

TENDER REPORT

for

THE DESIGN AND CONSTRUCTION

of

TSEUNG KWAN O HOSPITAL

at

AREA 32, TSEUNG KWAN O

for

THE HOSPITAL AUTHORITY

FEBRUARY 1996

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Tender Analysis  
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## 1. GENERAL

scope of report

This report deals with the financial and contractual aspects of the tenders submitted for the Design and Build Contract of Tsing Kwan O Hospital and should be read in conjunction with other Consultants' reports on technical and programme matters.

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The tenders are for the design and construction of a fully commissioned hospital building of between 5 to 10 levels including piling, foundations, superstructure, architectural works and finishes, building services, relocation of existing bus terminus, car parking areas and associated external works.

allowance for Pro Sum

The tenders also include the following allowances totalling \$81,250,000.00 :

- 1) a provisional sum of \$21,000,000.00 for procurement and installation of medical equipment which is to be supplied and installed by the Contractor.
- 2) a provisional sum of \$250,000.00 for provision of computer facilities for the Supervising Officer.
- 3) a contingency sum of \$60,000,000.00.

## 2. TENDER RESULT

tender result

The following tenders are received and opened on 22nd January 1996 :

Tenderer	Tender Sum HK\$	Difference with the lowest tender HK\$	
1. Dragages et Travaux Publics	966,888,000.00	-	-
2. Laing - Hip Hing Joint Venture	1,147,777,777.00	180,889,777.00	19%
3. Gammon Construction Limited	1,283,000,838.00	316,112,838.00	33%
4. Hsin Chong Construction Co., Ltd.	1,323,530,000.00	356,642,000.00	37%

## 3. TENDER ASSESSMENT ON COST ELEMENT

assessment criteria of cost element

All of the four tenders reviewed have been examined in detail and an assessment of the tenders has been carried out in accordance with the criteria and allocation of marks set down prior to the return of the tenders.

The three main criteria to be considered in the assessment process are Cost, Time and Quality of which only the 'Cost' element is considered in this report. The total marks allocated to the 'Cost' element are 50.

The 'Cost' element is further broken down into the following items :

- Overall lump sum price (maximum 40 marks)
- Cash flow (maximum 5 marks)
- Schedule of rates (maximum 4 marks)
- Financial offers (maximum 1 mark)

The assessment criteria for the above items are described below :

Overall lump sum price

- By direct comparison with the lowest tender sum using the following formula thereby the lowest tenderer will receive the maximum 40 marks.

$$\frac{40 \times \text{lowest tender sum}}{\text{Tender Sum being considered}}$$

Cash flow

- The reasonableness and sufficiency in detail of the cashflow will be examined and a maximum of 2 marks will be awarded. The cashflow will also be compared with the programme submitted by each individual tenderer. A discounted cashflow will be prepared for each individual tenderer based on the programme submitted. A maximum of 3 marks will be awarded to the cashflow which fully complies with the programme.

## 3. TENDER ASSESSMENT ON COST ELEMENT (Cont'd)

## Schedule of rates

- The tenderers have been requested to complete the schedule of rates as set out in Volume 6 of the Tender Document. The overall reasonableness of the rates will be assessed by comparison with the range of current market rates. The maximum score is 1 mark.

Within the reasonable range of unit rates, each tenderer will be awarded marks for competitiveness. The tenderer who submits the highest number of competitive rates will be awarded 3 marks; the one with the least number of competitive rates zero mark.

## Financial offers

- The tenderer who submits advantageous offers as part of the tender will be awarded 1 mark.

Having examined the four tenders in accordance with the above criteria, the total marks allocated to the tenderers with respect to the 'Cost' element only are as follows:

Dragages et Travaux Publics	46.50
Laing-Hip Hing Joint Venture	39.20 (38.81 alternative)
Gammon Construction Limited	34.64
Hsin Chong Construction Co., Ltd.	31.22

A breakdown of marks allocated is tabulated in Appendix VII of this report.

Details of the examination of tenders are described in Section 6 of this report.

