

RFP076/2024

APPOINTMENT OF A CONTRACTOR FOR THE ALTERATIONS, DEMOLITIONS,  
AND THE FIRE REMEDIAL WORKS AT THE CHARLOTTE MAXEKE  
JOHANNESBURG ACADEMIC HOSPITAL BUILDINGS IN PARKTOWN,  
GAUTENG.

# ADDENDUM TO THE BILL OF QUANTITIES

*(NB: The changes below have been affected on the above revised BOQ.)*

## **Preliminaries & General (Bill No.1)**

1. Omit Page 37 and replace with Page 37 of Revised BOQ (Refer to Item 278).

## **Concrete, Formwork & Reinforcement (Bill No.4)**

1. Omit Pages 70 & 71 to be replaced with Pages 70, 71, 72, 73, 74, 75 of the Revised BOQ (Refer to Items 38 – 48).

## **Ceilings, Partitions & Access Flooring (Bill No.6)**

1. Omit Pages 76, 77, and 78 to be replaced with Page 80, 81, and 82 of the Revised BOQ (Refer to Items 4 – 6).

## **Mechanical Works (Provisional) (Bill No.16)**

1. Omit Pages 148 to be replaced with Page 152 of the Revised BOQ (Refer to Items 150 and 151)
2. Omit Pages 152 and 153 to be replaced with Pages 156, 157, 158, and 159 of the Revised BOQ (Refer to Items 206 - 224).

Item No		Quantity	Amount
	<p><b><u>BILL NO. 1</u></b></p> <p><b><u>PRELIMINARIES</u></b></p> <p><b><u>MEANING OF TERMS “TENDER / TENDERER”</u></b></p> <p>Any reference to the words “Tender” or “Tenderer” herein and/or in any other documentation shall be construed to have the same meaning as the words “Bid” or “Bidder”</p> <p><b><u>PRELIMINARIES</u></b></p> <p>The JBCC Preliminaries Edition 4.1 Code 2103, May 2005 for use with the JBCC Principal Building Agreement Edition 4.1 Code 2101, March 2005 is taken to be incorporated herein. The tenderer is deemed to have referred to these documents for the full intent and meaning of each clause. These clauses are referred to by number and heading only. Where standard clauses or options are not applicable to the contract such modifications or corrections as are necessary are given under each relevant clause. Where an item is not relevant to this specific contract such item is marked "N/A" signifying "Not Applicable"</p> <p><b><u>PRICING OF PRELIMINARIES</u></b></p> <p>Should Option A, as set out in clause B10.3.1 hereinafter be used for the adjustment of preliminaries then each item priced is to be allocated to one or more of the three categories Fixed, Value Related or Time Related and the respective amounts entered in the spaces provided under each item</p> <p>The following section A, read in conjunction with "The contract data, as contained in these tender documents", represent the changes made to the Contract pursuant to Clauses 3.10, 32.5 and 32.6. The contractors attention is therefore drawn to same, as no claims whatsoever will be entertained in respect of changes made to the Contract. Further, should any discrepancy be found between this document (Preliminaries) and the contract data, then this document shall take precedence.</p> <p>Items not priced in these Preliminaries shall be deemed to be provided free from any charge to the Employer</p>		
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Bill No. 1 Preliminaries			

