Trade Names or Brands are mentioned the ENGINEER may give AUTHORITY to use EQUIVALENT MAKE subject to the prior APPROVAL OF THE CONSULTANTS.

1.7 **Fixing only Items**

1.7.1 The expression "Fix Only" as used hereinafter in connection with goods or materials provided by a nominated Sub-Contractor supplying only goods and materials shall be deemed to include on the part of the Contractor for taking delivery, paying all landing and other charges including customs duty, loading and transporting to Site,

unloading, getting in, stacking or storing under cover, where the nature of the materials is such that they may be damaged by exposure to the weather, the full cost of replacing all items that are damaged, broken, lost or stolen from the time that the Contractor accepts delivery of the items until the works are handed over to the Employer, taking from store, distributing to Job Site, handling, hoisting and fixing in position.

1.7.2 The rates for “Fix Only” for materials expressly described as supplied by the Employer shall be deemed to include on the part of the Contractor for allowing for Overheads and Profit, the full cost of replacing all items that are damaged, broken, lost or stolen from the time that the Contractor has accepted delivery of the items until the Works are handed over to the Employer, taking delivery, loading and transporting to Site, unloading at site, getting in, stacking or storing under cover where the nature of the materials is such that they may be damaged by exposure to the weather, taking from store distributing to Job Site handling, hoisting and fixing in position.

1.8 **Facilities for Other Contractors**

1.8.1 The expression “Allow for Builders Work” as used hereinafter in connection with work executed by a Specialist Contractor shall be deemed to include on the part of the Contractor for providing all Materials, Labour, Plants and Workmanship including cutting and forming holes, and the like, matrices, sinking and the like, cutting chases, cutting out plasterwork, plain concrete, reinforcement concrete and the like, Brick work and Block work and the like, provision of and building in of all necessary pipe sleeves, cutting and fitting and making good and patching up all disturbed tile or other floor wall and ceiling finishes including all disturbed structural work to match the existing finishes to the original state and to the approval of the Architect/Engineer.

1.8.2 The expression “Provide for Attendance for” as used hereinafter in connection with work executed by a Specialist Contractor shall be deemed to include on the part of the Contractor for providing

- (a) Usage of Storage space for goods with safe & locked Rooms
- (b) Usage of Contractors Scaffolding or other plant on the Site
- (c) All associated Water, Electrical Lighting and Power
- (d) All necessary information for executing the specialist Contractor's Work.

1.9 **As Built Drawings**

The Contractor shall submit Original negative and **Five (05)** Sets of prints of approved 'AS BUILT/FIXED DRAWINGS' of the Project showing such things as level of foundations routing of services, invert levels of pipes, manholes, septic tanks etc, Water supply lines and fittings, Waste water lines and fittings, Sewerage & Night soil disposal lines system, Electrical Installation and wiring etc. at the handing over of the completed works. Such drawings shall be in the form of reproducible negatives executed in Black ink on approved plastic membranes eg. 'Permatrace' and including **Five (05)** sets of prints. This presentation shall be put in hand during the early stage of installation of the services in order that they may be altered and adjusted concurrent with the progress of the work and be completed at the time of hand over. All monies outstanding at the time of completion of the works shall be withheld from the contractor pending absolute and satisfactory completion of these drawings and the final handing over to the Architect/Engineer.

1.10 **Protection**

Rates are to include for protection of the Works as necessary during Construction and for handing over the Works in a clean and undamaged condition to the satisfaction of the Architect/Engineer.

2.0 **PRELIMINARIES**

- Note :-** 1. THE CONTRACTOR SHALL EXCLUDE THE TOTAL SUMS QUOTED FOR PRELIMINARY ITEMS OF BILL NO. 1 FROM HIS JOB OVERHEAD PERCENTAGE (%) COMPONENT OF THE OVERHEAD AND PROFITS PERCENTAGE.
2. THE VALUE OF SERVICES AND OBLIGATIONS INVOLVED IN ALL THE ITEMS, IN THE BILL FOR PRELIMINARIES SHALL NOT BE INCLUDED IN RATES OR PRICES IN OTHER BILLS OF QUANTITIES BUT SHALL BE PRICED IN THEIR TOTALITY IN THIS BILL.
- (a) The Contractor shall quote a Lump Sum or **Rate including Overheads and Profits excluding the VAT component for the items included in the Bill for Preliminaries.** The items shall be priced individually and where any item has not been priced it will be deemed that the value of such item is included elsewhere. Where the Contractor considers that an item has no financial value he shall insert the Word "NIL".
- (b) The Rates In each item in the Bill for Preliminaries shall cover for proper execution and maintenance of such work for the entire construction period including any time extensions, for which no additional payment will be allowed.
- (c) The Architect/Engineer reserves the right to decide on the quantum of payment on the Interim Payment Certificate taking into consideration the balance commitments on the respective items until the completion of the Contract depending on the progress of work and other factors.
- (d) In the event of Variation of the Scope of Work, the Architect/Engineer on behalf of the Employer reserves the right to negotiate the Tender in respect of the prices inserted herein.
- (e) The Total of the Bill for Preliminaries shall be carried to the Grand Total Summary Sheet and No Overheads and Profits shall be added to this total at that stage.

3.0 **EXCAVATION AND EARTHWORK**

(Refer General Specification Nos. 2.1 to 2.6 & 2A, 2B)

Rate for excavation shall include for :-

- (a) Excavating by whatever means are necessary, including hand excavation in any type of ground including boulderised ground but not including rock, whether above or below water table level. Excavating trenching and pits, for foundation column bases, and the like will be measured commencing from reduced levels and not from existing levels where formation levels are below existing levels and commencing from existing levels and not made up levels where formation levels are above existing levels.
- (b) Trimming sides, support to sides, keeping free from all water by means of pumping, bailing or other suitable means, cleaning and consolidating ramming bottoms and sides of bases and trenches etc. and leveling or grading to slopes and falls.
- (c) Backfilling and carting away surplus materials as directed
- (d) Rock is any material met which in the opinion of the Architect/Engineer, of such size or position that it must be broken up by means of wedges, compressed air or other special plant or explosives, before it can be removed.

- (e) Rock excavation for any additional trimming or appropriate backfilling to provide the specified or approval formation and profile, necessitated by the uneven breaking up of the rock.
- (f) Compacted fill and hardcore for grading to slopes and falls, hand packing to form vertical or battered faces and for forming sinkings and consolidation under slabs or sub-floor layers.
- (g) All fill material for testing to determine its maximum dry density and optimum moisture content. The maximum dry density shall be in excess of 1.76 gms/cc (110/ft³) for the selected fill material.
- (h) All filling spread in layers not exceeding 300mm (12 inch) thickness. Watered where necessary to adjust the moisture content to facilitate compaction and compacted to achieve 95% of the Standard Proctor dry density, for carrying out in-situ density tests at regular intervals to ensure that an adequate degree of compaction is maintained.
- (i) Tamping rollers for compacting the fill. The weight of the roller shall be as specified to obtain the required compaction between 8 to 10 passes. Vibratory rollers are to be used for compacting areas inside the Building and Roadways.

4.0 **CONCRETE WORK** (Refer General Specification Nos. 4.0 & 5.0)

Rates for concrete work shall include for:-

- (a) Site mixed concrete for weight batching and mixing in an approved mixing machine fitted with an approved water metering device. The capacity of the machine and type for use to be approved by the Engineer. (Listed in Appendix, Schedule of Constructional Plant, Tools & Vehicles for the sole use of the works.)
- (b) Special reference is invited to section 4.3.1.1 of the Specifications. Gauge Boxes for measuring the materials for mix by Volume shall be of size and quality as specified and approved by the Engineer.
- (i) For Measuring Aggregate the internal dimensions of the boxes shall be 400mm x 350mm x 250mm height.
- (ii) For Measuring Cement the unit of measurement shall be a bag of 50Kg and this shall be taken as 0.035 m³.
The Contractor should not use any other methods for measuring the materials. While measuring the aggregate, shaking ramming or heaping shall not be done.
- (c) Special reference is invited to section 5.4.9 of the Specifications (Work tests). All expenses incurred by the Contractor on these tests shall be provided for under Item No. 1.9.2 of Bill No.1 PRELIMINARIES.

The Architect/Engineer will however at his discretion withhold a percentage of the Rate payable for each of the Concrete Items until the tests are completed satisfactorily and the Results submitted.
- (d) Mixing, hoisting and placing in position at required levels
- (e) Filling into shuttering and working around reinforcement
- (f) Vibrating adequately or as directed
- (g) Finishing to required slopes and falls

- (h) Tamping or leaving the surface ready for screed or pavings
- (i) Curing, protecting and making good all defective surfaces
- (j) Forming chamfers, cutting or forming chases and grooves, rebates, throats, splays, cutting or forming mortices and pockets and grouting with cement, casting in pipes, conduits, sleeves, metal sections and the like or forming holes and subsequently making good around pipes, ducting and fittings and for forming holes or openings.
- (k) Forming any construction joints including any necessary shuttering
 - (l) All expansion joints when indicated on the drawings or otherwise directed by the Architect/Engineer shall include for formwork and all expenses in forming the joint.
 - (m) Waterstops and Waterbars for all mitres, angles intersections and crosses and for all necessary joints and welding.
 - (n) Mastic joint sealants for cleaning and priming contact surfaces all necessary bond breakers mixing and applying by an approved method in accordance with the manufacturers instructions to horizontal, sloping, vertical and overhead surfaces.
 - (o) Polythene sheeting and compressible joint fillers for working on narrow widths, for straight raking and circular cutting, for notching around all obstructions, for laps and sealing of joints.
 - (p) Pre-cast units for moulds and for forming a fair face to all exposed surfaces as specified or hacking all other surfaces to form key for rendering, etc. and hoisting to any height including providing any lifting holes or other devices to the approval of the Architect/Engineer building in, including bedding and joining in mortar or on felt bearing pads as required and any necessary strutting and supporting.
 - (q) Pre-cast Concrete sills thresholds and copings and the like are to include for angles and fair ends.
 - (r) READY-MIXED CONCRETE where specified for all transporting, providing pumping, pouring, placing and for all wastes and all other related expenses, unless otherwise specified. The Ready-mixed concrete shall comply in all respect with B.S. 1926 and B.S. 8110 and shall be from an approved source/supplier approved by the Architect/Engineer.
 - (s) Plain (un-reinforced) concrete for all necessary shuttering to edges, sides, and sloping top surfaces exceeding 15° from horizontal where required.

5.0 **REINFORCEMENT**

(Refer General Specification No. 5.0)

Rates for reinforcement shall include for:-

- (a) All rod reinforcement for supplying, straightening as necessary, cutting to length, wirebrushing, and cleaning, bending as required, fabricating, hoisting and fixing in positions during concreting all necessary reinforcement as indicated in drawings or as described.

- (b) All steel binding wire, spacers, cover blocks, approved distance pieces etc.
- (c) Rolling margins and all splicing, laps etc. in reinforced steel other than designed laps.
- (d) All fabric reinforcement for all straight, raking and circular cutting, notching around all obstructions, fabric reinforcement sheets are to overlap by two meshes quantities are measured net.
- (e) The Contractor for preparing the bar bending schedule and satisfying himself and getting the approval of the Architect/Engineer before cutting and bending the reinforcements. A typical specimen format form is attached.

6.0 **FORMWORK**

(Refer General Specification No. 5.0)

Rates for formwork shall include for:-

- (a) The design of formwork and its construction shall be the sole responsibility of the Contractor.
- (b) Fixing and removal of all necessary formwork inclusive of timber planking, props, struts, joists, stays, ties, wedges etc.
- (c) Coating with shutter oil of approved manufacture or any other approved material, easing, striking, and removing, clearing, preparing for re-use and removal when no longer required.
- (d) Work in narrow widths and small quantities
- (e) All overlaps, passing at angles and labour at intersections
- (f) All fillets to form grooves and throats, splays, raking, circular cutting, and cutting around all pipes, ducting and fittings.
- (g) Making good all blemishes and finished concrete surfaces after striking
- (h) Formwork for 'fair-faced' finish to, in addition to the requirements above for forming a fair face to the concrete in accordance with the specifications.
- (i) Formwork to areas that do not receive any plasterwork to conform to the requirements of clause 'h'.
- (j) Formwork for 'fair-faced' finish with Phenolic-resin bounded plywood sheets to obtain a uniform smooth fair faced finish.

7.0 **BRICKWORK & BLOCKWORK**

(Refer General Specification Nos. 6.0 & 7.0)

Rates for rubble, bricks or blockwork shall include for:-

- (a) All cutting, plumbing at angles, bonding at angles and intersections and toothing or building into adjacent work, wedging and pinning up to soffit, including any special blocks at angles, intersections, next to openings or for closing.
- (b) Forming rebated reveals, coves, corbelling etc.
- (c) Square cutting and raking joints for plastering
- (d) Filling with concrete the cavities for a block length from reveal of any openings and intersection and for providing whatever the Contractor deems necessary to prevent concrete cast on top of hollow block walls and cavity walls falling into the cavities.
- (e) Cutting or forming chases or grooves for slabs, partitions, staircase etc. Building in or cutting and pinning in and making good around ends of lintels, timbers, steel work, concrete structures and the like.
- (f) Fair facing on brick and block walling for jointing or pointing of any description and for all works to reveals, ends, returns and top of walls.
- (g) Damp-proof courses for working in narrow widths and small quantities, for all straight, circular and raking cutting and for bedding and pointing.
- (h) All expansion joints when indicated on the drawing or otherwise directed by the Architect/Engineer all expenses in forming the joint.

8.0 **ROOFING**

(Refer General Specifications Nos. 8.0, 8.1, 8.2, 12.0, 17.5, 17.6 & 17.7)

Rates for roofing shall include for:-

- (a) Hoisting and fixing at any given level or height the covering materials (tiles or sheets) for all mitres, notchings and working around metal sections, framing and similar obstructions and, for cutting all holes and openings etc, for pipes, conduits, sleeves, ducting and the like.
- (b) All timber framing such as reepers, rafters, purlins, wall plates, ridges, hips, valley rafters, etc. unless otherwise specified. Framed timbers are to include for properly framing glueing, dowelling, tenoning morticing, and screwing at joints as necessary. Structural timbers are to include for all cutting and fitting to metal section and for trimming around openings.
- (c) Roof coverings and linings are to include for all straight, circular and raking cutting and waste and for dressing into around gargoyles, roof outlets, obstruction and the like.
- (d) Hoisting, placing and fixing in position the roof framework, trusses and the like.
- (e) All necessary nails, spikes, screws, metal connectors, bolts, nuts etc.
- (f) Galvanised iron "J" bolts, nuts, limpets and bituminous felt washers
- (g) Priming and treating all concealed surfaces before fixing
- (h) All timber for roof and ceiling work for impregnating in a bath of approved wood preservative for a period of minimum five days prior to hoisting into position.
- (i) All cut edges of timber to work position for applying with minimum of Two thick Coats of approved wood preservative prior to jointing or nailing.
- (j) Proprietary roofing and metal flashings and weatherings, for all angles, ends short lengths except where formed in a different quality or gauge of metal.

- (k) Insulation boards and quilts for working in narrow widths, and small quantities, for all straight, circular and raking cutting, for all notchings and working around metal sections, framing and similar obstruction, and for cutting all holes and openings etc. for pipes, conduits, sleeves, ducting and the like.