## 4. COMPARISON OF TENDERS

The following appendices are attached to this report for comparison of the tenders:

- |                 |  |
|-----------------|--|
| 1) Appendix I   | - Comparison of Cost Elements                    |
| 2) Appendix II  | - Comparison of Sub-Cost Elements                |
| 3) Appendix III | - Comparison of Unit Rates for Major Items       |
| 4) Appendix IV  | - Comparison of Milestone Dates                  |
| 5) Appendix V   | - Comparison of Cashflow and Discounted Cashflow |
| 6) Appendix VI  | - Comparison of Alternative Items                |
| 7) Appendix VII | - Tender Assessment on Cost Element              |

## 5. ARITHMETICAL CHECK

The breakdown of contractor's prices submitted with the tenders have been checked arithmetically. Only minor errors has been discovered in Laing-Hip Hing's tender. The other three tenders are generally in order.

## 6. EXAMINATION OF TENDERS

## 6.1 Dragages et Travaux Publics (\$966,888,000.00)

## Overall Lump Sum Price and Breakdown of Costs

The Tenderer has submitted the lowest tender sum which is 19% less than the second lowest tender.

The overall lump sum price is considered very low and falls outside the reasonable historical cost range of hospital projects in Hong Kong.

## 6. EXAMINATION OF TENDERS (Cont'd)

## 6.1 Dragages et Travaux Publics (Cont'd)

## Overall Lump Sum Price and Breakdown of Costs (Cont'd).

The following cost elements/sub-cost elements are considered low :

- piling works (item C2)
- pile caps and ground beams (item C3)
- structural frame and slabs (item D1)
- windows and louvres (item E2)
- external wall finishes (item E4)
- internal partitions (item H1)
- wet sprinkler pipework (item I1.3.2 and I1.3.3)
- town gas system (item I4.1)
- electrical main supply and switchboard (item K1.1)
- bedhead trunking system (item K1.11.1)
- central processing equipment (item L6.1)
- external area retaining structure (item P.3)
- perimeter fence and gate (item P8)

The following cost elements/sub-cost elements which are considered necessary have not been priced :

- insurance and surety bond (Item B16)
- services tunnels, underground tank, etc. (item C4)
- miscellaneous fire services work (like underground F.S. system, shutters, etc.) (item I1.7)
- hydro pneumatic water supply system (item I3.5)
- Builders work in connection with piped supply services (item I5)
- Profit and attendance for piped supply services (item I6)
- medical equipment connection (item N)
- upgrade Po Ning Lane (item P1)
- oxygen tank storage (item P5)
- work by government authorities and public utility companies (item P12)
- irrigation system (item P13)
- builder's work in connection with communication system (item L9) (expressly excluded)

## 6. EXAMINATION OF TENDERS (Cont'd)

## 6.1 Dragages et Travaux Publics (Cont'd)

## Cash flow

The cash flow submitted with the tender contains reasonable details but does not take into account the expenditure of provisional sums and the retention requirement.

The cash flow reflects to a certain extent the construction activities indicated in the Tenderer's programme and resources allocation.

## Schedule of Rates

The unit rates submitted are generally within the reasonable range of prices expected for this type of project and are free of major errors.

The unit rates are generally competitive. The majority of the rates are the most competitive among the tenders.

## Alternative offers

The Tenderer offers the following alternative cost reductions each of which can be taken on a stand alone basis :

	\$
Floor to floor height reduced from 4.5 m to 3.9 m	9,800,00.00
Advanced payment of 25 % of the amount of the cost elements G, I, J, K, L at the end of the sixth month	1,800,000.00
Construction period reduced from 36 to 30 months	32,400,000.00
Should all of the above alternative cost reductions be adopted, the tender sum would be \$922,888,000.00.	

## 6. EXAMINATION OF TENDERS (Cont'd)

## 6.1 Dragages et Travaux Publics (Cont'd)

**Contractual matters**

The tender contains a number of **contractual deviations** as set out in Volume 2B, Section L of the tender submission. The following is a **list of these items and subsequent responses** from the Tenderer together with our comments.

(1) **Liquidated damages**

The Tenderer has withdrawn his qualification of limiting the liquidated damages to 5% of the Contract Sum. However, he maintains to have this qualification for the shorter programme alternative.

(2) **Surety bond**

The Tenderer has requested to revise the wording of the surety bond to include a clause regarding release of the Surety's liability on the issue of the Certificate of Completion. The Tenderer has subsequently submitted a sample of the revised wording which, in our opinion, is acceptable.

(3) **Professional Indemnity Insurances**

The Tenderer requests to utilize his group Professional Indemnity Policy which would be renewed annually. However, the Tenderer has not submitted a copy of the Policy for inspection.