**SECTION A: JBCC PRINCIPAL BUILDING AGREEMENT**

**DEFINITIONS**

**DEFINITIONS AND INTERPRETATION (A1.0)**

- 1 Clause 1.1 Definition of "Commencement Date" is added:
- 2 "COMMENCEMENT DATE" means the date that the agreement, made in terms of the Form of Offer and Acceptance, comes into effect
- 3 Clause 1.1 Definition of "Construction Guarantee" is amended by replacing it with the following:
- 4 "CONSTRUCTION GUARANTEE" means a guarantee at call obtained by the contractor from an institution approved by the employer in terms of the employer's construction guarantee form as selected in the schedule
- 5 Clause 1.1 Definition of "Construction Period" is amended by replacing it with the following:
- 6 "CONSTRUCTION PERIOD" means the period commencing on the commencement date and ending on the date of practical completion
- 7 Clause 1.1 Definition of "Corrupt Practice" is added:
- 8 "CORRUPT PRACTICE" means the offering, giving, receiving or soliciting of anything of value to influence the action of a public official in the procurement process or in contract execution
- 9 Clause 1.1 Definition of "Fraudulent Practice" is added:
- 10 "FRAUDULENT PRACTICE" means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of any tenderer and includes collusive practice among tenderers (prior to or after the tender submission) designed to establish tender prices at artificial non-competitive levels and to deprive the tenderer of the benefits of free and open competition
- 11 Clause 1.1 Definition of "Interest" is amended by replacing it with the following:
- 12 "INTEREST" means the interest rates applicable on this contract, whether specifically indicated in the relevant clauses or not, will be the rate as determined by the Minister of Finance, from time to time, in terms of section 80(1)(b) of the Public Finance Management Act, 1999 (Act No. 1 of 1999)

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- 13 Clause 1.1 Definition of “Principal Agent” is amended by replacing it with the following:
- 14 “PRINCIPAL AGENT” means the person or entity appointed by the employer and named in the schedule as such. In the event of a principal agent not being appointed, then all the duties and obligations of a principal agent as detailed in the agreement shall be fulfilled by a representative of the employer as named in the schedule
- 15 Clause 1.1 Definition of “Security” is amended by replacing it with the following:
- 16 “SECURITY” means the form of security provided by the employer or contractor, as stated in the schedule, from which the contractor or employer may recover expense or loss
- 17 Clause 1.6 is amended by replacing the words "prepaid, registered post, telefax or email" with "prepaid, registered post or telefax"
- 18 Clause 1.6.4 is amended by replacing it with the following
- 19 No clause
- 20 Clause 1 is amended by the addition of the following:
- 21 Clause 1.10 The copyright in all contract documents, contract drawings and records (irrespective of who prepared any of the aforesaid) related in any manner to the works shall vest in the employer and the contractor shall not furnish any information in connection with the works to any person or organization without the prior written approval of the employer to this effect other than subcontractors appointed for purposes of this agreement. We will need to renumber our amendments
- 22 Clause 1.11 Any provision in this agreement that is or may become illegal, invalid or unenforceable in any jurisdiction shall be ineffective to the extent of such prohibition or un-enforceability in such jurisdiction and shall be treated as severed from the balance of this agreement in such jurisdiction, without invalidating the remaining provisions of this agreement in such jurisdiction or affecting it in any other jurisdiction
- 23 Clause 1.12 If the contractor constitutes a joint venture, consortium or other unincorporated grouping of two or more persons:-
- 24 Clause 1.12.1 these persons are deemed to be to be jointly and severally liable to the employer for the performance of this agreement
- 25 Clause 1.12.2 these persons shall notify the employer of their leader who has authority to bind the contractor and each of these persons: and

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26 Clause 1.12.3 the contractor shall not alter its composition or legal status without the prior written consent of the employer

27 Clause 1.13 The contract documents shall be taken to be mutually explanatory of one another but in the event of ambiguity, discrepancy, divergence or inconsistency in or between them, the JBCC Principal Building Agreement as amended by the special conditions shall prevail over all other contract documents. As between the JBCC Principal Building Agreement and the special conditions, the special conditions shall prevail.