9.0 **CARPENTRY AND JOINERY**

(Refer General Specification Nos. 8.0, 8.3 to 8.12 & 10.0 & 14.0)

Rates for Carpentry and Joinery shall include for :-

- (a) Working to the stated sizes and cross sectional profile, short lengths, mitres, joints and ends and fixing with nails or screws unless otherwise described. Cutting and fitting to steel work, trimming around openings, notching and boring and sinking for bolts and nuts.
- (b) Forming all rebates, grooves, Chamfers, splays, etc., to each worked face described. Pencil rounding corners of sections upto 3mm radius shall be deemed to be included with the items.
- (c) All Labour in framing, fabricating, hoisting, and fixing in position
- (d) Fitting and hanging to frames and lining all the components of Doors and Windows, Composite Units, Screens, Casements, Hatches and the like.
- (e) Frames, Mullions, Transomes, Rails, Linings, and the like for properly framing, glueing, dowelling, tenoning morticing and screwing at joints as necessary trimming and treating all concealed surfaces and for bedding in Cement Mortar where required.
- (f) Doors and Windows as per detailed drawings or as specified complete with best quality approved heavy duty oxidized brass Ironmongery.
- (g) Mild steel Holdfasts/Rawl plugs, Concrete spur stones, and dowels
- (h) All necessary nails, screws, nuts, bolts etc.
 - (i) All 'selected' hardwood carpentry and joinery for keeping the material so described clean for clear or stain finishes.
 - (j) All 'selected' wrought hardwood carpentry and joinery pinned or nailed for punching heads below the surface and filling with an approved filler to match the colour of the wood.
 - (k) All 'selected' wrought hardwood carpentry and joinery described as screwed for fixing with brass screws, Countersinking and pelleting in grain unless otherwise specifically described.
 - (l) Items described as plugged for building in hardwood or proprietary plugs at suitable centres, to brickwork, blockwork or concrete.
 - (m) Items in plywood, blockboard, chipboard, laminerboard, plastics laminate or similar sheet materials for all work in narrow widths and small quantities, for all straight, circular and raking cutting, for all mitres, notchings and working around metal sections, framing and similar obstructions, and for cutting all holes and openings.
- (n) Priming and treating all concealed surfaces before fixing
 - (o) Treating all timber work with two coats of wood preservative where necessary or applicable or as directed.
 - (p) Treating all exposed surfaces of timber shelving in cupboards, valance boards, barge boards etc. with primer undercoat and two additional coats of approved oil paint or as directed unless otherwise specified.
 - (q) Ironmongery for screws, for all mortices, sinkings, notchings, borings etc., removing during decoration, leaving oiled and in proper working order on completion and supplying and labeling all keys and handing over to the Architect/Engineer.
 - (r) Asbestos Ceiling Tiles and the like for Chamfering the edges and matching wherever cutting occurs and filling heads of fixings with an approved filler to match.

- (s) Glazing for glazing to wood or metal lights in panes of any size, including putty/sealant/beading.
- (t) Painting for working both internally and externally for the preparation of the surfaces in accordance with the Specification, or in accordance with approved practice where not otherwise specified, for working at any height, painting in any colour and multi-colour work, cutting to line at junctions of differing colours at angles or on plane surfaces, for painting in small quantities and narrow widths and for cleaning down on completion.
- (u) Glazing for straight, raking, and curved cutting, bedding the edges of glass, replacing cracked or broken panes and Cleaning both sides on completion.
- (v) Painting work to isolated general surfaces for working on door frames, linings, window sub frames (where of a differing material to the window), skirtings, rails, architraves, bars, posts, balusters and the like.
- (w) Painting work to glazed general surfaces, glazed windows and the like (measured flat over glass irrespective of size of panes) for work to edges and glazing rebates, returns and mouldings of frames mullions transoms Architraves and the like.

10.0 **STRUCTURAL STEEL AND METAL WORK**

(Refer General Specification Nos. 9.0 & 14.0)

Rates for Structural Steel and Metal Work shall include for:-

- (a) All allowances for rolling margin, providing members of any length, cutting to size and shape, and joints in the running length, for all notches, holes, slots, mitres and ends and for all drilling and splay cut ends.
- (b) Welding and Grinding to a smooth finish the structural steel and metal work in welded constructions, and unless otherwise required the techniques and materials employed in welding shall be selected with due regard to the character of the work and materials being connected.
- (c) Removing and cleaning all scale from unprimed iron and steel work by flame-cleaning, wire brushing, chipping or scraping and priming.
- (d) Building in of metal or steelwork to block or concrete structures and for forming or leaving pockets in the structure adjacent to lug portions and for filling such pockets with in situ concrete of no lesser strength than that from which the structure is and for all necessary formwork.
- (e) Welding, drilling for bolts and bolting, bending, fabricating, and hoisting, placing and fixing in position.
- (f) All galvanised or similarly treated work for the treatment of all cut ends etc. as, required by the specification and to the full satisfaction of the Architect/Engineer.
- (g) Treating all steel work members delivered or brought to the site in mill condition with one coat of red oxide for iron primer before fabricating assembling and erecting in position.
- (h) Treating whole of steel work after assembly and erecting in position with two coats of approved anti-corrosive paint.
- (i) Work in sheet metal for raking, cutting and curved cutting, welded or breeded edges, burned, brazed or welded angles, welded seems and the like. Bending at edges, dressing into hollows dressing over curbs and the like.
- (j) Standard Units for assembling and jointing together the component parts of composite units and providing any necessary jointing compound.
- (k) Insulating all non-ferrous items in contact with dis-similar metals, concrete, masonry and mortar with an approved zinc chromate coating or plastic membrane on contact surface installation.

(l) Composite Units for raking cutting and curved cutting, notches slots, and rounded corners, fanged ends, pointed ends, rounded ends, scrolled ends, bends, ramps, wreaths twists and the like.

(m) Structural Steelwork measured by weight are to include for all allowance for rolling margin and the weight of weld metal in welded construction. The weight of base plates caps, splice plates, clash, brackets, stiffeners, bolts (other than fixing of anchor bolts) have been included in the weights of the associated structural steel members to which they are attached.

11.0 **ALUMINIUM**

(Refer General Specification Nos. 9.6, 9.7 & 9.8)

Rates for Aluminium work shall include for :-

(a) Aluminium Doors, Windows, Screens, Roller shutters, Grills and the like for composite Construction where necessary and for all coupling mullions, transomes, glazing beads and gaskets, hinges, locks, fastners, stays, handles push plates and the like and fixing joints, roller box, side bars etc.

(b) The backs of all Aluminium frames shall be painted with two coats of bituminous paint or other approved, before fixing, Aluminium framing shall be protected against damage by plastering etc., during the building works by covering with masking tape or other approved means.

12.0 **PLUMBING, SANITARY AND OTHER ENGINEERING INSTALLATIONS**

(Refer General Specification Nos. 18, 19, 20 & S.C.A/3/2)

IN PRICING ALL THE ITEMS IN THIS SECTION CARE SHOULD BE TAKEN TO STUDY ALL THE DRAWINGS AND DETAILS CONNECTED WITH. RATES SHALL COVER TO COMPLY WITH THE DETAILS AND NOTES GIVEN IN THE DRAWINGS AND NOTES GIVEN IN THIS SECTION EVEN THOUGH THE DESCRIPTION GIVEN IN THE ITEMS ARE SHORT.

Rate for Plumbing, Sanitary and other Engineering Installations shall include for:

(a) All pipe work and tubing, for all short lengths, Couplers and/or joints in the running lengths and all made bends, splay cut ends and other labours and for all fixing and support with approved holder bats, brackets, supports or pipe clips cut and pinned built in or plugged and screwed, to walls or ceilings or soffits of slabs.

(b) All fittings to plumbing installations for jointing to pipe work including any cutting.

(c) All Cutting into walls. floors, concrete structures slabs etc. Chasing to brick walls or concrete columns and walls where necessary and for making good.

(d) All necessary excavation planking and strutting, backfilling and compacting to approval where it is applicable and carting away excess, unless otherwise measured separately.

(e) Pits, trenches, gullies equipment bases, plinths, supports, holes through walls, floor or ceilings, for the passage of pipes etc. recessing of pipes and for building into main structure of brackets, supports, pipe sleeves etc.

(f) All Pipe installation for burying or embedding in the ground, floor slabs or in wall structure as the case be.

- (g) All pipe for Hot and Cold Water Services, Waste Water System, for cutting and waste, including bends, junctions, cleaning eyes, stop ends, tees, reducers, unions, pipe sleeves specials etc., and painting those pipe lengths exposed with two coats of approved paint to match that of wall finish. This shall apply to all sizes of pipe installations.
- (h) All Hot water service system for insulation including linings and protective coverings.
- (i) Gutterwork for necessary joiners, end caps, down spout, centre running heads, drop ends, nozzles, fixing brackets etc. and for painting to the Engineer approval.
- (j) Rainwater down pipes for necessary elbows joiners, swan necks, off sets, shoes etc. and clips cut and pinned, built-in or plugged and screwed to wall, and for painting to match that of the wall finish to the Architect/Engineer approval.
- (k) Painting work to pipes (which shall include trunking, ducting and the like) for all work on hangers, supports brackets and the like.
- (l) All Sanitary appliances, Equipment and accessories for all valves and fittings, such as waste outlets, internal overflows, traps and the like, for assembling jointing together and fixing component parts and for leaving all Sanitary fittings, perfectly clean and undamaged and all Taps and Valves greased, clean and in proper working order on completion.
- (m) Making good all disturbed work
- (n) Testing the whole of the Plumbing, Sanitary and other Engineering Installations and rectifying defects.
- (o) All Costs of inspection and testing of the whole installations to the approval of the Architect/Engineer.
- (p) All drains, open drains & drains with covers, manholes, gulleys, catch pits and the like for all necessary excavation, planking, and strutting, backfilling & compacting to approval, dewatering where applicable and for all concrete work, reinforcement, formwork, brickwork, rendering and finishing etc. unless otherwise measured separately.

13.0 **PLASTER WORK AND OTHER FLOOR, WALL AND CEILING FINISHINGS**
(Refer General Specification Nos. 11.0 & 13.0)

Rate for Plasterwork and other floor, Wall and Ceiling Finishings shall include for :-

- (a) All items of in-situ finishings and tile, slab or block finishings where relevant for working both internally and externally, for all temporary rules, screeds, templates and supports, for curing and cleaning off on completion, for working in small quantities, panel or narrow widths, and for making good or Cutting around all pipes, conduits, sleeves, ducting, metal sections, bolts and the like, fittings and the like obstructions.
- (b) Any necessary dubbing out or packing to concrete or blockwork surfaces to correct deviation within the specified tolerances for finished surfaces.
- (c) All pavings for laying or finishing to falls and crossfalls where required and for laying on landings of staircases where relevant.

- (d) Work to walls for working to returns, reveals of openings or recesses and to attached or unattached columns.
- (e) Work to Ceilings for Working to sides and soffits of attached or isolated beams and to soffits of staircases where relevant.
- (f) Work to staircases for Working to treads and rises of staircases and to edges of landings.
- (g) Sills, Skirtings and the like, where relevant, for all angles, ends and short lengths for all hacking, raking out or scratching background surfaces to form keys and for brushing cleaning off and dampening background surfaces before laying.
- (h) All in-situ finishings and backgrounds for hacking concrete or blockwork surfaces and raking out joints to form keys, brushing, cleaning off and dampening the background surfaces before application of finishings, working at any height, and for all square and rounded edges, quirks, square and splayed fair edges, and making good up to frames, architraves, skirtings, dividing strips and the like.
- (i) 'Tyrolean' or other spray applied decorative finishings for making and any additional dubbing out required to fair-faced surfaces of concrete or blockwork to obtain the requisite standard of finish.
- (j) In-situ finishings and backgrounds for pavings and screeds for laying and finishings to falls and cross-falls where described as an average thickness. Minimum slope to be 1 in 100 unless otherwise specified.
- (k) Tile, slab Block and Sheet finishings and background for all straight, raking and Curved cutting.
- (l) Ceramic tile Pre-cast Terrazzo tile, and Granite tile pavings for expansion joints at perimeters and between bays where required by the Specification or Drawings, and for tile adhesive and tile grout as per specification of the manufacturer for jointing and pointing.
- (m) Terrazzo tile paving for polishing in accordance with the specification and to the Architect's/Engineer's instruction.
- (n) Carpet tiling and Carpeting for straight, raking and circular cutting, and for ends, angles and intersections and for shampooing and vacuum cleaning.
- (o) All Ceiling tiles with Chamfered or similarly profiled edges, for matching the edges wherever cutting occurs, and for filling heads of fixings with approved filler.
- (p) Parquet flooring for sand papering and Wax polishing
- (q) P.V.C tile flooring for polishing and leaving it in perfect condition free from any defects.
- (r) Leaving whole of the plasterwork in perfect Condition free from blisters
- (s) All rendered finished floor and skirtings for Wax/Colour polishing and leaving it in perfect condition.
- (t) Leaving the entire tile surfaces free from any cracks, scratch marks, deformation and in clean and perfect state when handing over.

14.0 **PAINTING AND DECORATING**
(Refer General Specification Nos. 15.0)

Rate for Painting and Decoration shall include for :-

- (a) Painting for working both internally and externally, for the preparation of surfaces in accordance with the Specification or in accordance with approved practice where not otherwise specified, for working at any height, painting in any colour and multi-colour work, cutting to line at junctions of differing colours at angles or on plain surfaces, for painting in small quantities and narrow widths, and for cleaning down on completion.
- (b) Work to walls for working to returns, reveals of openings or recesses and to attached or unattached columns.
- (c) Work to ceilings for working to sides and soffits of attached or isolated beams and to soffits of staircases where relevant.
- (d) Work to isolated general surfaces for working on door frames, linings, window subframes (where of a differing material to the window), skirtings, rails, Architraves, bars, posts, balusters and the like.
- (e) Work to glazed general surfaces, glazed windows and the like (measured flat over glass irrespective of size of panes) for work to edges and glazing rebates, returns and mouldings of frames, mullions, transomes, architraves and the like.
- (f) Work to pipes and conduit (which shall include trunking, ducting and the like) for all work on hangers, supports, brackets and the like.
- (g) Work to Walls, Soffits, Beams and columns to receive painting for preparing the surface to a very smooth finish, filling all holes, and uneven surfaces with Acrylic wall Putty or an equivalent putty from an approved manufacture and sanding the surfaces to a smooth finish.
- (h) Work to walls, Soffit of slabs, Beams, Columns etc. to receive painting for preparing and applying two coats of Masonry Sealer or an equivalent sealer from an approved manufacture and smoothening the surfaces.
- (i) Work to all soffits of slabs, painting shall be roller applied and for use of roller brushes. The grade of the texture and the type of roller brushes to be used shall be decided at the site and shall be approved by the Architect/Engineer.
- (j) All TYROLENE finished surfaces for spray painting in accordance with the Manufacturer's printed instructions.

14.0 **PAINTING AND DECORATING (Contd.)**

Rate for Painting and Decoration shall include for :- (Contd.)

- (k) A sample selected area painted and decorated for approval of workmanship, quality of work, and texture and type of paint used. Approval shall be obtained from the Architect/Engineer after inspection.
- (l) Painting and Decorating Work for protection from damage to floors, walls, ceilings, fittings and furniture etc. and including the provision of all necessary dust sheets, covers, polythene sheets etc.