(4) **Compliance with Enactments and Regulations**

The Tenderer has withdrawn this qualification.

## 6. EXAMINATION OF TENDERS (Cont'd)

## 6.1 Dragages et Travaux Publics (Cont'd)

**Contractual matters (Cont'd)**(5) **Retention Bond**

The Tenderer requests that the retention be substituted for a bond issued by an approved bank. Such a bond would be reduced by half on the issue of the Certificate of Completion and released on the expiration of the Maintenance Period. This is not acceptable and, if accepted, will be unfair to other tenderers.

(6) **Design Checking**

The Tenderer has requested that maximum time must be stated for the design checks to be carried out by the Employer's Consultants. This should be reviewed by the Project Manager in conjunction with the Tenderer's answers to questions on the design development process.

**Others**

Since the Tenderer has replanned the hospital with a reduced structural grid of 7.2 m x 7.2 m, a detailed checking on the gross floor area and the net floor area of the Tenderer's proposed drawings has been carried out to ensure they comply generally with the Employer's Requirement.

The Design Brief Summary in Volume 2 of the Tender Document sets out the allowance ranges of net floor areas for various functions of the hospital. The range of total net floor area was 31087 to 37995 m<sup>2</sup>. The total construction gross floor area was 61,500 m<sup>2</sup>.

## 6. EXAMINATION OF TENDERS (Cont'd)

## 6.1 Dragages et Travaux Publics (Cont'd)

## Others (Cont'd)

The Tenderer, following our queries on the floor areas provided, has submitted a calculation of the floor areas supported by a set of plans, showing the total gross and net floor areas to be 58,660.70 m<sup>2</sup> and 33,090.00 m<sup>2</sup> respectively.

Our checking, however, has revealed that the total gross and net floor areas are 58,999.40 m<sup>2</sup> and 31,710.28 m<sup>2</sup> (inclusive of certain grey areas) respectively.

Further examination of the plans submitted for the **area check** reveals that the Tenderer has revised the layouts since tender submission, thereby increasing the overall net floor area by 674.75 m<sup>2</sup>. This irregularity should be noted in the overall tender assessment.

The result of the area check has confirmed that whilst the tender conforms with the total net floor area requirements, the actual net floor area provided is at the extremely low end of the allowable range.

## 6.2 Laing-Hip Hing Joint Venture (\$1,147,777,777.00)

## Overall Lump Sum Price and Breakdown of Costs

The Tenderer has submitted the second lowest tender sum which is 19% higher than the lowest tender.

The overall lump sum price is considered very competitive, being at the lower end of the reasonable historical cost range of hospital projects in Hong Kong.

A **lump sum discount** of \$191,589,463.00 has been applied to the total in the Cost Element Summary to arrive at the Tender Sum of \$1,477,777,777.00. In his letter dated 8th February 1996, the Tenderer has clarified that the lump sum discount is arrived at in part from the results of his final verification of measured work and late receipt of Sub-Contractors' offers. The discount should apply to figures for Cost Elements C to P, for the purpose of interim payments.

## 6. EXAMINATION OF TENDERS (Cont'd)

## 6.2 Laing-Hip Hing Joint Venture (Cont'd)

## Overall Lump Sum Price and Breakdown of Costs (Cont'd)

Furthermore, the tender contains an **aggregate arithmetical error** of +\$10,498,539.00 which should also be applied to figures for Cost Elements C to P for the purpose of interim payments. The **combined factor** is calculated below :

$$\frac{-\$191,589,463.00}{\$1,007,919,258.00} \times 100\% = -19.008\% \text{ (Lump Sum Discount)}$$

$$\frac{+\$10,498,539.00}{\$1,007,919,258.00} \times 100\% = +1.041\% \text{ (Arithmetical Error)}$$

Total = -17.967%

The following cost elements/sub-cost elements are considered high as compared with the other tenders :

- Preliminaries costs like overall co-ordination (item B12), insurance and surety (item B16) and temporary lighting and power (item B18.14)
- canopies (item F2)
- major fittings (item G1)
- internal floor finishes (item H4)
- fixtures and fittings (item H8)
- fire detection and alarm system (item I1.8)
- above ground and underground storm water system plant (item I3.7.1)
- refrigerated body store cabinets system (item J1.8.3)
- noise and vibration control (item J1.9.1)
- sundries (item K1.13)
- electrical cable including trunking, trays and conduits, etc. (item K1.1.3 & K1.2.2)
- nurse call installation (item L4.2 to L4.5)
- sound distribution system (item L2.2d)
- Audio Visual presentation system (item L8.1)
- Profit, overhead and attendance for specialist contractor (item Q2 & Q4)