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Item

**OBJECTIVE AND PREPARATION**

**OFFER, ACCEPTANCE AND PERFORMANCE OBLIGATIONS (A2.0)**

28 Clause 2.0

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Item

**DOCUMENTS (A3.0)**

29 Clause 3.0

30 Clause 3.2.1 is amended by replacing "14.1" with "14.0, as amended"

31 Delete sub-clause 3.5

32 Clause 3.7 is amended by replacing the second sentence starting in line 2 with the following:

33 The contractor shall keep a copy of all drawings, schedules, unpriced bills of quantities/lump sum document, contract instructions, minutes of site and other meetings, health and safety files as specified in the scope of work, risk register, claims and variation order register, labour records and subcontractors contracts on the site to which the employer, principal agent and agents shall have access at all times. The employer has the right to call for such further information from the contractor it deems necessary in the event it carries out any investigation or audit into potential fraud, corruption, fronting, health and safety incidents or verifying information the contractor has to supply to the employer in terms of this agreement. The Contractor shall ensure a similar right for the Employer with its subcontractors.

34 Clause 3.10 is amended by replacing the second reference to employer with the word "employer"

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Item

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**DESIGN RESPONSIBILITY (A4.0)**

35 Clause 4.0 : DESIGN RESPONSIBILITY

36 Clause 4.1 is amended by the addition of the following:

37 Notwithstanding the provisions of clause A4.1, where the contractor undertakes the design responsibility of any aspect of the works, he shall indemnify and hold free the employer and his agents from responsibility for any claim or proceeding whatsoever due to any fault including fault in the design detailing and calculations. In respect of the design responsibility undertaken by any nominated or selected sub-contractor, such sub-contractor shall similarly, indemnify and hold free the employer, his agents and the contractor from responsibility for any claim or proceeding whatsoever due to any fault including fault in the design, detailing and calculations except where such sub-contractor is from the mandatory partner in which case the liability shall vest in the contractor.

38 Clauses 4.2 and 4.3 are deleted and replaced or amended as follows:

4.2 The contractor shall be responsible for any design of works undertaken by any subcontractor, including nominated or selected subcontractor.

4.3 in second line delete the word "selected".

39 Clause 4.0 is amended by the addition of the following:-

40 Clause 4.4 Without limiting or derogating from the employers rights under sub-clause 4.2, the contractor shall;

41 Clause 4.4.1 ensure that every n/s or selected sub-contractor, simultaneously with the signing of the relevant n/s agreement, signs (in terms of a written signing authority acceptable to the principal agent) and delivers to the employer a design, materials and workmanship warranty and undertaking (design warranty) in favour of the employer.

42 Clause 4.4.2 provide the employer evidence of suitable and sufficient professional indemnity insurance for all sub-contractors whose subcontract involves design work other than for temporary works.

43 Clause 4.5 pending delivery of the design warranty and the required evidence of the professional indemnity insurance contractor shall, notwithstanding anything to the contrary in the agreement and without limiting or derogating from the employer's rights under sub-clause 4.2, be responsible for issues that may arise, and pertaining to the relevant sub-contract works.

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**EMPLOYER’S AGENTS (A5.0)**

44 Clause 5.0

45 Clause 5.1.2 is amended to include clauses 32.6.3, 34.3, 34.4 and 38.5.8 in terms of which the employer has retained its authority and has not given a mandate to the Principal Agent and in terms of which the employer shall sign all documents.

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Item

**CONTRACTOR'S SITE REPRESENTATIVE (A6.0)**

46 Clause 6.1 is amended by the addition of the following:-

47 The names and CV’s of the contractors proposed management team shall be submitted to the principal agent prior to commencement on site and after the principal agent’s agreement on the composition and competence thereof has been obtained, no changes shall be made nor shall any member of the team be removed from the project while remaining in the employ of the contractor, without the principal agent’s prior written approval.