15.0 **LANDSCAPING (PLANTING, TURFING, PONDING, IRRIGATION ETC.)**

(Refer the Particular Specification)

Rate for Landscaping work shall include for :-

- (a) Employing a landscape Supervisor with at least five years experience in planting, maintaining nurseries, manuring, watering and pruning and TWO full time Labourers.
- (b) Establishing and maintaining a plant nursery of suitable size at the site, to accommodate all the plants required for landscaping as per specification & for establishing a nursery at least Four Months (4) before completion of the buildings.
- (c) Bringing all the plants to the nursery in a healthy and good condition and for the approval by the Architect/Engineer.
- (d) Maintaining the landscaping work for a period of Six months and complying with the specification for landscaping, and the drawings. All trees, plants grass etc. for manuring, watering, pruning, spraying with insecticides and fungicides when necessary and maintaining and cultivating for healthy growth for six months.
- (e) The entire responsibility for establishment of Grass, Hedges and Plants. Any area of grass or length of hedge or plants that fails to grow to the satisfaction of the Architect/Engineer shall be removed, replanted and maintained until establishment has been achieved.
- (f) All the plants purchased from approved nurseries.
- (g) All trees of an average height of 1200mm.
- (h) All bushy plants of average height of 500mm.
- (i) All indoor type plants of average height of 300mm.
- (j) Agricultural sand obtained from an approved location free from stones, and any other debris and suitable for plant growth.
- (k) Ground preparation, excavating or forming pits, holes, trenches, refilling removing surplus excavated materials and leveling.
- (l) Planting in prepared ground or grassed areas prepared by others for all necessary reinstatement.

- (m) Seeding for raking or harrowing and rolling

16.0 **ELECTRICAL INSTALLATION**

(Refer General Specification SCA/8 Nos. 1 to 13 Part-I)

Rate for Electrical Installation shall include for :-

(a) All materials and labour necessary for the complete installation as set out in the Specification, the Bills of Quantities, the Drawings and Notes, and shall also include for all necessary tests, rectification of defects and fulfilling the requirements of the Ceylon Electricity Board and Regulations of the local Authority of the area where work is required to be carried out in regard to the installation.

(b) All sub-main circuits, lighting points, switch points, socket outlets, fused spur outlets, isolators, etc. (other than those applicable to the distribution switch gear) are to include where applicable, for all conduit, cabling, terminations, fixings and connections from the distribution switch gear to and including the point and for any item mentioned in the Electrical Installation Specification but not shown on the Drawings and Vice - Versa.

(c) No extra payment will be made for troughing and covers, conduit pipes, Junction boxes, Conduit boxes, earth conductors for earthing of lamp points, Ceiling fans and fan regulators, socket outlets and for any other accessories. The Contractor shall include for all such materials and labour in the rates quoted for items. For items in the Bills of Quantities where the Unit is (M) or (L. ft.) payment will be made according to the length measured after the installation at rates quoted for such items in the Bills of Quantities.

(d) Equipment and Control gear, distribution boards, meters, switch fuses etc. for connecting up, fixings, and supports for the complete installation and for suitable mounting boards, frames, supports, housings and cabinets where required.

(e) All Cables and the like, where applicable, for all allowances for sagging or snaking for drawing through conduits, laying in trunking or surface fixing where required with cable supports, cleats, hangers, channels, insulators and the like, wall, floor and ceiling plates, cable sleeves.

(f) Cables and the like laid in trenches for drawing through conduits or ducts where required.

(g) Cable terminations for all connections, Joints boxes, insulating and jointing materials cable termination glands, lock nuts, bushes, and the like.

(h) Conduits trunking, cable tray and the like for all short lengths, Joints and Couplers in the running length and for all fixings and supports, with approved saddles, Crampets, Clips and the like, cut and pinned, built in or plugged and screwed to walls or Ceilings.

(i) Conduits trunking, cable tray and the like, for all bends, cutting, screwing, threading Jointing and providing all conduit boxes, adaptable boxes, Junction boxes and the like, clips and saddles, draw wires, cables and the like, & components for earth continuity.

(j) Conduits included in sub-circuits or electrical points for in addition to the foregoing, Cutting into walls, concrete structures, slabs, etc. chasing to brick walls or concrete columns and structures, where necessary and for making good.

(k) All auxiliary installations such as T.V. Installation, Telephone Installation and Bell Signal System, Fire Alarm Signal System the preceding preambles shall apply equally.

(l) Sub-circuits all Wiring points for the supply and fixing of accessories such as switches, Ceiling roses, fan hooks, 2 or 3 core flexible cables, lamp holders, bulbs, socket

outlets etc. as applicable, earthing as specified and final connections and shall be deemed to include for any item mentioned in the Electrical Installation Specification but not shown on the Drawings and Vice-Versa. It shall not include, supply and fixing of lamp fittings, lamp shades, fans and fan regulators.

(m) Supplying and fixing of items such as lighting fittings, lamp fittings, lamp shades, Ceiling fans, and fan regulators, extract fans, for any brackets hooks or other means of fixing, G.I. Pipe or timber members extension rods, wooden boards etc. as applicable, and for assembly, fixing and connections and leaving perfectly clean and undamaged on completion.

(n) Fixing only of fittings and appliances or items supplied by the Owner, in addition to the foregoing, for accepting delivery, storing and handling the fittings/items and providing any additional material and internal wiring.

17.0 **ROADWORKS AND OTHER EXTERNAL WORKS**

(Refer General Specification SCA/3/1 Nos. 7 & 13 and Particular Specification)

Note :-

ALL RELEVANT CLAUSES IN THE SPECIFICATIONS AND PRICING PREAMBLES SHALL APPLY EQUALLY TO THIS SECTION

Rate for Roadwork and other External Works shall include for :-

- (a) Stripping off and reducing to the required level to receive the sub-grade or base material and disposing the spoil.
- (b) Compaction, Watering and rolling of the reduced level base
- (c) All type of Fencing Posts, End Posts, Angle Posts, Straining Posts, Intermediate Posts Struts and other supports shall include for excavating pits or holes in ground, backfilling and disposing surplus soil.
- (d) Mortices for Posts, Struts and other supports in Concrete, Brickwork, Blockwork, Stonework and the like with the item.
- (e) All type of Gates for Hinges, Locks, Fastenings and the like, Gate stops, Gate Catches and Gate Stays and any other Ironmongery.
- (f) All type of Gates, such as Entrance Gates, Side Gates, Swing Gates, Pedestrian Gates, Barrier Gates etc. for painting to approved colour and texture.
- (g) All pre-cast or in-situ concrete kerbs and Edging for suitable concrete bed, and concrete backing and haunching all as per detailed drawing.
- (h) Formwork to in-situ concrete kerbs and edging and to concrete bedding and haunching with the item.
- (i) Roads and Car Parks for when indicated in the drawings or as instructed for marking road marking lines, and signs.
- (j) All metalwork items for painting and the relevant clauses for paint work shall equally apply.

18.0 **ASPHALT WORK & WATERPROOFING**

(Refer General Specification Nos. 17.1, 17.2 & 17.10 and Particular Specification for the Asphalt work & Waterproofing System)

The rates for waterproofing shall include for :-

01. Providing all necessary tools and any other equipment required as recommended by the manufacturer.
02. Providing product samples, finished specimen areas etc., as required by the Architect/Engineer.
03. Forming or chasing grooves, into masonry walls, concrete walls and slabs rebates etc. where necessary and turning waterproofing materials into chases and pointing as specified.
04. Forming internal and external angles, bonding bricks and the like
05. Lining to rain water outlets, cesspools, brackets, collars around pipes, railing standards and the like.
06. Cutting to line and jointing new to old asphalt
07. Temporary screeds, ground and rules
08. Obtaining manufacturer's supervisory/expert services if necessary and providing acceptable guarantees for 10 years in the name of the employer for the product and the workmanship.
09. Application of waterproofing materials to specifications and manufacturer's recommendation and as per approved shop drawings to cover all surfaces including angle fillets, chasings, sealing of construction joints and expansion joints, settlement joints etc.
10. Working at any given height.
11. Submitting a detailed set of shop drawings approved by manufacturer to incorporate all construction and expansion joints as shown in drawings, structural and services elements, other details encountered in the areas to be waterproofed and with details against settlements between two buildings with reference to manufacturer's proprietary details, specials and techniques. The arrangements shown in tender drawings are for the purposes of guidance only and not for construction drawings.
12. Submitting pre-shipment certificates by an acceptable international Surveyor certifying the product with respect to:-
 - (a) Source and country of manufacture
 - (b) Country of Origin
 - (c) Conformity to specification
 - (d) Conformity to system offered
 - (e) Conformity to the product offered

**CHECK LIST OF ITEMS OF MATERIAL & WORKS TO BE
CHECKED & APPROVED
DURING CONSTRUCTION STAGE**

CHECK LIST OF ITEMS OF MATERIAL & WORKS TO BE CHECKED & APPROVED DURING CONSTRUCTION STAGE

NAME OF PROJECT:-

The Contractor, M/s. should obtain the approval for the following Works **or** Materials as the case may be from the Architect / Structural Engineer / Civil Engineer / Mechanical Engineer / Electrical Engineer / Water Supply & Drainage Engineer / Interior Architect / Landscape Architect / Clerk of Works / etc. All the approvals be obtained before commencement of said works or before Materials brought to site. Approved set of samples be kept at Clerk of Works Office until the Construction Works is over and the instructions given by the Architect to remove such samples from the Work Site/Building. Copy of this Check List be attached to Handing Over Schedules at the Practical Completion. As such, this **Check List** be kept in a file Safely and approval be obtain at the appropriate time. One Copy be maintained by the **Clerk of Works**.

Item No.	Works/Materials	Description of Work or Samples of Materials	Approved By Name & Designation	Date of Approval & Signature	Remarks
01	Setting out of Buildings	When entire setting out of Building is over			
02	Excavation for foundations	When excavation 10% over			
03	Reinforcement material for testing as specified	Samples for testing and approval			
04	Brick/Cement Blocks as Specified	Sample for approval			
05	Sand, Metal & Rubble as Specified	Sample for approval			
06	Concrete cube testing	Every time concreting done Separate file be maintained for concrete testing.			
07	R.C. column footing	When reinforcement is ready for concreting			
08	R.C. columns	When reinforcement is over & ready for concreting			
09	Concreting of footing and Columns	On the day of Concreting footing & day of concreting Columns			
10	Wall foundation	When 02% of work over			

11	Reinforcement for Beams and Slabs	When reinforcement work is over			
12	Concreting of Beams & Slabs	On the day of Concreting Concrete be done in the presence of Clerk of Works			
13	Brick/Block work	When 02% is over			
14	Soffit Plastering	Sample area of 2.0m x 2.0m for Approval			
15	Wall Plastering	Sample area of 2.0m x 2.0m for Approval			
16	Floor Rendering	Sample area of 2.0m x 2.0m for Approval			
17	Wall tiles as per specification and tiling	Sample area of 1.0m x 1.0m for Approval			
18	Floor tiles as per specification and tiling	Sample area of 2.0m x 2.0m for Approval			
19	Water supply pipes layout	Shop Drawings for Approval			
20	Waste water pipes layout	Shop Drawings for Approval			
21	Sewerage pipes layout	Shop Drawings for Approval			
22	Water Supply Pipe pressure testing	On the day of Testing			
23	Waste water pipe and gullies	Slope testing			
24	Sewer pipes laying	Slopes & manhole testing			
25	Manhole cover slabs	Sample as per details for Approval			
26	Door, window & roof timber as specified	Samples			
27	Timber-pressure	Test certificates for approval			

	impregnation & kiln seasoning as specified	and Recording			
28	Termite proofing of soil as specified	Submit warranty for termite proofing for Approval of Architect			
29	Aluminium sections as specified	Samples for Approval of Architect			
30	Ironmongery as specified	Samples for Approval of Architect			
31	Toilet fitting & accessories asSpecified	Samples for Approval of Architect			
32	Fabricated timber/aluminium Doors/Windows	Samples for Approval of Architect			
33	Roof frame work	Shop drawing for Approval of Engineer			
34	Roofing material as specified	Samples for Approval of Architect			
35	Gutters & Down pipes as specified	Samples for Approval of Architect			
36	Ceiling material as specified	Samples for Approval of Architect			
37	Electrical wires as specified	Samples for Approval of Engineer			
38	Electrical fittings and Accessories as specified	Samples for Approval Engineer / Architect			
39	Electrical test	Test certificates with Mega readings			
40	Schedules of fittings and fixtures	Schedules for checking and Approval of Architect			
41	As-built drawings	Submit 03 or 04 sets for			

		Approval of Architect			
42	Warranties as per Conditions of Contract	Submit warrantees for Approval of Architect			
43	Guarantees for Pumps/Fans/ Accessories	Submit guarantees for Approval of Architect			
44	Maintenance manual	Submit manuals for Approval of Architect			
45					
46					
47					
48					
49					
50					

FORM OF BID SECURITY

[this Guarantee form shall be filled in accordance with the instructions indicated in brackets]

.....
[insert issuing agency's name and address of issuing branch or office]

Beneficiary: Sri Palee College- Horana

Date: [insert (by issuing agency) date]

BID GUARANTEE No. : [insert (by issuing agency) number]

We have been informed that[insert (by issuing agency) name of the Bidder] (hereinafter called "the Bidder") has submitted to you its bid dated[insert (by issuing agency) date] (hereinafter called "the Bid") for the execution of [insert name of Contract] under Invitation for Bids No..... [insert IFB number] ("the IFB")

Furthermore, we understand that, according to your conditions, Bids must be supported by a Bid Guarantee.

At the request of the Bidder, we[insert name of issuing agency] hereby irrevocably undertake to pay you any sum or sums not exceeding in total an amount of[insert amount in figures] [insert amount in words] upon receipt by us of your first demand in writing accompanied by a written statement stating that the Bidder is in breach of its obligation(s) under the bid conditions, because the Bidder:

- (a) has withdrawn its Bid during the period of bid validity specified; or
- (b) does not accept the correction of errors in accordance with the Instructions to Bidders (hereinafter "the ITB") ; or
- (c) having been notified of the acceptance of its Bid by the Employer during the period of bid validity, (i) fails or refuses to execute the Contract Form, if required, or (ii) fails or refuses to furnish the Performance Security, in accordance with the ITB.

This Guarantee shall expire: (a) if the Bidder is the successful bidder, upon our receipt of copies of the Contract signed by the Bidder and of the Performance Security issued to you by the Bidder; or (b) if the Bidder is not the successful bidder, upon the earlier of (i) our receipt of a copy of your notification to the Bidder that the Bidder was unsuccessful, otherwise it will remain in force up to
(insert date)

Consequently, any demand for payment for payment under this Guarantee must be received by us at the office on or before that date.

.....
[Signature(s) of Authorized Representative(s)]

SCHEDULE OF BASIC PRICES OF MATERIALS AND RATES OF LABOUR AND PLANT

Bidders are requested to enter the prices for the under mentioned list of materials that are to be incorporated in the permanent works and shall undersign at the priced schedule list. **If this schedule is not completed and submitted with the Bid, such Bids will be rejected.**

This Bill of Quantities has been priced on the basis of the following **BASIC PRICES OF MATERIALS AND RATES OF LABOUR AND PLANT** prevailing in the market on..... including cost of transport to work site unless otherwise specified.

(Under "source" give the State Corporations or other source on which the price is based)

<u>Specified - Materials</u>	<u>Unit</u>	<u>Price</u>	<u>Source/Country of Origin/Make Model/Type</u>
01. Cement/Concrete pre-cast blocks (4" x 8" x 16") (100mm x 200mm x 400mm)	Per No.		
02. Brick (Local Country) (8 5/8" x 4 1/8" x 2 5/8") (215mm x 102.5mm x 65mm)	Per 1000		
03. River sand	cube		
04. Metal 3/4" (20mm)	cube		
05. Metal 1" (25mm)	cube		
06. Metal 1 1/2" (37mm)	cube		
07. Metal 2" (50mm)	cube		
08. Rubble 6" – 9"	cube		
09. Lime Slaked	cwt		
10. Lime Boiled	cwt		
11. Cement	50 Kg. (Bag)		
12. Tor Steel Rods (average)	M.Tonne		
13. M.S. Rods (average)	M.Tonne		
14. Structural Steel	M.Tonne		
15. Class-1 Timber (4" x 3")	Cu.ft		
16. Plywood doors (ordinary) 3'-0" x 7'-0"	Nos.		