## 6. EXAMINATION OF TENDERS (Cont'd)

## 6.2 Laing-Hip Hing Joint Venture (Cont'd)

## Overall Lump Sum Price and Breakdown of Costs (Cont'd)

The following cost elements/sub-cost elements are considered comparatively low:

- domestic hot water generation and supply system (item J2.4)
- signs and graphics (item P9)

The following cost elements/sub-cost elements will require further itemised breakdown from the tenderer :

- any other items (item C6, I1.8, J1.4.3, K2.5 & P15)
- sundries (item K1.13)
- lifts and escalators installation (item M1)

## Cash flow

The cash flow does not take into account the lump sum discount proposed, the milestones proposed and the retention requirement of this Contract.

The cash flow is similar to a typical S-curve scenario and does not reflect adequately the tender programme submitted.

## Schedule of Rates

The unit rates submitted are generally within the reasonable range of prices expected for this type of project and are free of major errors.

The unit rates are generally less competitive than those of Dragages and are in some cases at the high end of the reasonable range.

In his letter of 6th January 1996, the Tenderer agrees that he will be willing to discuss any specific rates which are particular high or low. The Tenderer, however, states that the unit rates are not subject to the lump sum discount. A list of such items is being drawn up and will be issued to the Tenderer for confirmation should he be shortlisted for further consideration.

## 6. EXAMINATION OF TENDERS (Cont'd)

## 6.2 Laing-Hip Hing Joint Venture (Cont'd)

## Alternative offers

The Tenderer has offered a list of alternative design options with cost implications. For details, please refer Appendix VI of this report.

## Contractual matters

The tender contains a number of contractual deviations. The following is a list of these items and subsequent responses from the Tenderer together with our comments :

- |                           |  |
|---------------------------|--|
| (1) Advanced payment      | - The Tenderer has withdrawn his qualification of advanced payment of 15% of the Contract Sum on award of the contract.  |
| (2) Retention bond        | - The Tenderer has withdrawn his qualification of substituting the retention with a bond.  |
| (3) Milestone dates       | - The Tenderer has withdrawn his qualification on milestone dates.   |
| (4) Liquidated damages    | - The Tenderer has withdrawn his qualification of limiting the amount of liquidated damages to 10% of the Contract Sum.  |
| (5) Performance guarantee | - The Tenderer proposed some amendments to the wording of the samples regarding the issue of assignment, end date and return mechanism. These are considered to be acceptable and a revised version will be drawn up prior to award of the Contract. |

## 6. EXAMINATION OF TENDERS (Cont'd)

## 6.2 Laing-Hip Hing Joint Venture (Cont'd)

## Contractual matters (Cont'd)

(6) Parent company guarantee - The Tenderer proposes some amendments to the wording of the samples regarding the issues of assignment, end date and return mechanism as well as liability, right to challenge the costs and indemnity. Although these are considered generally acceptable, the exact wording has to be confirmed prior to award of the Contract.

(7) Compliance with Enactments - This item has been withdrawn.

(8) Contractor's compensation - This item has been withdrawn.

(9) Assignment - The Tenderer requests introducing assignment provisions into the Contract similar to those for the performance guarantee.

(10) Contractor's obligation - This item has been withdrawn.

(11) Subcontractors warranties/guarantees - This is pending further review by HA.

(12) Specialist Works Contractors - The clarification on 'Special Risks' has been withdrawn. However, The Tenderer has raised the concern regarding the absence of any protection for the Contractor in the event that the Specialist Works Contractor employed direct by the Authority is in default and cause a delay to his progress of the work.

## 6. EXAMINATION OF TENDERS (Cont'd)

## 6.2 Laing-Hip Hing Joint Venture (Cont'd)

## Contractual matters (Cont'd)

(13) Extension of time

- This item has been withdrawn.

(14) Design review procedures

- The Tenderer requests that the design checking periods specified in the Contract be maximum periods. This item should be reviewed by the Project Manager in conjunction with the Tenderer's answers to questions regarding the design development process.