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Item

**COMPLIANCE WITH LAWS AND REGULATIONS (A7.0)**

48 Clause 7.0

49 Note: A separate clause has been included in Section C: Specific Preliminaries of the bills of quantities for the contractor to have the opportunity to price for all the requirements of the Occupational Health and Safety Act, Construction Regulations and Health and Safety Specification

50 Clause 7.0 is amended by the addition of the following:-

51 Clause 7.4 The Occupational Health and Safety Act No. 85 of 1993 and the Construction Regulations 2014 will in all respects be applicable to this contract. All obligations in respect of health and safety requirements of the Contractor are set out in the Scope of Work. Contractor’s liability as mandatory “Notwithstanding any actions which the employer may take, the contractor accepts sole liability for due compliance with the relevant duties, obligations, prohibitions, arrangements, and procedures imposed by the Occupational Health and Safety Act, 1993 (Act 85 of 1993), and all its regulations, including the Construction Regulations, 2014, for which the contractor is liable as mandatory. By entering into this agreement, it shall be deemed that the parties have agreed in writing to the above provisions in terms of Section 37 (2) of the Act and will enter into the mandatory agreement as set out in the Scope of Work.

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- 52 Clause 7.4.1 accepts that the employer will appoint him as the Principal Contractor (as defined and provided for under the Construction Regulations 2014 (as amended) and promulgated under the Occupational Health and Safety Act 85 of 1993 (as amended) for the site
- 53 Clause 7.4.2 acknowledges and confirms that the contract sum includes a sufficient amount for proper compliance with the employer’s health and safety specification, the construction regulations, all applicable health and safety laws and regulations and the health and safety rules, guidelines and procedures provided for in this agreement and generally for the proper maintenance of health and safety in and about the execution of the works including all materials, labour, training, equipment and all other requirements necessary to ensure proper and complete health and safety implementation and management on site in accordance with applicable legislation; and
- 54 Clause 7.4.3 undertakes, in and about the execution of the works, to comply with the Construction Regulations and with all applicable health and safety laws and regulations and rules and guidelines and procedures otherwise provided for under the agreement and shall ensure that all sub-contractors, employees and others under the contractor’s direction and control, likewise observe and comply with the foregoing.
- 55 Clause 7.5 The employer reserves the right to pay direct (i.e) not through the contractor) for all or any permanent connections to local or other authority services, for which provisional amounts have been included within the contract documents. In the event of the employer paying direct for these charges, the contractor will not be entitled to a ten per cent (10%) mark-up in terms of clause 32.4. All such provisional amounts included in the contract sum will, as a result, be omitted

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Item

**WORKS RISK (A8.0)**

- 56 Clause 8.3.1 is amended to read as follows:
- 57 The cost of making good such physical loss and repairing damage.
- 58 Clause 8.5.6 is amended to read as follows:
- 59 The use or occupation, after practical completion, of any part of the works by the employer, the employer's servants or agents; and those for whose acts or omissions they are responsible.

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Item

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**INDEMNITIES (A9.0)**

60 Clause 9.0  
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Item

**GENERAL INSURANCES (A10.0)**

61 Clause 10.0 is amended by the addition of the following:-

62 10.5.1 Damage to the Works

63 (a) Without in any way limiting the contractor's obligations in terms of the contract, the contractor shall bear the full risk of damage to and/or destruction of the works by whatever cause during construction of the works and hereby indemnifies and holds harmless the employer against any such damage. The contractor shall take such precautions and security measures and other steps for the protection and security of the works as the contractor may deem necessary

64 (b) The contractor shall at all times proceed immediately to remove or dispose of any debris arising from damage to or destruction of the works and to rebuild, restore, replace and/or repair the works

65 (c) The employer shall carry the risk of damage to or destruction of the works and materials paid for by the employer that is the result of the excepted risks as set out in 10.6

66 (d) Where the employer bears the risk in terms of this contract, the contractor shall, if requested to do so, reinstate any damage or destroyed portions of the works and the costs of such reinstatement shall be measured and valued in terms of 32.0 hereof

67 10.6 Injury to Persons or loss of or damage to Properties

68 (a) The contractor shall be liable for and hereby indemnifies the employer against any liability, loss, claim or proceeding whether arising in common law or by statute, consequent upon personal injuries to or the death of any person whomsoever arising out of or in the course of or caused by the execution of the works unless due to any act or negligence of any person for whose actions the employer is legally liable