<u>Specified - Materials</u>		<u>Unit</u>	<u>Price</u>	<u>Source/Country of Origin/Make Model/Type</u>
17.	Plywood Boards/sheets 1/2" (12mm) thickness	sq.ft		
18.	Plywood Boards/sheets 5/8" (15mm) thickness	sq.ft		
19.	Glass 1/5" (5mm) thickness (clear float)	sq.ft		
20.	Glass 1/4" (6mm) thickness (clear float)	sq.ft		
21.	Tempered glass 1/3" (8mm) thickness	sq.ft		
22.	Tempered glass (5/12") 10mm thickness	sq.ft		
23.	Emulsion paints	Ltr.		
24.	Enamel paints	Ltr.		
25.	Varnishes	Ltr.		
26.	Aluminium paint	Ltr.		
27.	Wood Primer	Ltr.		
28.	Metal Primer	Ltr.		
29.	Wood Preservatives	Ltr.		
30.	Ready Mix Concrete			
	Grade 20	cube		
	Grade 25	cube		
	Grade 30	cube		
31.	Quarry Dust	cube		
32.	Red Sandy Soil	cube		

Labour**Daily wage**

a)	Mason	-	1. Brick layer	.....
			2. Pavier/Plasterer	.....
			3. Concreter	.....
b)	Carpenter	-	1. Formwork/Shuttering	.....
			2. Finishing	.....
			3. Joinery	.....
c)	Plumber			.....
d)	Electrician			.....
e)	Bar bender			.....
f)	Welder			.....
g)	Tiller			.....
h)	Painter			.....
i)	Skilled Labour			.....
j)	Un-skilled Labour			.....
k)	.....			.....
l)	.....			.....
m)	.....			.....
n)	.....			.....
o)	.....			.....
p)	.....			.....

Plant**Hourly rate**

a)	Mixer (Concrete Drum type)	.....
b)	Breaker (Concrete)	.....
c)	Welding M/c & Plant	.....
d)	Compressor - Pneumatic	.....
e)	Generator	.....
f)	Tampers/Rammers	.....
g)	Tipper	.....
h)	Dumper	.....
i)	Vibrator - Poker type	.....
j)	Excavators	.....
k)	Compactors - Plate	.....
l)	Water Pumps - Dewatering	.....
m)	Vibrating Roller	.....
n)	Scaffolding & Accessories	.....
o)	.....	.....
p)	.....	.....
q)	.....	.....
r)	.....	.....
s)	.....	.....

OVERHEAD AND PROFIT COMPONENT

Bidders are requested to indicate the Overheads and Profit components as percentages which have been used in the Bills of Quantities.

Overheads	
Profit	

NOTE:

- (1). For further information on computation of price variations Bidders are kindly requested to refer ICTAD guidelines, ICTAD/ID/07 June 2008, Second Edition.
- (2) **Basic prices of Materials and Rates of Labour and Machinery** shall be reasonable.

Name of Signatory

.....

: -

.....

Signature of Bidder

Title

: -

Name of Company : -

Date: -

Registered Address :-

.....

.....

.....

.....
Signature of Bidder

Date: -



Company Seal

SPECIFICATIONS

EXPLANATORY MEMORANDUM

Specifications of Contract consist of two parts

PART- I

Part-I is the General Specifications, which are the Specification for Building Works Volume-I (3rd Edition revised July 2004) & Volume-II (2nd Edition revised October 2001) (ICTAD Publication No. SCA/4), Specification for Water Supply, Sewerage and Storm Water Drainage Works 2nd Edition Revised April 2002 (ICTAD Publication No. SCA/3/2) and Specification for Electrical and Mechanical Works 2nd Edition Revised August 2000 (ICTAD Publication No. SCA/8) published by the Institute for Construction Training and Development, Savsiripaya, 123, Wijerama Mawatha, Colombo 7.

It is implied that the Bidder/Contractors are fully acquainted with the above Documents and therefore, it will not be issued to the Bidder/Contractors under this Bid/Contract.

However, the Bidder/Contractors may purchase these documents if necessary from the Institute for Construction Training and Development, Savsiripaya, 123, Wijerama Mawatha, Colombo 7.

PART-II

Part-II of the Specifications contains the Specifications for Particular Application which have been specially drafted to suit the requirements of this particular Project.

In the event of contradiction between Part-I & II, the contents in Part-II shall govern.

Part-I & II together comprise the Specifications governing the rights and obligations of the parties to this Bid/Contract.

PART – 1 - GENERAL SPECIFICATION – FOR BUILDING WORKS – VOLUME-01 (SCA/4/1)

PART-II – PARTICULAR SPECIFICATIONS – BUILDING WORKS – VOLUME-01

CHAPTER – 01 - MATERIALS

1.0 Materials (Refer General Specification 1.1 to 1.8)

Add the following

The whole of the materials incorporated in the works shall be new, and of the best quality available and shall be to the approval of the Architect/Engineer.

Where proprietary materials are referred to in this Specification by stating specific manufacturers and trade names, the intention is to establish the type and quality of materials required. Similar materials of equal and alternative manufacture may be offered for substitution by the Contractor for the prior approval of the Architect/Engineer. The Contractor shall ensure that such submissions are made in sufficient time for approval to be obtained without delaying the progress of the works. Should the Architect/Engineer discover on the works any materials other than those approved he may order their removal from the site.

All proprietary materials incorporated in the Works shall be fixed or applied strictly in accordance with the manufacturer's instructions.

Note:- The Architect/Engineer reserves the right to reject any materials/goods conforming to the specifications if the country of origin of materials/good does not have a good reputation to produce goods of high quality. It shall be ensured that the country of origin of materials/goods shall be well reputed for manufacture of materials/goods to be in incorporated into the works under the Contract.

CHAPTER – 02 – SITE PREPARATION, EXCAVATION AND EARTH WORK

2.0 Site Preparation, Excavation and Earthwork

(Refer General Specification Nos. 2.1 to 2.6 & 2A, 2B)

2.1.1 General

Add the following

Note:- Before commencing any excavation, cutting or filling and leveling, survey and level to original ground surface and prepare plans and sections accordingly. The plan and section shall when finally & mutually agreed be signed by the Architect & Contractor as truly representing the configuration of the areas in question at the commencement of work.

The Contractor shall establish one or more permanent bench mark on site before commencing of the works and shall uphold and maintain it through out the entire period of the contract.

- (a) Existing ground level indicated in the drawings shall be the level of trimmed ground free of all structure pavings, plinths, foundations and the like.
- (b) The contractor is advised to examine the soil report available with the Employer for the type of soil encountered at the site during the investigation.
- (c) Surplus excavated materials not suitable for filling, debris and waste shall be removed.
- (d) The contractor must obtain all detailed information from the relevant authorities in compliance with relevant acts by laws and regulation to excavations and planking and strutting.
- (e) The contractor shall submit samples and obtain test certificates as required by the contract documents.
- f. The contractor is to note that the rate for compacted earth fill and granular fill stone, gravel and sand beds shall include for imported materials or materials from borrow areas. Should the contractor be able to use any of the excavated materials arising from constructional work, then an adjustment will be made in the final account for the rate of such applicable materials.
- (g) The planking and strutting measured shall include additional width of excavation as required by the standard method of measurement if it is measured separately.

CHAPTER – 03 – MORTAR (Refer General Specification Nos. 3.1 to 3.3)

CHAPTER – 04 – CONCRETE

4.0 CONCRETE (Refer General Specification Nos. 4.0 to 4.5 & 4A, 4B, 4C, 4D)

Add the following

- (d) Concrete for all reinforced concrete construction work shall conform to the specified characteristic strengths. Tests on samples of the concrete are to be carried out as per BS 5328:1981. Concrete cubes of size 150mm x 150mm x 150mm are to be tested to determine the 28-day compressive strengths. A minimum of four cubes are to be tested per batch.
- (e) The compressive strength of the concrete shall be considered to comply with the specified characteristic strength if the following requirements are met:
 - (a) The average strength determined from any group of four consecutive test results exceeds the specified characteristic strength by 3N/mm² and
 - (b) The strength determined from any test result is not less than the specified characteristic strength minus 3N/mm².

Payment for concrete work may be withheld in part or full until the submission of cube test results and the results conform the acceptance of the concrete.

- (f) No concreting work should be done before approval is obtained from the Engineer for the reinforcement and formwork. All the concreting work should be done on normal working days from Monday to Saturday and only from 7.00 a.m. to 6.00 p.m. Concreting will not be permitted on holidays and after normal working hours. All the Concreting Work should be done in the presence of the Representatives of Built Environment Consultants, and/or the Owner's Representatives. However, having obtained prior approval, concreting can be permitted on holidays if there is an urgency of work.

4.1.2 Cement

Add the following

- 4.1.2a. PORTLAND CEMENT CONFORMING TO B.S. 12/C.S 107 : 1971 USED ON THE WORKS SHOULD BE A BRAND MANUFACTURED OR MARKED BY CEYLON CEMENT CORPORATION/LANKA CEMENTS LTD OR MAHAWELI CEMENT. IN THE EVENT THE CONTRACTOR WISHES TO USE CEMENT OF ANOTHER BRAND HE SHOULD OBTAIN PRIOR APPROVAL TO DO SO AFTER SUBMITTING A TEST CERTIFICATE FROM I.T.I, N.B.R.O., OR OTHER REGISTERED AND APPROVED INSTITUTION.

CHAPTER – 05 – REINFORCED CEMENT CONCRETE

5.0 REINFORCED CEMENT CONCRETE (Refer General Specification Nos. 5.0 to 5.4)

5.1.2 Steel Reinforcement **Add the following**

- 5.1.2a. All reinforcement steel used on the works should be Lanka Tor steel from Sri Lanka Steel Corporation. In the event the Contractor wishes to use steel of any other brand or from any other source he should obtain prior approval to do so after submitting a Certificate of Origin & Test Certificates from Ceylon Heavy Industries & Construction Co. Ltd. Laboratory or other registered and approved Laboratory.
- 5.1.2b. Steel rod reinforcement shall be bent cold in a manner which will not damage the material. Bending hot at a cherry red heat (i.e. not exceeding 840°C) may be allowed except for bars which depend for their strength on cold working. Bars bent hot shall not be cooled by quenching.

Bends, cranks or other labours on reinforcing bars shall be carefully formed in accordance with B.S. 4466 and the Drawings. Where splices or overlapping in reinforcement are required the bars shall be as shown on the Drawings.

- 5.1.2c. Fabric Reinforcement Sheets are to overlap by Two Meshes

5.2 FORMWORK **Add the following**

5.2a Shuttering and Moulds

Suitable shuttering and moulds strongly shored to prevent any noticeable deflection by concrete are to be provided and fixed for all in-situ and pre-cast concrete. In the case of exposed faces of the finished work or where wrought shuttering is specified, they are to be of steel or timber perfectly smooth and set up true to the required lines and dimension shown on the Drawings with an allowance for camber where required. All shuttering shall be coated with shutter oil of an approved brand, kept out of contact with any reinforcement and shall be cleaned out after fixing. Joints are to be perfectly tight and close to prevent the escape of liquid from the concrete. All chamfer and radius strips, liners and cores are to be provided where required and the whole is to be thoroughly secured and strutted in a workmanlike manner to the satisfaction of the Architect/Engineer. Where shuttering is used more than once it shall be thoroughly cleaned each time and made good where necessary.

CHAPTER – 06 – BRICK WORK AND BLOCK WORK

6.0 BRICKWORK & BLOCK WORK (Refer General Specification Nos. 6.0 to 6.3)

Add the following

6.1.1a General

COMMON BURNT CLAY BRICKS SHALL CONFORM TO S.L.S. 39/1978 AS AMENDED IN AMENDMENT NO. 1/1981. THE DIMENSIONS OF BRICKS SHALL GENERALLY BE 220mm x 105mm x 65mm (8.7"x4.1"x2.6"). THE BRICKS SHALL CONFORM TO TYPE-II GRADE-II AS SPECIFIED AND THE REQUIREMENT AS TABULATED IN TABLE 6.1 OF THE SPECIFICATION PUBLISHED BY 'INSTITUTE FOR CONSTRUCTION TRAINING AND DEVELOPMENT OF SRI LANKA'.

CHAPTER – 07 – STONE WORK

7.0 STONE WORK (Refer General Specification Nos. 7.0 to 7.5)

CHAPTER – 08 – WOOD WORK

8.0 WOOD WORK (Refer General Specification Nos. 8.0 to 8.12 & 8A, 8B)

General

Add the following

- a) All the timber to be used for different types of work should be of pre-approved species. All timber should be well seasoned and free of sapwood and treated with approved Wood Preservatives and test results should be submitted for approval.
- b) All Carpentry & joinery should be done by well experienced carpenters. Samples of door frames, window frames, sashes and doors should be produced to the Architects for approval. All timber should be smoothly planed, free of peeling of grain, prior to use for Door and Window frames, sashes, lattice work and ceiling beadings. Timber used in one building for one type of work should be of the same species.

8.2 Structural Timber and Timber Roof Work

General

Add the following

- (i) All structural timber, roof timber, ceiling timber and roof framing shall be of species of approved Class-I and of finished sizes as specified in the bill or detailed in the drawings, subject only to the permitted tolerances allowed in B.S. 4471.
- (ii) All Roof timber, and Ceiling timber frames to be Class-I and Kiln seasoned at an Organisation approved by the Architect. Moisture Content not to exceed 12% and the timber to be pressure impregnated in Copper Chrome Borax to a minimum depth of 12mm in all sides. Copper Chrome Borax penetration to be done at an Organisation approved by the Architect.
- (iii) All timber test certificates shall be submitted to the Architect/Engineer. Certificate of Kiln seasoning and certificate of pressure impregnation should be submitted from the State Timber Corporation or any other Organisation approved by the Architect and in addition to the above certificate the facilities should be available at the work site for testing Copper Chrome Borax penetration.
- iv) Random samples of Timber taken at site from time to time shall be tested at I.T.I or N.B.R.O. Laboratories for moisture content and Copper Chrome Borax penetration as directed.
- (v) Timber of any other species of Class-I timber to be used, prior approval of the Architect shall be obtained before use.
- (vi) Roof Plan is only a guide, however any additional timber rafters, beams, supports and props are necessary to complete a strong, sound and a steady roof, Contractors rates shall include for such additional timber members.

❖ **ANY TIMBER NOT CONFORMING TO THE ABOVE CONDITIONS ARE LIABLE TO BE REJECTED**

8.3 **JOINERY**

General

Add the following

- (i) All timber shall be of species of approved class I and of finished sizes as specified in the bill or detailed in the drawings, subject only to the permitted tolerance allowed in B.S. 4471.
- (ii) All timber to be Kiln seasoned at an Organization approved by the Architect. Moisture content not to exceed 12% and the timber to be pressure impregnated in Copper Chrome Borax to a minimum depth of 12mm in all sides.
- (iii) All timber test certificates shall be submitted to the Architect. Certificate of Kiln seasoning and pressure impregnation should be submitted from the State Timber Corporation or any other Organization approved by the Architect and in addition to the above Certificate the facilities should be available at the work site for testing Copper Chrome Borax penetration.
- (iv) Random samples of timber taken at site from time to time shall be tested at I.T.I or N.B.R.O. Laboratories for moisture content and Copper Chrome Borax penetration as directed.
- (v) All joinery shall be of good quality workmanship with Mortice and Tenon Joints, housed joints with hardwood dowels, brass screws. All such joints shall be done after applying 'Chemifix' or 'Multi bond' on to the joints.