(15) Professional Indemnity Insurance

- The Tenderer confirms that the Professional Indemnity Insurance will be taken out in accordance with the Contract but on a year by year basis. However, a provision is required that, upon any failure to renew by the due date, the Employer may himself renew the policy and recover premium paid as a debt due.

(16) Completion and commissioning

- The Tenderer requests minor amendments to the Conditions of Contract regarding completion and commissioning.

## 6. EXAMINATION OF TENDERS (Cont'd)

## 6.3 Gammon Construction Ltd. (\$1,283,000,838.00)

## Overall lump sum price and Breakdown of Costs

The Tenderer has submitted the third lowest tender which is 33% and 12% higher than the lowest tender and the second lowest tender respectively. It is considered that the tender sum is reasonable as it falls within the cost range of hospitals expected in Hong Kong.

The following cost elements/sub-cost elements are considered comparatively high :

- preliminaries item B6.02 for "No adjustment for rise and fall in cost of labour and material".
- pile caps and ground beams (item C3)
- external wall (item E1)
- external wall finishes (item E4)
- sanitary fittings (item G1 & G2)
- internal partitions (item H1)
- hot water system pipework (item I3.2.2)
- steam system and distribution system (item J2.4.2 and J2.12)
- profit and attendance for piped supply system, mechanical services and electrical services (item I6, J6 & K4)
- field control/monitoring equipment (item L6.2)
- pneumatic tube system (item M2)
- relocation of bus terminus (item P2)
- external drainage (item P14)

The following cost elements/sub-cost elements are considered comparatively lower than the other tenders :

- internal wall finishes (item H4)
- curtain wall (item E3)
- roof finishes (item E5)
- skylight (item F1)
- oxygen tank storage (item P5)

## 6. EXAMINATION OF TENDERS (Cont'd)

## 6.3 Gammon Construction Ltd. (Cont'd)

## Overall lump sum price and Breakdown of Costs (Cont'd)

The following cost elements/sub-cost elements will require further itemised breakdown from the Tenderer :

- any other items (item E5, I1.3.4, J1.4.3, J1.5.3 & P15)
- medical and non-medical gas installation (item I2)
- lifts and escalators installation (item M1)

The following cost elements/sub-cost elements are considered necessary which the Tenderer has not priced against :

- site formation and earthworks (item C1)
- perimeter fence and gate (item P8)

## Cash flow

The cashflow does not take into account the milestones proposed and was similar to a typical S-curve scenario. It does not reflect adequately the tender programme submitted.

## Schedule of rates

The unit rates submitted are generally within the reasonable range of prices expected for this type of project and are free of major errors.

The unit rates are generally less competitive than those of the other two lowest tenders and are in most cases at the higher end of the reasonable range. Should this tender be considered, some of the rates which are either on the high side or on the low side will have to be clarified and agreed prior to award of the Contract.

## Alternative offers

A number of design alternative have been proposed but no cost implications are indicated.

## 6. EXAMINATION OF TENDERS (Cont'd)

## 6.3 Gammon Construction Ltd. (Cont'd)

## Contractual matters

The tender contains a number of contractual deviations. The following is a list of these items and subsequent responses from the Tenderer together with our comments:

- (1) Performance bond - The Tenderer proposes some minor amendments to the wording of the bond which are acceptable.
- (2) Parent company guarantee - The Tenderer has proposed several amendments to the wordings of the guarantee and subsequently agrees to the points raised by the Employer regarding joint and several guarantee by Jardine Matheson and Trafalgar House, assignment, expiry date, and on-demand.
- (3) Liquidated damages - The Tenderer has withdrawn his qualifications of limiting the amount of liquidated damages to 5% of the Contract Sum.
- (4) Extension of time - The Tenderer has proposed additional events which will qualify for an EOT. It is acceptable that 'Insurable Events' should be regarded as a 'special circumstance' as covered in Clause 50(1)(b)(ix) but the other points raised by the Tenderer have already been adequately dealt with in Clause 50 (1)(b)(vi) and (viii).

## 6. EXAMINATION OF TENDERS (Cont'd)

## 6.3 Gammon Construction Ltd. (Cont'd)

## Contractual matters (Cont'd)

- |  |  |
|--|--|
| (5) Sub-contractors Warranty           | - This item has been withdrawn.  |
| (6) Site boundary                      | - The Tenderer has clarified the scope of work outside the site boundary and has specifically excluded any works to property and slopes beyond the northern boundary of the Works. This is in fact the Employer's intention.   |
| (7) Advanced Fitting-out Area          | - The Tenderer proposes some minor amendments to the wording for the 5th paragraph of Clause 7.08 of the Employer's Requirements, Part 1, which are considered acceptable.   |
| (8) Professional Indemnity Insurance   | - The Tenderer confirms that he will make all practical endeavours to renew his present cover, at no less favourable terms, on the appropriate renewal dates.  |
| (9) Employer's Requirements -End users | - The Tenderer states that he has made his bid conditional on a number of sources of work scope and explained further in subsequent correspondence that he has no intention or desire to provide less than the tender documents demanded. Should this tender be considered further, appropriate agreement has to be reached to avoid contractual misunderstanding. |

## 6. EXAMINATION OF TENDERS (Cont'd)

## 6.3 Gammon Construction Ltd. (Cont'd)

## Contractual matters (Cont'd)

## (10) Specialist and Direct Contractors

- The Tenderer states that all Specialists and Direct Contractors are to be responsible for Employees Compensation Insurance, government Levies, excesses under the C.A.R. Insurance policy and removal of their rubbish to central collection points on each floor for subsequent removal by the Tenderer.

## (11) Certificate of Substantial Completion

- The Tenderer states that minor defects etc which would not affect the operation of the Hospital should not be grounds for the S.O. to refuse to issue a Certificate of Substantial Completion.

## (12) Contractor's Proposals

- The Tenderer states that the Contractor's Proposals, once adopted, would take precedence over the Employer's Requirements and also over other Contract Documents if the Contractor's Proposals were in conflict with the Contract Documents and that the Contractor's Proposals should form part of the Contract. This needs clarification prior to award of the Contract especially that the Contractor's Proposal should only be recognised as being 'other documents' under GCC clause 5.

## 6. EXAMINATION OF TENDERS (Cont'd)

## 6.4 Hsin Chong Construction Co., Ltd. (\$1,323,530.00)

## Overall Lump Sum Price and Breakdown of Costs

The Tenderer has submitted the highest tender which is 37% and 15% higher than the lowest tender and the second lowest tender respectively. It is only marginally higher than Gammon's tender. It is considered that the tender sum is reasonable although it is at the high end of the cost range of hospitals expected in Hong Kong.

The following cost elements/sub-cost elements are considered comparatively **higher** than the other tenders :

- design of building services (item A3)
- basement enclosure (item C5)
- fixtures and fittings (item H8)
- above ground drainage system pipework (item I3.6.2)
- electrical main supply and switchboard (item K1)
- lighting system (item K3)
- data network and numeric display system (item K.1.14)
- surgical operating theatre (item K2.2)
- lifts and escalators installation (item M1)
- irrigation system (item P13)

The following cost elements/sub-cost elements are considered comparatively **lower** than the other tenders :

- external wall (item E1)
- windows and curtain wall (item E2 & E3)
- skylight (item F1)
- roof finishes (item F3)
- doors and shutters (item H2)

## 6. EXAMINATION OF TENDERS (Cont'd)

## 6.4 Hsin Chong Construction Co., Ltd. (\$1,323,530.00)

## Cash flow

The cash flow submitted is generally in order but is in lack of details.

## Schedule of Rates

The Schedule of Rates has not been filled in.

## Alternative offers

The Tenderer has offered a list of alternative design options with cost implications. For details, please refer Appendix VI of this report.

## Contractual matters

The tender contains a number of contractual deviations. The following is a list of these items and subsequent responses from the Tenderer together with our comments:

- (1) Master site plan and disposition of the building - This item has been withdrawn.
- (2) Bus Terminus in Green Area A - This item has been withdrawn but the Tenderer requests the Employer to assist him to procure all necessary approvals in the relocation of the Bus Terminus.
- (3) Room Data sheets - This item has been withdrawn.