8.4 **DOOR & WINDOW FRAMES**

General

Add the following

- (i) All Door and Window frames shall be fixed to Brick/Block walls with 25mm x 6mm x 250mm long Mild Steel holdfasts at 900mm centres. Fixing to concrete walls, concrete columns or Slabs P.V.C. raw plugs and 125mm long screws shall be used at 900mm centres. All mild steel holdfasts to be applied with 03 coats of approved Zink Phosphate paint (anticorrosive paint).
- (ii) All door, Window, Partition and Cupboard frames shall be out of kolon or jak local or from South East Asian Class-1 unless otherwise specified. The Contractor should obtain the Architect's approval for the samples prior to purchasing.
- (iii) For fabricating door and window sashes one species shall be used and mixing up of different species of timber for same sash is prohibited.

8.5 **SASHES FOR DOORS, WINDOWS, FANLIGHTS ETC.**

General

Add the following

- (i) All door, Window and Cupboard sashes shall be out of kolon or jak local or from South East Asian Class-1 unless otherwise specified.

8.7 **Skirting, Picture Rails Moulding etc.**

Add the following

- (i) All timber Skirtings, Picture Rails, Mouldings, Dado Rails, Architraves, Copings, Cover-fillets and the like shall be out of kolon or jak local or from South East Asian Class-1 unless otherwise specified.
- (ii) Eaves Valance Boards Barge Boards and Ceiling frames shall be out of jak local or from South East Asian Class-1 unless otherwise specified.

8.10 **Trellis Work**
Add the following

- (i) All lattice work and Glazing Beadings shall be out of kolon or jak local or from South East Asian Class-1 unless otherwise specified.
- (ii) All timber louvers shall be out of kolon or Jak Unless otherwise specified

CHAPTER – 09 – METAL WORK

9.0 METAL WORK (Refer General Specification Nos. 9.0 to 9.7)

9.3.7 Painting after erection

Add the following

Fire Protection of Steel Work

The Contractor shall ensure compatibility and adhesion between the steel work paint treatment and the sprayed fire protection.

9.7 ALUMINIUM FRAMED DOORS, WINDOWS & PARTITIONS

9.7.2 Materials

Add the following

All the sizes given are of minimum size and to be considered as guideline dimensions. The Bidders are free to quote for their standard sections available or as per the Manufacturers Specified Sizes and Profiles. Samples of such sections should be forwarded with the Bid.

The successful Bidder shall be solely responsible for the adequacy of all the Works in this section and he shall make good all damages arising from inadequate provisions.

However, the Architect has provided a Shop-Drawing giving the required Aluminium Sections for all the Doors & Windows. Bidders are strongly advised to follow those Drawings and price accordingly. All the Aluminium Sections to be powder coated.

9.7.2.1.1 ALUMINIUM ALLOY

All Extruded Aluminium to be used in this Contract shall be an approved alloy of commercial quality, free from defects, impairing strength and/of durability. Extruded Aluminium alloy sections to B.S. 1475 or A A 6063 or 50 S Temper T5.

9.7.2.1.2 FASTENERS AND HARDWARE

All screws, nuts, washers, bolts, rivets, hardware and other miscellaneous fastening devices incorporated in the Aluminium panels and/or Units shall be of Aluminium, Stainless steel or other non-corrosive materials compatible with Aluminium and shall be of sufficient strength to perform the functions for which they are used. Provisions shall be made for hinges, locks, catches, handles, furniture, latches, opening devices, stays, pulls, door closers, safety bars etc. required for efficient use and operation.

9.7.2.1.3 GLAZING AND SEALING COMPOUNDS

Compounds to be used for Glazing shall be compatible with the material surface which they come into contact and be of approved type of the best quality materials.

When Faced Glazing is required, the face putty shall be knifed off to form a triangular fillet finishing slightly below the sight line and the back putty shall be knifed off to an angle and not undercut.

Where Beaded Glazing is required and the face putty shall completely fill the rebate and be knifed off to an angle and not undercut and in cases where glass dimensions exceed 30" Neoprene spacers shall be used.

9.7.2.1.4 **INSULATION**

Insulation to be thermal resistant, non-combustible in nature, absorb originating in daily life, and be of suitable material for permanent use which does not deform by shock or vibration. It should be able to withstand chemical deterioration and have no expansion or shrinkage due to difference of temperature, be light and flexible.

9.7.2.1.5 **FABRICATION OF ALUMINIUM UNITS**

The fabrication of the Units shall be by an Organization of repute of long standing and who is a Specialist in this field and shall be approved by the Architect before engaging their services.

9.7.2.1.6 **SAMPLES AND SHOP DRAWINGS**

Samples of all the Aluminium sections, Glass, Hinges, Barrel Bolts and Locks and other fittings should be forwarded for approval within one month after the Award of the Contract. **The Contractor should fabricate one sample Window and one sample Door for Approval by the Architect**, prior to the assembling of the others. Shop drawings should be forwarded to the Architect/Engineer for approval before manufacturing and **within ONE MONTH** after the **AWARD** of the Contract.

9.7.7 **DOORS, WINDOWS & PARTITIONS**

9.7.7.1 **Add the following**

- (a) Window Frames
50mm x 80mm x (1.5mm thick)
- (b) Window Sashes
30mm x 50mm (1.5mm thick)
- (c) Glass for Windows - Pilkington U.K. Origin
05mm thick Float glass, clear/or opaque/or and 6mm thick wired glass or as specified.
- (d) **SOLAR CONTROL WINDOW FILMS**
Llumar Solar Control Film having Total Solar Energy Rejection 79% and Glare Reduction 83% (Code No.-R20 SR MPR)
- (e) Fasteners and Hardware
Product by CECO (Engineering) Ltd. U.K. or equivalent approved make and manufacture.

02Nos. Stainless Steel Friction Arm Hinges with stainless steel screws per window sash.

01 No. Standard Handle and Back plate with stainless steel screws, smooth Satin Chrome plating or/tough Polyester paint coating.

- (f) Door Frames
50mm x 80mm x (1.5mm thick)
- (g) Door Sashes
30mm x 100mm x (1.5mm thick) or 30mm x 150mm or equivalent sizes.
- (h) Glass for Doors - Pilkington U.K. Origin
05mm thick Float Glass - Clear/or Opaque/and or 6mm thick Wired glass or as specified.
- (i) Fasteners and Hardware - Japanese Origin
03 Nos. Heavy Duty Japanese Make Aluminium Hinges with stainless steel screws.
02 Nos. Heavy Duty Japanese Make Aluminium Flush Bolts with stainless steel screws.
Finish - Bronze/Satin Stainless Steel/Polished Brass/Polished Satin Aluminium /or as specified.

- (j) Door Lock for Doors with Aluminium Sash
ALPHA (Original Japanese Make) or Equivalent approved Original Japanese make. Lock with following specification - Mortice Lock sets finish to Architect's/Engineer's specification with 3 sets of keys.
- (k) Door Lock for Doors with Plywood Sash & for Door with Aluminium Sash.
Union/Yale (UK Original) or Equivalent approved Original Japanese make Mortice with 3 sets of keys, finish to Architect/Engineer specification.
- (l) Door Closer
"DORMA" TS 68 or Equivalent approved Original Japanese make Hydraulic Overhead Door Closer, controlled closing from 180° standard type to B.S. 6459/1:84 Medium duty.
Finish - Silver/Dark Bronze/Gold Lacquer/Satin Stainless Steel/Polished Brass/Polished Satin Aluminium/or as specified.
- (m) Overall Sizes
Exact measurements of the opening to be measured at the Site. The dimensions given in the Drawing to be considered as guideline dimensions.
The Units shall fit exactly flush against Building finished openings.
- (n) Glazed Fittings
All the Glazing Beadings, Glazing metal, Gaskets, Sealants and all other necessary fittings should be of high quality and approved by the Architect - samples to be submitted at Tender time for inspection.
- (o) Partition Frame
50mm x 80mm x (1.5mm thick)
- (p) Glass for Partitions - Pilkington U.K. Origin or Equivalent approved by the Architect/Engineer
05mm thick Float Glass - Clear/or opaque/and or 06mm thick wired glass or as specified.
- (q) Coating for Aluminium Sections
All the Aluminium Sections should be Powder Coated to a specified colour to a thickness of 60-80 microns unless otherwise specified

Add the following

- 9.7.7.2 Aluminium Framed Doors, Sliding Doors, Windows, Sliding Windows, Louvred Windows Screens, partitions and such shall be made of extruded Aluminium alloy section by reputed approved organization.
- 9.7.7.3 Aluminium roller shutters and the like shall be made of extruded Aluminium alloy section by reputed approved organization. Anodized/Powder coated to specified colour to a thickness of 20-25/60-80 microns unless otherwise specified.
- 9.7.7.4 Aluminium Hand railings, Core rails, Balusters, Newells and the like shall be made of extruded Aluminium alloy section by reputed approved organization. Anodized/Powder coated to thickness of 20-25/60-80 microns unless otherwise specified.
- 9.7.7.5 Aluminium sliding windows shall be removable for cleaning and shall be fitted with a suitable locking device.
- 9.7.7.6 Fly screens shall be made of suitable matching Aluminium frame and Aluminium mesh.
- 9.7.7.7 Aluminium Units shall be designed to resist penetration of external moisture to the inside of the building. Fixing of frames for all units to building shall be such as to ensure solid, void free, waterproof joints. The joints shall be caulked with a building mastic which does not sag or run, non hardening, non-staining and can be painted.
- 9.7.7.8 Samples of Aluminium Units shall be provided by the Contractor for approval, by the Architect. All units shall be of similar quality to the approved samples.
- 9.7.7.9 All Glass louvers to Aluminium louvered Units shall be provided with the units
- 9.7.7.10 All glazing to Aluminium units shall be provided with the units
- 9.7.7.11 All Aluminium louver blades to Aluminium louvered units shall be provided with the units.
- 9.7.7.12 The Contractor shall ease and adjust all Aluminium window and doors and leave in perfect working order on completion.

CHAPTER – 10 – IRON MONGERY (Refer General Specification 10.0 to 10.9 & 10/1 to 10/28)

10.0 IRON MONGERY **Add the following**

- 10.9.4 (a) All Ironmongery such as Hinges, Door bolts, Casement Stays & Fasteners, Hooks & Eyes, Pull rings, Door Handles etc. shall be of heavy duty superior quality oxidized brass fittings to be of Japanese/English (UK) make unless otherwise specified. Samples of all Ironmongery shall be submitted to the Architect/Engineer for approval.
- (b) All screws and panel pins etc. shall be of oxidized brass or otherwise specified.
- (c) All locks, unless otherwise specified to the requirements of General Specification and of approved make & manufacture **EQUIVALENT** to Original Japanese/UK/German make series and shall be approved by the Architect.
- (d) Locks for cupboards unless otherwise specified to the requirements of General Specification and of approved make & manufacture **EQUIVALENT** to **"808" CHINESE** make all brass and shall be approved by the Architect.
- (e) Automatic door closers/ self closing devices to the requirements of General Specification and of approved make & manufacture **EQUIVALENT** to "DORMA" series German make or RYOBI 800 series Japanese make and shall be approved by the Architect.

CHAPTER – 11 – WALL CEILING AND FLOOR FINISHES

(Refer General Specification 11.1 to 11.3 & 11.A)

11.1.1.3 Application **Add the following**

Contractor should do one area in any building as a mock-up room with all finishes for approval. Afterwards all finishes should comply with standards. For all external finishes also, sample area to be approved by the Architects prior to commencement of balance work.

11.1.1.3a Application of Rendering and Plastering

Before rendering or plastering on concrete, the surface should be well hacked to form adequate key and to remove projections. Before rendering or plastering on block work the joints shall be raked out and the surface hacked as necessary to form adequate key and the surface shall be brushed down to remove efflorescence and loose dust. Before rendering or plastering starts all surfaces are to be well wetted with water.

The rendering and plastering must be kept damp by lightly spraying with fresh water for 18 hours after application. Rendered and plastered surfaces are to be left undecorated for a period of at least four weeks.

Surfaces to receive plastering or screeding shall be brushed to remove all loose particles, dust, laitance, efflorescence, etc., and any projecting fins on concrete surfaces shall be hacked off. Rake out joints of block work and brickwork and hack concrete to provide key. All traces of mould oil shall be removed from concrete surfaces by scrubbing with water containing detergent and rinsing with fresh sweet water. Surfaces shall be wetted and re-wetted as required to equalize suction before the first coat of plaster or screed is applied. In particular, dense hard concrete surfaces shall be wetted, and re-wetted as required before bonding plaster is applied.

Surfaces to receive screeds less than 10mm thickness or as described shall be similarly treated with an approved bonding agent applied in strict accordance with the manufacturer's instructions.

All plasters, lime and cement shall be stored in a properly roofed, weatherproof, dry, well ventilated shed, used exclusively for this purpose, with a wooden floor not less than 150mm clear above the ground. The different types of plaster shall be kept separate and arranged so that they may be used in the order of delivery.

11.1.11.1
11.1.11.1.1

Materials

Glazed Ceramic Tiles and Specials

Add the following

The glazed ceramic wall tiles shall be to the sizes indicated on the drawings or as directed by the Architect and shall be cushion edge ceramic wall tiles complying generally with B.S. 1281 ("Glazed ceramic tiles and tile fittings for internal wall") and shall be obtained from an approved, Manufacture.

All tiles shall be true to shape, flat and free from flaws, cracks and crazing and keyed on the reverse side to the approval of the Architect.

Tiles shall be fixed with approved adhesive from an approved manufacture and used strictly in accordance with the manufacturer's instructions.

Particular care shall be taken to keep all courses perfectly horizontal and all perpend truly vertical.

White glazed wall tiles are to be grouted and pointed in approved pure white grouting compound and coloured glazed wall tiles are to be grouted and pointed in approved coloured grouting compound both from an approved manufacturer to match the tiling and to the approval of the Architect/Engineer.

Wall tiles shall generally be white unless otherwise specified. Rounded edge tiles shall be used on all external angles and unprotected ends of tiling or finished with PVC tile edging. The backing for wall tiles shall be cement, lime, sand, plaster 1:1:6 applied in one 10mm thick coat with a slightly scratched finish. Tiles shall be fixed to this backing with an approved adhesive. All tiles shall be aligned properly, with straight joints in even widths determined by the spacers on the tile.

Edges and external angles shall have appropriate rounded edge tiles or PVC tile edging. The whole of the work shall be executed in accordance with B.S.C.P. 212 ("Wall Tiling"). Where tiling abuts against wood or metal frames or other tiling at angles and around pipes, etc., it shall be carefully cut and fitted to form a close neat joint.

11.2
11.2.4

Ceiling Finishes

Suspended Ceiling Generally

Add the following

The whole of the suspended ceiling shall comply with the relevant clauses of B.S. 476. The whole of the metalwork in the supporting framework is to be adequately rust-proofed.

11.2.1a

Plain Asbestos Cement Ceiling sheets shall be non combustible and free from cancer causing materials.

11.2.3a

Proprietary Ceiling System shall be of approved manufacture and brand approved by the Architect and shall be fixed according to manufacturer's specification.

11.3.1.1

Materials

11.3.1.1.1

Clay or Ceramic Floor Tiles

Add the following

11.3.1.1.1.a

A thin layer of neat cement paste shall be spread over the mortar bed and the backs of the clay or ceramic tiles immediately before laying.

Clay or ceramic tiles shall be positioned and tapped firmly into the mortar, laid with straight close joints with a minimum gap between the tiles of 2mm. Any mortar extruded between the joints must be wiped off with a damp cloth and joints cleared for grouting. Final levelling shall be carried out within one hour of placing tiles.

Mortar for pointing clay or ceramic tiles shall be non-shrinking waterproof factory mixed grout. The joints shall be pointed and flushed up by spreading the grout diagonally over the joints until all gaps are filled. Excess grout shall be removed with a damp cloth as pointing proceeds.

Power tools shall be used for cutting tiles as far as practicable. Cut edges shall be straight and free from chipping and ground or filled smooth.

Clay or ceramic tiled areas shall be thoroughly cleaned with soap and water or with a weak solution of muriatic acid rinsed of with cold water when pointing has hardened sufficiently to permit it. On no account shall soda or sulphate containing solutions be used for cleaning purposes.

11.3.11 **Carpet Flooring**
Add the following

Carpet shall be from an approved manufacturer and shall be laid by an approved firm.

Carpet shall in general be laid as the last building operation within each building before handing over, unless otherwise approved by the Architect. Before laying carpet screeds shall be cleaned off, all loose particles removed and a level surface left to receive the carpet.

When handing over the carpeting shall be vacuum cleaned.

CHAPTER – 12 – ROOF COVERING AND ROOF DRAINAGE

(Refer General Specification 12.1 to 12.11 & 12/1 – 12/2)

12.2 **Corrugated Asbestos Cement Roofing**

12.2.1 **Materials**

12.2.1.1 **Asbestos Cement Corrugated Sheets**

Add the following

12.2.1.1a Asbestos Cement Corrugated Sheets shall be of larger corrugations confirming to SLS 241 & 242.

12.4 **Zinc-Aluminium Coated Profiled Roofing**

Add the following

12.4.2.1 The flashing, cappings and trims & valley gutter etc shall be form the same type of the finished material of the roof cladding.

12.4.2.2 The roof cladding shall be trim deck trapezoidal ribbed type colour-bond/non-colour-bond as specified.

12.4.2.3 Purlins shall be "C"/"Z" sections as specified and shall be cold roll formed zinc coated high strength galvanized steel conforming to AS-1397-Z 280 & Z 245.

Colour-bond shall comply with A.S. 2728

12.4.2.4 Proprietary roof/ceiling insulation shall be highly reflective aluminium foil laminated Polyethylene foam, Rodent proof sheets.

12.4.2.5 Single or double sided lamination to thickness as specified and shall be tear resistant fire retardant quality and of approved manufacture brand approved by the Architect and shall be fixed to the manufacturers specifications.

CHAPTER – 13 – GLAZING (Refer General Specification 13.0 to 13.3)

13.1 **Materials**

General

Add the following

13.1.a Putty for glazing to metal window shall be an approved tropical grade. mastic putty and in accordance with the manufacturer's instructions and recommended by the Architect.

CHAPTER – 14 – PAINTING AND DECORATING (Refer General Specification 14.1 to 14.20)

14.0 **PAINTING AND DECORATING**

Add the following

14.a **Materials Generally**

The whole of the oil paint, emulsion paint, bituminous paint and the like to be used upon the work shall be to the General Specifications and of approved make and manufacture **EQUIVALENT** to that manufactured by the Chemical Industries (Colombo) Ltd (CIC).

All paint and the like shall be brought on to the Works in unopened and sealed tins and no paint shall be taken from one job to another. All paint shall be used within six months of delivery.

The paint and the like shall be kept well stirred and shall not be used when a thick sediment has settled. Any paint or the like which develops a skin on the contents within the tin shall be removed from the Works. Any residue left in a tin shall not under any circumstance be added to the contents of another tin.

Colours and tints shall be chosen by the Architect who will furnish the Contractor with a schedule giving full details of colours required.

Colours shall not be mixed except on the instruction and under the supervision of the Architect.

14.b **Preparation Generally**

All concrete, rendered and plastered surfaces shall be rubbed down to remove all loose particles. No rendering or plastering shall be decorated until it has thoroughly dried out.

Woodwork shall be brought to an even silky finish by the use of fine sandpaper. All woodwork for painting shall be carefully knotted, stopped and primed.

Galvanized metal surfaces shall be treated with a mordant solution before painting.

Copper pipes shall be cleaned to remove all grease and the surface etch primed with zinc chromate primer.

14.c **Workmanship Generally**

Surface shall be well cleaned and rubbed down between each coat.

The tint of each coat shall vary from the previous on and each coat shall be approved by the Architect before the next is applied. All finishing tints shall be selected by the Architect.

Each coat of paint, etc., shall be thoroughly dry before the application of a further coat.

The final coat of paint shall not be applied until immediately before handing over the building and when handed over shall be free of all imperfections, chips, scratches, etc., and all to the satisfaction of the Architect.

14.d **Painting Wood work Generally**

Preparing and cleaning the wood surfaces by removing peeling of Wood grains, knotting and sand papering the surfaces to a very smooth surface using a machine sander.

Filling all the crevices with wood filler recommended by an approved manufacture and sand papering the surface to the approval of the Architect.

Preparing and applying two coats of ALUMINIUM sealer and wood primer from an approved manufacture approved by the Architect.

Preparing and applying TWO or MORE COATS of ALUMINIUM gloss or matt finish paint or an equivalent finish paint from an approved manufacture as directed by the Architect.

14.e **Varnishing Wood Work Generally**

Preparing the surfaces to smooth finish and applying wood stain and Wood filler from an approved manufacture as directed by the Architect.

Preparing and applying two coats of sanding sealer as per Manufacturer's Specifications from an approved manufacture approved by the Architect.

Preparing and applying TWO or MORE COATS of POLYURETHENE Varnish gloss or matt finish or an equivalent finish paint from an approved manufacture as directed by the Architect.

14.f **Painting Metal Work Generally**

Removing and cleaning all the mill scale and rust, by means of wire brushing and using emery paper. In some circumstances Flame-Cleaning as specified.

Soon after cleaning applying two coats of quick drying red lead primer.

Treating all metal members before fixing with anti-corrosive paint as per Manufacturer's Specifications from an approved manufacture approved by the Architect.

For painting on Aluminium and G.I. using primer coats as per Manufacturer's Specifications from an approved manufacture approved by the Architect.

Applying metal filler from an approved manufacture approved by the Architect to all the uneven surfaces and sanding smoothly.

Preparing and applying two or more cats of coach finish or an equivalent finish paint from an approval manufacture as directed by the Architect.

CHAPTER – 15 – DEMOLITION (Refer General Specification 15.0 to 15.4.10.4)

15.0 DEMOLITIONS

Add the following

15.A Demolitions, Alterations, Repairs and Maintenance Generally

- 15.A.1 Building and other structures shall be demolished in the reverse order to that of their Construction. The order of demolition for buildings shall be progressive, storey by storey, having regard to the type of Construction.
- 15.A.2 The Contractor shall provide protective platforms, gantries, nettings, screens and other devices necessary for the Security and Protection of all the parts & various elements of the existing/occupied Building, from any damage.
- 15.A.3 Demolished loose materials debris & refuse shall be brought to ground level using properly erected temporary chutes from upper level to ground.
- 15.A.4 Finding dumping ground for refuse and debris shall be the responsibility of the Contractor.
- 15.A.5 Statutory requirements if any, on safety of personnel etc. shall be complied with, adequate protective clothing, helmets, goggles, safety foot wear, gloves etc. shall be provided for the workmen.
- 15.A.6 All precautions against uncontrolled collapse of parties of building shall be avoided. Care shall be taken to prevent damage to rest of the walls, beams, slabs, floors, ceiling and the roof. Abutting structures shall be adequately taken care of during demolition operations. **The stability and structural integrity of the part to remain shall be ensured.**
- 15.A.7 The Contractor shall take all precautions to protect the movable and immovable properties of the occupied building and to adjacent to the building to be demolished/altered and to the adjoining part of the existing buildings and its components.
- 15.A.8 Every effort shall be made to minimize any noise, and nuisance to the public, the occupants of the occupied and adjoining buildings and offices, from smoke, dust, rubbish, compressors, percussion tools, construction tools and equipment etc. and other cause.
- 15.A.9 On all sides debris shall only be allowed to fall freely to the ground internally. If allowed to fall externally, chutes or skips shall be used.
- 15.A.10 Where debris from walls, etc. above the first floor level is to be dropped to the ground within a building sufficient care shall be taken against flying or falling debris and to enable the debris to fall safely down without getting deflected.
- 15.A.11 When material is being dropped a **look-out man** shall be posted to ensure safety generally.
- 15.A.12 Steel and reinforced concrete structural members shall be lowered to the ground or be cut into convenient lengths before allowing to fall.
- 15.A.13 Dismantling and taking out the partitions including glass, doors and windows including glass and all the ironmongery, electrical fittings and accessories, wash-hand basins, sinks, water closets and cisterns, toilets accessories and such items shall be carefully carried out without causing any damage to the items and staking them in a secure and safe place, which is to be identified by the Owner. Such items shall be transported and delivered to owner or disposed.
- 15.A.14 All existing/old service lines, drainage, electrical, lightning protection, conductors, telephone lines etc. of whatever nature encountered in the demolition of the building shall be re-routed/re-alienated where necessary and connected to function/operation.

CHAPTER – 16 – MISCELLANEOUS BUILDING WORKS – VOLUME-01 (SCA/4/1)

Add the following

16.7 BUILT IN ITEMS

16.7.1 **Note**

THE RELEVANT SECTIONS AND CLAUSES OF THE GENERAL SPECIFICATIONS AND THE PRICING PREAMBLES FOR CONCRETE WORK, BRICKWORK AND BLOCK-WORK, CARPENTRY AND JOINERY, METALWORK, PLASTERWORK, PAINTING WORK ETC. SHALL APPLY EQUALLY TO ITEMS INCLUDED IN THIS SECTION.

16.7.2 **General**

- (i) The Contractor is advised to study very carefully and in details the Location Floor Plan and the Detail Drawings.
- (ii) The descriptions given under each item is very minimum to give an idea only. However all the details are given in the Drawings.
- (iii) When pricing the Built-in Items the rates for each item must include for complying with the details in the Drawings.
- (iv) The dimensions given in the B.O.Q. items are approximate. The actual dimensions to be obtained from the relevant Drawings. The dimensions to be checked at site during construction to suit the Site Conditions.
- (v) The rates shall cover for high finishes in all of the built-in-items
- (vi) Plaster Work on 225mm thickness brick walls, tiles above Counters had been measured separately and included elsewhere.
- (vii) Plaster work on 113mm thickness brick stub walls to support concrete Counters should be accounted and shall be included in the rate for such cupboards.
- (viii) All brickwork as such described or as indicated in the detail drawings to be plastered with a smooth finish where necessary.
- (ix) Bituminous application to walls shall be done in accordance to the manufacturer's Specification.
- (x) Under all items of description where the word 'Fix' is used, it means, supply, fabricate and install.
- (xi) All the timber to be kiln seasoned to 12% moisture content and pressure impregnated in Copper Chrome Borax at an Organisation approved by the Architect.
The relevant clauses and notes in Carpentry and Joinery section shall apply to all timber work in this section.
- (xii) All the timber for Cupboard, Wardrobe, Counter, Dresser frames shall be out of Local JAK, KOLON OR from South East Asian Class-1 unless otherwise specified.

16.7.2 **General**

- (xiii) All screws shall be oxidized brass
- (xiv) Stainless steel sinks, stainless steel, sinks with draining boards, Ceramic kitchen sinks when indicated in detail drawings or in cupboards, are measured separately and included elsewhere.

16.7.3 **Painting Wood work**

- (a) Preparing and cleaning the wood surfaces by removing peeling of Wood grains, knotting and sand papering the surfaces to a very smooth surface using a machine sander.
- (b) Filling all the crevices with wood filler recommended by an approved manufacture and sand papering the surface to the approval of the Architect.
- (c) Preparing and applying two coats of ALUMINIUM sealer and wood primer from an approved manufacture approved by the Architect.
- (d) Preparing and applying TWO or MORE COATS of ALUMINIUM gloss or matt finish paint or an equivalent finish paint from an approved manufacture as directed by the Architect.

16.7.4 **Varnishing Wood Work**

- (a) Preparing the surfaces to smooth finish and applying wood stain and Wood filler from an approved manufacture as directed by the Architect.

- (b) Preparing and applying two coats of sanding sealer as per Manufacturer's Specifications from an approved manufacture approved by the Architect.
- (c) Preparing and applying TWO or MORE COATS of POLYURETHENE Varnish gloss or matt finish or an equivalent finish paint from an approved manufacture as directed by the Architect.

16.7.5 **Painting Metal Work**

- (a) Removing and cleaning all the mill scale and rust, by means of wire brushing and using emery paper. In some circumstances Flame-Cleaning as specified.
- (b) Soon after cleaning applying two coats of quick drying red lead primer.
- (c) Treating all metal members before fixing with anti-corrosive paint as per Manufacturer's Specifications from an approved manufacture approved by the Architect.
- (d) For painting on Aluminium and G.I. using primer coats as per Manufacturer's Specifications from an approved manufacture approved by the Architect.
- (e) Applying metal filler from an approved manufacture approved by the Architect to all the uneven surfaces and sanding smoothly.
- (f) Preparing and applying TWO or MORE COATS of coach finish or an equivalent finish paint from an approved manufacture as directed by the Architect.

16.7.6 **Work in Sheet Metal - Aluminium Stainless Steel or such linings**

- (a) Raking Cutting and curved cutting
- (b) Welded or beaded edges, burned, brazed or Welded Angles, Welded Seams and the like.
- (c) Stainless steel welding, fabricating to profiles and fixing
- (d) All fabrication and profiling of Stainless steel sheet shall be by an Experienced Reputed Stainless Steel Fabrication Firm and approved by the Architect/Engineer.

Add the following

16.8 **ASPHALT WORK AND WATER PROOFING**

- 16.8.1 **Note:-** The Materials laying techniques and workmanship shall conform to BS: CP: 102: 1973 or other recognized standard and laid as per manufacturers recommendations and to the general specifications and its appendices.

16.8.2 **WATERPROOFING FOR FLAT ROOFS, TERRACES, GUTTERS SUNSHADES, WATER TANKS, TOILET FLOOR ETC.**

1. A Crystallization Waterproofing Product and Complying to B.S., B.S.C.P. & A.S.T.M. standard Specifications, and the product chemically Causing a Catalytic reaction generating a non soluble Crystalline formation of dendritic fibre within the Pores and Capillary Tracks of Concrete and thus making the Concrete permanently sealed against the penetration of water or liquids from any directions.

OR

An Elastomeric Liquid Polyurethane Product having High tensile strength and elasticity when cured and forms a tough flexible, joint free seamless membrane and having High physical properties

OR

A Liquid sealer that forms a "Hydrophobic" barrier a Waterproof Gel inside the Concrete and provides a High Performance long term Waterproof Seal for all the life time of the Concrete.

OR

An Acrylic Based Polymer Modified Cementation Composite coating system (PMCC System) having a tough, hard, wearing surface formation providing a non corrosive, non flammable, non toxic coating preventing of salt penetration, Ultraviolet light acid and allealic actions, preventing any peeling and blister formation and providing high water proofing characteristics.

2. The system should be capable of offering all required proprietary specials, details and techniques required in the treatment of new and existing flat roofs capable of catering for conditions such as:
 - a) Movement due to thermal expansion of structure
 - b) Normal pedestrian traffic loads
 - c) Mounting of plant and equipment like pumps, cooling towers, A.C. Out Door Units etc.
 - d) Flexible details for sealing joints between new and old building during differential settlements.
3. Open woven fibre glass membrane/glass fabric shall comply to B.S. specification.