## 6. EXAMINATION OF TENDERS (Cont'd)

## 6.4 Hsin Chong Construction Co., Ltd. (\$1,323,530.00)

## Contractual matters (Cont'd)

- |   |  |
|---|--|
| (4) Deviations from the Employer's Requirements | - This item is subject to review by other Consultants.   |
| (5) Raised Floors                               | - This is a clarification to the technical aspects of the tender only.   |
| (6) Hydrotherapy Pools                          | - This is a clarification to the technical aspects of the tender only.   |
| (7) Environmental Treatment Facilities          | - This item has been withdrawn.  |
| (8) Advanced Fitting-out Work                   | - This is a clarification to the technical aspects of the tender only and is subject to review by other Consultants.   |
| (9) Employer's Requirement, Part I, Clause 6.01 | - The Tenderer has refused to withdraw his qualification that this Clause should be limited to the extent that the same could be reasonably foreseen or construed by the Contractor as being things falling to be the Contractor's responsibilities. |

## 7. COMPARISON WITH PRE-TENDER ESTIMATE

All of the tenders returned are within the pre-tender estimate of \$1,380 million.

## 8. VALIDITY OF TENDERS

All tenders are valid for acceptance until 21st May 1996.

## 9. CONCLUSIONS

The tender submitted by Dragages is considered substantially lower than the reasonable cost range of hospital projects in Hong Kong.

The tender submitted by Laing Hip Hing is very competitive.

The tenders submitted by Gammon and Hsin Chong are both considered reasonable, though less competitive than that submitted by Laing - Hip Hing.

**Should any one of these tenders be further considered, the following items need attention prior to finalisation of award of the Contract :**

- (1) Any outstanding contractual matters as noted in this report have to be settled and written clarification drawn up.
- (2) Reasonable rates have to be confirmed where the unit rates are found to be too high or too low, for the purposes of pricing variations.
- (3) Any outstanding technical and programme matters as noted in other Consultants' reports have to be clarified.

(END OF TENDER REPORT)

		APPENDIX A Comparison of Cost Element						Hsin Chong			
Tenderer	Cost Element	Page	Max.	D	LHH	G	HC	Dragages	Laing Hip Hing (Discounted)	Gammon	Hsin Chong
			%	%	%	%	%	\$	\$	\$	\$
A/SI	Design	6.0	6.0	6.0	6.0	6.0	6.0	53,138,000.00	65,436,300.00	72,000,000.00	74,040,300.00
B/SI	Preliminaries	14.0	13.7	6.1	16.2	11.4	14.0	121,397,049.00	172,775,643.00	136,422,895.00	172,769,700.00
C/SI	Substructure	8.0	3.7	7.2	9.7	10.0	33.0%	33,096,001.00	76,291,412.71	117,041,387.00	123,500.00
D/SI	Structural Frame & Slab	8.0	6.5	7.7	7.8	8.0	57,975,168.00	81,876,224.27	93,715,933.00	98,300.00	98,300.00
E/SI	Elevations	5.0	5.0	4.1	4.9	3.0	44,242,048.00	43,396,295.38	58,955,204.00	3,000.00	3,000.00
F/SI	Skylights & Canopies	3.0	2.4	2.0	0.6	0.5	21,204,181.00	21,201,705.30	7,995,285.00	5,553,022.50	5,553,022.50
G/SI	Sanitary Fittings	3.0	1.6	1.5	2.2	1.0	14,021,428.00	16,406,600.00	26,155,000.00	12,340,050.00	12,340,050.00
H/SI	Architectural Works & Finishes	22.0	16.9	17.9	17.1	15.9	150,083,196.00	190,721,265.70	205,218,289.00	195,836,593.50	195,836,593.50
I/SI	Piped Supply Services	10.0	7.8	7.7	7.2	8.0	69,408,181.00	81,938,389.70	85,945,510.00	98,720,400.00	98,720,400.00
J/SI	Mechanical Services	17.0	17.3	13.7	13.8	13.0	153,007,500.00	145,490,074.23	165,568,215.00	160,420,650.00	160,420,650.00
K/SI	Electrical/Operating Theatre Fixed Services Installation	12.0	7.7	8.5	8.7	12.0	68,064,100.00	90,856,072.44	104,638,775.00	148,080,600.00	148,080,600.00
L/SI	Communications	3.0	3.5	2.9	2.0	1.5	31,098,070.00	30,824,283.35	23,641,500.00	18,510,075.00	18,510,075.00
M/SI	Transportation Systems	4.0	4.0	2.8	3.1	4.0	35,748,020.00	29,509,256.20	37,244,500.00	49,360,200.00	49,360,200.00
N/SI	Medical Equipment Connection	1.0	—	0.0	—	0.1	—	409,348.77	Included	1,234,005.00	1,234,005.00
O/SI	Miscellaneous Systems	1.0	0.3	—	—	0.1	2,674,260.00	Nil	None	987,204.00	987,204.00
P/SI	External Works, Drainage & Landscaping	6.0	3.4	1.7	5.6	3.0	30,779,798.00	18,105,076.86	67,395,845.00	37,020,150.00	37,020,150.00
Q/SI	Provisional Sums	—	—	—	—	—	21,250,000.00	22,737,500.00	21,452,500.00	29,525,000.00	29,525,000.00
R/SI	Contingencies	—	—	—	—	—	60,000,000.00	60,000,000.00	60,000,000.00	60,000,000.00	60,000,000.00
Corrected Sub-Total (A to P)							966,888,000.00	1,147,775,847.92	1,283,000,838.00	1,323,530,000.00	1,323,530,000.00
Arithmetical Error							—	—	—	—	—
Less discount							—	—	—	—	—
Total carried to Form of Tender							—	—	—	—	—
Note : The proposed discounted rate for Laing Hip Hing is 17.967% on Cost Elements C to P for the errors discovered and lump sum discount offered.							966,888,000.00	1,147,775,777.00	1,283,000,838.00	1,323,530,000.00	1,323,530,000.00