16.8.3 Waterproofing of Foundations, Basement, Lift Pit, Sump and Retaining Walls and the like

1. Material offered should be Crystallization Waterproofing Product and Complying to B.S., B.S. CP & ASTM standard specifications and/or a Bituminous Water proofing compound and Bituminous Primer complying to B.S. 3940 B.S.C.P. 144/Bituminous membrane, from an established proprietary acceptable to the Client and Consultant and/or a system based on a bitumen/polymer formulation of self adhesive or torch on type as recommended by the manufacturer for tanking application.
2. The system should be capable of offering all required proprietary special/details and techniques required in the tanking of basement structures capable of catering for conditions such as:
 - a) All backfilling and hydraulic pressures (A copy of the soil report and ground water conditions carried out on the instructions of the employer is available for inspection).
 - b) Settlement of structure without failure occurring to membrane
 - c) Differential settlement between new and old buildings
 - d) High water table conditions
3. A detail submission must be made of the product with technical specifications of the material, specials and method of application by means of catalogues, illustrated literature with details on.
 - a) Vertical and Horizontal applications
 - b) Angle fillets and angle strips
 - c) Construction and expansion joints both vertical & horizontal
 - d) Kicker joints and water bars
 - e) Detailing on membrane and system against building settlement and water level fluctuations
 - f) Repairs during the laying and defective workmanship
 - g) Working at pipe lines, rain water outlets or any other objects
 - h) Differential settlements between the buildings
4. The top of vertical membrane should be at least 150mm above ground level and turned into a chase not less than 25mm x 25mm.

PARTICULAR SPECIFICATIONS FOR BUILDING WORKS – VOLUME-01 (SCA/4/1)

Add the following

Building Works – Volume-I - Chapter-16 – MISCELLANEOUS BUILDING WORKS

16.9 ROAD WORKS AND OTHER EXTERNAL WORKS

Note :-

All Relevant Clauses in the Specifications and Pricing Preambles shall Apply Equally to this Section

- (i) Gravel/Sub-Grade material shall consist of rounded or water worn pebbles of irregular shape and size occurring in natural deposits. Gravels shall be obtained from quarries approved by the Architect.
- (ii) Crusher Dust/Fines shall be finely graded crushed stone to pass a 5mm mesh sieve and shall be free from deleterious matter, clay, silt, earth and organic matter.
- (iii) The Sub-base shall consist of crushed rock obtained from approved quarries. The crushed rock shall be of nominal size 100mm to 150mm.
- (iv) The Base Course shall consist of rock fragments obtained from approved quarries. The 1st layer shall consist of rock fragments of minimal size of 50mm to the specified thickness. The second layer shall consist of rock fragments of 6mm - 18mm (1/4"-3/4") to the specified thickness.
- (v) The surface of the Base Course shall be quite dry when the wearing surface dressing is applied. The surface of the Base Course shall be made entirely free of all dust and dirt by brushing with a stiff broom taking care not to disturb the road metal.
- (vi) The Wearing surface bitumen shall be asphaltic cement 80 - 100 penetration grade. The bitumen for the first coat shall be applied at the rate of 2 litres per square metre. The bitumen for the second coat shall be applied at the rate of 1 litre per square metre. Each coat shall be blinding with stone chippings or coarse clean sand at a rate of about 1.25 to 1.0 cubic metre per 100 sq. metre.
- (vii) All Sub-bases and road bases shall be laid in layers and not exceeding 150mm in thickness, each layer consolidated to ensure proper compaction.
- (viii) The finished surface of the base shall conform to the levels shown on the drawing.
- (ix) On completion of the excavation and filling the whole of the surface to receive paving shall be consolidated to the required levels and contours.
- (x) Precast Concrete Kerbs, and Edgings shall be hydraulically pressed and shall comply with B.S. 340 and C.P. 116.
- (xi) Preparing and forming the sub-base and roadway bases shall be accurately cut to the lines and levels shown on the drawing or to such depths and dimension as shall be determined by the Engineer.
- (xii) Precast Concrete Paving slabs shall be hydraulically pressed and shall comply with B.S. 368 and C.P. 116.
- (xiii) Road Wearing surfacing and sub-bases shall comply with all requirements of the specifications and of the M.O.T. specification for Road Works.
- (xiv) Slabs shall be laid to the required falls and cross falls and set to the required pattern. The joints shall be grouted with mortar and shall be uniform in width.

16.9.1 LANDSCAPING & PLANTING

16.9.1.1 PLANT NURSERY

- 1 You are required to establish a plant nursery within the site at a very early date of the project as instructed by the Architect. Very early establishment of a plant nursery is important as it is difficult to obtain the required number of plants from one place and due to non-availability of certain plants as and when you want.
- 2 Plant nursery should be established in a shady place of the site. If the natural shade due to plants is not adequate, cover the entire nursery area with coir netting or nylon netting as directed by the Architect.
- 3 At least one water tap and rubber hose should be available to water the plants morning and evening. Even ground water will be suitable if it is available for watering the plants. Salty water is bad for the plants.
- 4 All plants purchased for the nursery should be **healthy and straight plants**. All plants brought to nursery should be approved by the Architect.

- 5 Certain plants may be propagated from cuttings at the nursery itself. Architect will give all the necessary instructions for successful propagating of the cuttings.
- 6 You may be required to have at least 5% more than the number of plants required for planting as indicated in the drawing. However, no extra payments will be made for these extra plants. You will be paid only for the number of plants planted at the site.
7. All the plant material should be approved prior to purchasing. A plant nursery should be established in a suitable place at the site within the 1st three months of commencement of works at site.

16.9.1.2 **PREPARATION OF PLANT BEDS**

- 1 All the plant beds for indoor plants should be made by removing 12 inches of existing soil from relevant plant bed area as indicated in the drawing and then build the curbs as indicated in the drawings. Then fill the excavated area with a mixture of red soil, kohubath and cow-dung in the ratio of 1:1:1
- 2 All plant beds for bushy plants also should be prepared as indicated in the drawings.
- 3 All the pits for trees to be of 900mm x 900mm x 1200mm deep. After excavating the pits fill the pits with mixture of red sandy soil and kohubath and cow-dung in the ratio of 1:1:1
- 4 All the pits for trees should be ready at least three weeks before the trees are planted. After the preparation of the pit, water the pit every evening until the trees are planted.

16.9.1.3 **PLANTING OF TREES AND OTHER PLANTS**

- 1 All the planting should be done only after 3 weeks after the beds are prepared.
- 2 Best season to start planting is the first monsoon rains. However, planting could be done in other seasons too and watering will be required at least twice a day. Well water could be accepted provided that the water is not salty.
- 3 Water the plant bed and the plants half an hour before planting
- 4 Planting should be done only after 4.30 p.m.
- 5 In the case of plants in polythene containers, it is absolutely necessary to remove the polythene tube completely before planting without disturbing the soil and root mass. This can be done by carefully slitting the bag with a sharp razor blade.
- 6 If the plant is pot bound and the root system is spiraled, gently ease the spiraled root and cut off the teased portion of the roots.
- 7 After removing the polythene bag gently, place the plant in the hole. Hold the plant with one hand and fill the hole with soil.
- 8 When the hole is filled, treat the soil firmly to exclude air pockets from the hole.
- 9 Water well just after planting and re-water one hour later. Thereafter water the plant at 7.00 a.m. and 5.00 p.m. every day.
- 10 Provide shade to plant with palm fronds, coir nets or nylon nets for about three weeks after planting is done.

16.9.1.4 **MANURE & FERTILISERS**

- 1 On the 3rd day after planting spray maxicrop solution on to the plants and repeat this process every fourteenth day for a period of three months from the date of planting.
- 2 Compost manure or dried cow-dung should be spread on a radius of 2ft. of every plant after about one month of planting.
- 3 A solution of Urea in a ratio of 40 mgm in one gallon of water to be sprayed around the plants onto the ground once a month for a period of six months from the date of planting.
- 4 A complete fertilizer (NPK) (approved make) should be sprinkled round the plants and watered once a month for a period of six months from the date of planting. **Quantity to be adjusted according to the manufacturer's specification.**
- 5 The Contractor should maintain all plants by watering, manuring and weeding for a period of one year from the date of planting.

16.9.1.5 **PLANTING OF GRASS**

- 1 In all areas where grass is to be planted, remove six inches of top soil and refill with red soil of approved quality mixed with kohubath in a ratio of 1.1.
- 2 Sprinkle with water for two days once a day before planting grass
- 3 Buffalo grass should be brought in slabs or in loose form and stored in a shady cool place in open air. The grass should not be stacked one top of the other more than two days. Such grass brought to site should be watered twice a day till it is planted.
- 4 Grass should be separated into small plants having good roots and should be planted in rows in both directions. Each row to be three inches apart in both directions.
- 5 Water the grass after planting four times a day or use sprinklers for two hours in the morning and two hours in the late evening.
- 6 Spray a urea solution 40 mgm in one gallon of water starting from the third day of planting for a period of 3 months from the date of planting. Spraying should be done every 14th day only.
- 7 Do not sprinkle cow dung on grass as it contains seeds of weeds
- 8 Cut the lawn with a lawn mover after about one month from planting or as directed by the Architect. The lawn should be cut once a month thereafter.

PART- I – GENERAL SPECIFICATION FOR BUILDING WORKS VOLUME-II (SCA/4/11)

PART- II – PARTICULAR SPECIFICATION FOR BUILDING WORKS VOLUME-II

17.0 SANITARY AND OTHER ENGINEERING INSTALLATIONS

(Refer Volume – II General Specification Chapter 1 to Chapter 3)

Add the following

Generally

- (i) Whole of the work shall conform to Municipal or any Local Authorities by Laws and requirements.
- (ii) The relevant sections and clauses of the Specifications and the Pricing Preambles for Excavation and Earthwork, Concrete work, Plaster work etc. shall apply equally to this section.
- (iii) All potable Cold Water supply pipes, pipe fittings and specials and jointing material etc. shall be rigid uPVC I.S.O. Type 1000/600 and of approved manufacture approved by the Architect/Engineer.
- (iv) All Hot Water supply pipes shall be of Polybutylene /or Copper tubing. The Copper tubing shall be insulated with regiform surround, wrapped and bound with masking tape.
- (v) All Waste Water pipes, pipes fittings and specials and jointing material etc. be rigid uPVC I.S.O. Type 600/400 and of approved manufacture approved by the Architect/Engineer.
- (vi) All Vertical Waste Water pipes and fittings shall be clipped or fixed to walls/ducts with 22 gauge Aluminium Clips at 900mm centres, to hardwood timber plugs / PVC Rawl plugs buried in structure.
- (vii) All Waste Water pipes from sinks shall be fixed in such a manner with a screed joint 300mm above the gulley level. All the 50mm waste pipes from Kitchen sink to gulley shall be fixed to wall with primed and painted flat iron M/s brackets, all as per detail drawings.
- (viii) All Surface Water drainage pipes shall be constructed to a slope of 1:150 to be indicated in the direction of the slope.
- (ix) All Concrete pipes shall be laid on a 1:3:6 (25mm) Mass Concrete pad all as detailed in the drawings and the joints shall be haunched in Concrete.
- (x) All Rain Water down pipes, pipe fittings and specials and jointing materials shall be of rigid uPVC I.S.O. Type 250 of approved manufacture approved by the Architect/Engineer. The down pipes shall be fixed firmly with 18 gauge Aluminium brackets at 900mm centres to hardwood timber Plugs/PVC Rawl plugs buried in structure. All such down pipes shall start from a gutter box at the discharging point. All pipes and bends and shoes, etc. shall be anchored properly.

- (xi) All sewerage pipes and fittings shall be of rigid uPVC I.S.O. Type 400 and of approved manufacture approved by the Architect/Engineer. All vertical sewer pipes and fittings shall be clipped to duct wall with 18 gauge 30mm wide Aluminium clips at 900mm centres, to PVC rawl plugs buried in structure.
- (xii) All sewerage lines shall be laid on a levelling pad of 50mm thick mass concrete 1:3:6(25mm) bed laid to a slope of 1:65. All pipe joints shall be properly sealed with gum and tested for leaks. All pipes joints shall be haunched with concrete as detailed in the drawings. All drains and drainage lines shall be flushed clean and tested for water test/Air test.
- (xiii) All the Manholes shall be properly constructed to line and level. Prior to construction of any Manholes the correct Sewer Line Level shall be obtained from the Municipal or Local Authority. Sewer lines and the correct invert levels of those manholes for construction shall be worked out and located for proper construction.
- (xiv) All pipes shall be buried in the ground, floor slab or in walls as the case may be.
- (xv) All the water supply pipes shall be jointed with High Viscosity Solvent Cement gum and shall be pressure tested for leaks. It is extremely necessary to provide correct jointing accessories and fittings.
- (xvi) All Hot water pipes and fittings shall be jointed and connected to a high grade workmanship and shall be pressure tested for leaks.
- (xvii) All the water supply pipe lines shall be pressure tested in accordance with Sri Lanka Specification for Building Work from ICTAD. Publication NO.SCA/4 (Volume ii). Clause 20.2.5 (Rate for pressure testing included in the relevant item of the PRELIMINARIES).
- (xviii) All the Stopcocks, Wheel Valves, and Gate Valves shall be fixed and connected in such a manner that the Valve could be closed or opened and accessible in case of repair without breaking or causing any damage to the surrounding area such as wall plaster, tile wall etc.
- (xix) All such fittings and accessories shall be easily removable for repairs from time to time without causing any damage to the rest of the building finishes.
- (xx) All the fittings such as Toilet fittings, Sinks, Taps, Shower roses etc. shall be fixed properly and firmly using oxidized brass screws to P.V.C. rawl plugs or timber plugs buried in wall or floor and properly leveled and flushed. Fittings shall not be loose and shaky and all the pipe connections shall be perfectly done by professionally skilled plumbers.
- (xxi) Stopcocks and Gate Valves shall be of high quality. All Stopcocks shall be of Brass and to the requirements of General Specifications and of approved make and manufacture **EQUIVALENT** to PEGLERS ENGLISH (UK) make.
- (xxii) All Garden taps and Bib taps shall be to the requirements of General Specifications and of approved make and manufacture **EQUIVALENT** to PEGLERS ENGLISH (UK) make. Garden taps shall be provided with rubber hose connectors unless otherwise specified.
- (xxiii) All Chromium plated Brass Bib taps or Stopcocks shall be to the requirements of General Specifications and of approved make and manufacture **EQUIVALENT** to Italian, German or U.K. manufacture.
- (xxiv) Shower Roses shall be of Chromium plated adjustable eye ball type of minimum 50mm dia and to the requirements of General Specifications and of approved make and manufacture **EQUIVALENT** to Italian. German or U.K. manufacture.
- (xxv) All Sanitary fittings, including accessories, taps, waste plugs and chains etc. to the requirements of General Specifications and of approved make and manufacture **EQUIVALENT** to TWYFORD original British make.
- (xxvi) All Sanitary fittings and accessories shall be carefully checked and fixed in position by trained skilled plumbers in accordance with the Manufacturers Specification, to working order.
- (xxvii) All the Screws for sanitary fittings and Accessories work shall be stainless steel.
- (xxviii) All Ceramic fittings shall be 'WHITE VITREOUS CHINA'
- (xxix) All Pipes, P.V.C. Accessories and fittings, Stopcocks, Wheel Valves, Gate Valves, all other type of Taps, Fixtures, Sanitary fittings, including accessories, taps, Waste plugs and chains etc. shall be approved by the Architect/Engineer. Samples of all fittings and accessories shall be submitted within the first three months of commencement of work, to

the Architect/Engineer for approval. The approved sample shall be stored in a suitable storage cabinet and shall be kept in the Architect/Engineer's temporary office.

(xxx) All the fittings and accessories shall be the original provided by the Manufacturer.

(xxxi) All plumbing work and conduit work should be done with proper bends and proper joints. All the water pipes should be pressure tested before burying them in concrete or brickwork. All the pipe work should be approved by the Architects prior to burying them.

(xxxii) All water supply, sewerage, waste water, rain water lines should not be buried until approval is given by the Engineer.

(xxxiii) All water pipes should be pressure tested or filled with water for four days and any leak should be marked with red paint. All such leaks should be repaired and tested again for leaks before allowing to cover these lines. In the case of sewerage, waste water and rain water should be allowed to flow on gravity flow for an adequate time in the presence of the Architect's representatives and approval obtained before the Contractor closes up these lines. At the time of testing and checking all the service lines, As-Built early stage sketch line diagrams should be forwarded for approval. These sketch line diagrams should have location dimensions adequately detailed enough to identify the position of the pipe.

Shop Drawings and As Built Drawings

THE CONTRACTOR shall within TWO MONTHS after the Award of the contract submit to the ENGINEER complete INSTALLATION and proposed SHOP LAYOUT DRAWINGS, showing in details all the parts of the works, fully dimensioned, full size details showing sizes of pipes and its exact route, fittings and fixtures and its exact locations and positions, details of installations and such drawings and details as required to meet the site conditions, for approval by the ENGINEER. The ENGINEER may make minor changes in the position of the fixtures and the route of the pipe runs before final approval of the drawings. NO EXTRA COST will be allowed because of these changes.

THE CONTRACTOR shall submit FIVE (05) print sets and the Original Negative of APPROVED AS-BUILT DRAWINGS to the ENGINEER.

PART- I – GENERAL SPECIFICATION FOR ELECTRICAL AND MECHANICAL WORKS ASSOCIATED WITH BUILDING & CIVIL ENGINEERING – (SCA/8)

PART- II – PARTICULAR SPECIFICATIONS FOR ELECTRICAL AND MECHANICAL WORKS ASSOCIATED WITH BUILDING & CIVIL ENGINEERING

ELECTRICAL INSTALLATION (Refer General Specification SCA/8/ Part1& Part 2, Page 1 to 78)

CHAPTER 1 – GENERAL REQUIREMENTS

Add the following

1.10 Generally

- (i) All work in this section shall comply with Specifications and Notes given and shall satisfy the requirements of the Ceylon Electricity Board as prevailing at the time of obtaining power connection.
- (ii) All materials and work shall comply with the current relevant Sri Lanka standard Specification B.S. Specifications and Codes of Practice.
- (iii) The Materials and apparatus required for the complete installation as indicated in the Bills of Quantities, Particular Specification and/or associated drawings shall be supplied, fixed, wired, connected tested and commissioned by the Contractor unless particular mention is made to the contrary.

- (iv) All wiring and conducting shall be done under the direct supervision of a **Chartered Electrical Engineer**. All conduiting work should be approved by the Architect/Engineer before burying. All the conduit joints should be properly sealed with PVC gum and tested for any leaks before burying in concrete or plaster.
- (v) The Contractor shall provide all necessary tests including meggar reading. Certified copies of such tests shall be supplied and attached with the Inspection/Test Certificate Certified by a Chartered Electrical Engineer.
- (vi) Samples of wires, cables, conduits, boxes, switches, sockets, push buttons, all electrical fittings and accessories and other items shall be submitted to the Architect/Engineer for approval before commencing the installation. The samples shall be approved by the Architect/Engineer. The Installation shall be carried out strictly using such approved fittings, accessories, cables etc.
- (vii) Catalogues of major items such as Switch-boards, Sub-distribution boards, Lighting fittings, Equipments, etc. shall also be submitted for the Architect/Engineer approval within TEN days of signing the Contract and before any of these items are ordered. The Architect/Engineer will reject any material that he considers inferior or unsuitable; however the time so consumed in obtaining the necessary approval shall be at the Contractors expense.
- (vii) All wiring shall be carried out in concealed P.V.C. conduit including in ceiling and roof works. Where a suspended ceiling is provided wiring shall be carried out in P.V.C. conduit clipped to the surface with P.V.C. clips. Unless otherwise specified injection moulded P.V.C. boxes shall be used. All P.V.C conduits to be of an approved make and manufacture. All PVC conduit pipe connection should be out of injection moulded elbows, tees, and other accessories. **Exposed wires will not be permitted.**
- (ix) All lighting Switches, Socket outlets, Consumer Units and MCB D/Boards shall be flush type. Boxes for lighting switches, Socket outlets shall be of injection moulded P.V.C.
- (x) All the conduits for electrical works should be done with proper joints, bends and junction boxes, and approval obtained before burying the conduits. Such conduit locations of wall, floors and columns should be shown in As-Built sketch drawings. All such As-Built sketches should be signed and approved by the representatives of the Engineer at site and all such sketches be submitted with the As-Built drawings at the end of project works.

1.11 **EXTERNAL INSTALLATION WORK**

- (i) R.C.C. Poles to C.E.B. Specifications or Pre-stressed Poles to S.E.C. Specifications.
- (ii) a. 'D' brackets with insulators - standard type, hot dipped Galvanised mild steel for through bolt fixing, C/W pole bolt, insulator bolt, nut and washers and 3" porcelain insulator.
- b. Shackle arm and straps - generally as described above but with extra long bolt.
- (iii) Stay - Bow type with galvanised, steel stay rod 6"x3/4" dia. C/W retorlet nut, stay plate 18"x18"x1/4", stay wire, thimble pole clamp, porcelain loop insulator and 45 ton quality 7/10 galvanised stranded steel wire.
- (iv) Conductor - Hard drawn Aluminium stranded
- (v) Binding wire - Aluminium 11 S.W.G.
- (vi) Earth electrode - 2" dia x 7' heavy gauge G.I. pipe with welded brass bolt brass bolt 3/8" with nut and washers for securing the earth lead which should be insulated to a height of 8' from the ground level using P.V.C. conduit strapped to the pole.
- (vii) Lightning Arrestors of approved make and suitable for pole mounting and for operation at 400V, 50 c/s, 4 wire with solidly earthened neutral C/w galvernised clamp etc. These are installed at each feeder point and connected to earth by means of No.1 S.W.G. copper conductor to 2" dia. x 7' heavy gauge G.I. pipe earth electrode.
- (viii) Service Connection - Use line taps of Aluminium alloy and similar to BICC type KVSA. Any connection of copper to Aluminium shall be made using bimetallic clamps of suitable size
- (ix) Service connection material - Bracket and fittings shall be fabricated as required from 2"x2"x1/8" flat iron (galvanized or painted with 2 coats of anti-corrosive paint and a final

coat of Aluminium paint). All fixtures to masonry work, timber work or steel work shall be carried out with galvanized steel bolts and of appropriate size but not less than 1/4" dia.

- (x) Service Cables - PVC/PVC clipped to surface (height not less than 12" centres) with tinned brass clips. Cables to be supported where necessary with G.I. wire.
- (xi) Clearance from

1. Ground and Structures above Ground
LV & Service lines along or across any road or street - 5.5M. where inaccessible to vehicular traffic - 5M
2. Buildings, trees, other structures - Vertical and horizontal clearance - 3.5M
3. Telephone lines
Clearance from - bare conductor - 1.2M - insulated conductor - 0.6M

1.12 **FITTINGS AND ACCESSORIES**

- (i) Cables – to the requirement of General Specification and of approved make and manufacture **EQUIVALENT** to Locally manufactured A.C.L. Kelani.
- (ii) MCCB, MCB, ELCB - to the requirement of General Specification and of approved make of rating MCCB-2525kA, MCB-6kA.
- (iv) Switches, Socket Outlets - to the requirement of General Specification and of approved make and manufacture **EQUIVALENT** to Orange, Clipsal (Australia)
- (v) Fans - to the requirement of General Specification and of approved make and manufacture **EQUIVALENT** to KDK (Japan Original make)
- (vi) Fluorescent Fittings - to the requirement of General Specification and of approved make and manufacture **EQUIVALENT** to 'Nemco' Local Manufacture
- (vii) Fluorescent Accessories such as Choke, Capacitor, Starter, Bulbs - to the requirement of General Specification and of approved make and manufacture **EQUIVALENT** to U.K., Holland, Germany, Japan
- (viii) All the Fluorescent bulbs - to the requirement of General Specification and of approved make and manufacture **EQUIVALENT** to 'Taiwan' or 'China'
- (ix) Fluorescent Fitting holder shall be of type when bulb is rotated, to have a inter locking system (Samples to be approved) - to the requirement of General Specification and of approved make and manufacture **EQUIVALENT** to U.K., Germany, Holland, Japan or Chinese.
- (x) All the metal boxes for main Switch Boards Sub D-Boards, Control Panels, etc. should be manufactured by an approved make & manufacture. as per the Architect/Engineer approved design with proper locks, handles, back painted body work, insulated sheets, protected bus bars, and protected circuit wiring and connections and circuit diagrams laminated and fixed on to the inner face of the lid.

CHAPTER – 13 - TESTING

Add the following

13.4 **SITE TESTS AND COMMISSIONING**

During the progress of the work and on completion the Contractor shall carry out such tests as prescribed in the I.E.E. wiring regulations. Tests results shall be recorded on each occasion and copies submitted to the Architect/Engineer. At the completion of the installation, the Contractor shall provide the Architect/Engineer with a Certificate of Final Test for the electrical installation carried out in the presence of the Architect/Engineer in accordance with the I.E.E. Wiring Regulations as well as C.E.B. regulations. This Certificate should be in the standard form given in the Contract and certified by a Chartered Electrical Engineer.

If any portion of the works fails to pass the tests, this portion shall be rectified at no extra cost to the client and the tests repeated for the said portion until satisfactory.

All necessary test, instruments etc. shall be provided by the Contractor at his own cost

13.5 **SHOP DRAWINGS AND AS-BUILT DRAWINGS**

THE CONTRACTOR shall submit original negative and FIVE (05) sets of prints of APPROVED AS-BUILT DRAWINGS TO THE ARCHITECT/ENGINEER.

THE CONTRACTOR shall within one month after the award of the contract submit to the ENGINEER complete shop installation and design drawings in detail all parts of the work, and details showing assembly of Main Switch Boards, D. Boards, control panels etc. to fully illustrate and to meet the site condition for approval by the ENGINEER. The ARCHITECT/ENGINEER may make minor changes, before final approval of the shop drawings. NO extra cost will be allowed because of these changes.

On completion of all the Electrical works, As-Built Circuit Diagrams be done and approved and signed by the Chartered Electrical Engineer Certifying the Megger Reading and submitted with As-Built Drawings. Every Circuit Diagram be laminated and fixed to the relevant Circuit Board on inner side of the cover.

Specimen Forms of Monthly Billing Format

[illegible]

NAME OF PROJECT :-		ORIGINAL CONTRACTED B.O.Q V1-3 VALUATION NO..... COLLECTION SHEET..... DATE OF PREPARATION.....	
VALUATION NO. FOR WORK DONE UPTO END OF 20		ORIGINAL CONTRACT B.O.Q. (SUMMARY) Page of <div style="text-align: center;">TOTAL COST</div> <div style="display: flex; justify-content: space-between;"> Rr. Ctr. </div>	
DESCRIPTION			
TOTAL CONSTRUCTION COST BILL NO.....TO..... (REFER V1-2)			
TOTAL COST OF PRELIMINARY BILL NO.....			
TOTAL OF OTHER BILLS WITH OVER HEADS AND PROFITS (BILL NO.....)			
TOTAL COST OF MATERIAL AT SITE AS PER.....			
TOTAL PAYMENT DUE UPTO			
<div style="border: 1px solid black; padding: 5px; margin: 5px;"> DEDUCT% RETENTION </div> <div style="border: 1px solid black; padding: 5px; margin: 5px;"> DEDUCT - RECOVERY OF ADVANCE (.....% OF GROSS VALUE OF BILL) </div> <div style="border: 1px solid black; padding: 5px; margin: 5px;"> DEDUCT - MATERIALS SUPPLIED BY THE OWNER </div> <div style="border: 1px solid black; padding: 5px; margin: 5px;"> DEDUCT - PAYMENTS CERTIFIED EARLIER (CERTIFICATE NO.....) </div>			
TOTAL DEDUCTIONS			
CONTRACTOR'S USE ONLY PREPARED BY: CHECKED BY: ARCHITECT'S USE ONLY THE AMOUNT DUE TO CONTRACTOR, M/S..... ON THIS VALUATION NO..... IS RUPEES..... ONLY.		AMOUNT DUE TO CONTRACTOR ON THIS VALUATION NO.	
NO PAYMENT SHOULD BE MADE ON THIS VALUATION UNLESS IT IS SUPPORTED BY A PAYMENT CERTIFICATE NO.			
USE OF CONTRACTOR SIGNATURE OF DIRECTOR IN CHARGE DATE :		USE OF THE OWNER SIGNATURE OF ACCOUNTANT DATE :	
Seal		Seal	
Seal		Seal	
Seal		Seal	

[illegible][illegible]

NAME OF PROJECT :-		PRICE VARIATION AS PER IC V4-3	
		FORMULA	
VALUATION NO. FOR PRICE VARIATION AS PER ICTAD FORMULA FOR		VALUATION NO.	
DONE UPTO END OF 20		(COLLECTION SHEET)	
DESCRIPTION		DATE OF PREPARATION	
		Page of	
		TOTAL COST	
		Rs. Cts.	
TOTAL VALUE OF PRICE VARIATION AS PER ICTAD FORMULA			
ADD :- TOTAL VALUE OF OTHER EXTRA COST (DAY WORK)			
TOTAL COST ON PRICE VARIATIONS			
DEDUCT% RETENTION			
DEDUCT% OF ADVANCE PAYMENT			
DEDUCT - PAYMENTS CERTIFIED EARLIER			
CONTRACTOR'S USE ONLY		TOTAL DEDUCTIONS	
PREPARED BY:		AMOUNT DUE TO CONTRACTOR ON THIS VALUATION NO.	
CHECKED BY:			
ARCHITECT'S USE ONLY			
THE AMOUNT DUE TO CONTRACTOR, M/S..... ON THIS VALUATION NO..... IS			
RUPEES..... ONLY.			
NO PAYMENT SHOULD BE MADE ON THIS VALUATION UNLESS IT IS SUPPORTED BY A PAYMENT CERTIFICATE NO.			
USE OF CONTRACTOR		USE OF OWNER	
SIGNATURE OF DIRECTOR INCHARGE		SIGNATURE OF ACCOUNTANT	
DATE :-		DATE :-	
Seal		Seal	
		CONSULTANTS	
		DATE :-	
		Seal	

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Day Work Schedule

[illegible]

CHECK LIST FOR BIDDERS

Bidders are advised to fill the following table:

ITEM	ITB Clause	YES (Tick)	REFERENCE
Form of Bid			
Addressed to the Employer	18		
Completed	18		
Signed	18		
Bid Security Declaration Form (if required)			
Properly filled and signed	16	N/A	N/A
Bid Security			
Address to the Employer	16		
Format as required	16		
Issuing Agency as specified	16		
Amount as requested	16		
Validity 28 days beyond the validity of Bid	16		
Qualification Information			
All relevant information completed	4		
Signed	4		
Addendum			
Contents of the addendum (if any) taken in to account.	10		
BID Package			
All the documents given in ITB Clause 12 enclosed in the original and copy.	12		
ITB Clause 19 followed before Sealing the Bid Package.	19		