## APPENDIX II – Comparison of Sub-Cost Elements

## A. DESIGN

Tenderer	D	LHH	G	HC
Item	Sub Cost Element			
	Total Amount			
	\$	\$	\$	\$
A1. Architectural	31,300,000.00	36,620,300.00	43,710,000.00	31,448,000.00
A2. Structural	6,300,000.00	15,706,000.00	8,370,000.00	10,338,000.00
A3. Building Services	15,538,000.00	12,660,000.00	19,530,000.00	30,728,000.00
A4. Quantity Surveying	–	Nil	–	1,088,000.00
A5. Specialist Consultants	–	450,000.00	390,000.00	438,300.00
Cost Element Total to Summary (Item A)	53,138,000.00	65,436,300.00	72,000,000.00	74,040,300.00
Cost Element Total to Summary (expressed as a percentage of Tender Sum excl. Provisional Sums & Contingencies)	6.0	6.1	6.0	6.0

Note: The percentage filled in by the tenderer must not exceed 6%

Design Fees

## APPENDIX II – Comparison of Sub-Cost Elements

## B. DESIGN – ARCHITECTURAL

Tenderer	Sub Cost Element	D	LHH	G	HC
		Total Amount			
		\$	\$	\$	\$
	Design Development Drawings	15,000,000.00	23,585,300.00	21,855,000.00	15,724,000.00
	Preliminary Construction Drawings	15,000,000.00	8,435,000.00	10,927,500.00	3,144,800.00
	Installation and Shop Drawings	1,000,000.00	2,600,000.00	6,556,500.00	3,144,800.00
	Construction Stage	300,000.00	2,000,000.00	4,371,000.00	9,434,400.00
	Total to Item A1	31,300,000.00	36,620,300.00	43,710,000.00	31,448,000.00

## C. DESIGN – STRUCTURAL

Tenderer	Sub Cost Element	D	LHH	G	HC
		Total Amount			
		\$	\$	\$	\$
	Design Development Drawings	3,000,000.00	9,500,000.00	4,185,000.00	6,202,800.00
	Preliminary Construction Drawings	3,000,000.00	5,706,000.00	2,511,000.00	1,033,800.00
	Construction Stage	300,000.00	500,000.00	1,674,000.00	3,101,400.00
	Total to Item A2	6,300,000.00	15,706,000.00	8,370,000.00	10,338,000.00

## D. DESIGN – BUILDING SERVICES

Tenderer	Sub Cost Element	D	LHH	G	HC
		Total Amount			
		\$	\$	\$	\$
	Design Development Drawings	6,000,000.00	1,060,000.00	9,765,000.00	15,364,000.00
	Detail Design	6,000,000.00	9,300,000.00	3,906,000.00	3,072,800.00
	Preparation of CSDD & CBDD	2,000,000.00	500,000.00	3,906,000.00	1,536,400.00
	Vetting of Building Services Shop Drawings	500,000.00	500,000.00	488,250.00	1,536,400.00
	Vetting of CSID	500,000.00	500,000.00	488,250.00	1,536,400.00
	Construction Coordination	538,000.00	800,000.00	976,500.00	7,682,000.00
	Error	–	–	–	–
	Total to Item A3	15,538,000.00	12,660,000.00	19,530,000.00	30,728,000.00