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- 69 (b) The contractor shall be liable for and hereby indemnifies the employer against any liability, loss, claim or proceeding consequent upon loss of or damage to any moveable or immovable or personal property or property contiguous to the site, whether belonging to or under the control of the employer or any other body or person, arising out of or in the course of or by reason of the execution of the works unless due to any act or negligence of any person for whose actions the employer is legally liable
- 70 (c) The contractor shall, upon receiving a contract instruction from the principal agent, cause the same to be made good in a perfect and workmanlike manner at his own cost and in default thereof the employer shall be entitled to cause it to be made good and to recover the cost thereof from the contractor or to deduct the same from amounts due to the contractor
- 71 (d) The contractor shall be responsible for the protection and safety of such portions of the premises placed under his control by the employer for the purpose of executing the works until the issue of the certificate of practical completion
- 72 (e) Where the execution of the works involves the risk of removal of or interference with support to adjoining properties including land or structures or any structures to be altered or added to, the contractor shall obtain adequate insurance and will remain adequately insured or insured to the specific limit stated in the contract against the death of or injury to persons or damage to such property consequent on such removal or interference with the support until such portion of the works has been completed
- 73 (f) The contractor shall at all times proceed immediately at his own cost to remove or dispose of any debris and to rebuild, restore, replace and/or repair such property and to execute the works
- 74 10.7 High risk insurance
- 75 In the event of the project being executed in a geological area classified as a "High Risk Area", that is an area which is subject to highly unstable subsurface conditions that might result in catastrophic ground movement evident by sinkhole or doline formation the following will apply:
- 76 10.7.1 Damage to the works
- 77 The contractor shall, from the commencement date of the works until the date of the certificate of practical completion bear the full risk of and hereby indemnifies and holds harmless the employer against any damage to and/or destruction of the works consequent upon a catastrophic ground movement as mentioned above. The contractor shall take such precautions and security measures and other steps for the protection of the works as he may deem necessary

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78 When so instructed to do so by the principal agent, the contractor shall proceed immediately to remove and/or dispose of any debris arising from damage to or destruction of the works and to rebuild, restore, replace and/or repair the works, at the contractor's own costs

79 10.7.2 Injury to persons or loss of or damage to property

80 The contractor shall be liable for and hereby indemnifies and holds harmless the employer against any liability, loss, claim or proceeding arising at any time during the period of the contract whether arising in common law or by statute, consequent upon personal injuries to or the death of any person whomsoever resulting from, arising out of, or caused by a catastrophic ground movement as mentioned above

81 The contractor shall be liable for and hereby indemnifies the employer against any and all liability, loss, claim or proceeding consequent upon loss of or damage to any moveable or immovable or personal property or property contiguous to the site, whether belonging to or under the control of the employer or any other body or person whomsoever arising out of or caused by a catastrophic ground movement, as mentioned above, which occurred during the period of the contract

82 10.7.3 It is the responsibility of the contractor to ensure that he has adequate insurance to cover his risk and liability as mentioned in 10.7.1 and 10.7.2. Without limiting the contractor's obligations in terms of the contract, the contractor shall, within twenty-one (21) calendar days of the commencement date but before commencement of the works, submit to the employer proof of such insurance policy, if requested to do so

83 10.7.4 The employer shall be entitled to recover any and all losses and/or damages of whatever nature suffered or incurred consequent upon the contractor's default of his obligations as set out in 10.7.1; 10.7.2 and 10.7.3. Such losses or damages may be recovered from the contractor or by deducting the same from any amounts still due under this contract or under any other contract presently or hereafter existing between the employer and the contractor and for this purpose all these contracts shall be considered one indivisible whole

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Item

**LIABILITY INSURANCES (A11.0)**

84 Clause 11.0

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**EFFECTING INSURANCES (A12.0)**

85 Clause 12.0

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Item

**NO CLAUSE(A13.0)**

**SECURITY (A14.0)**

86 Amend sub-clause 14.1 as follows:

87 Clauses 14.1 - The employer shall have the right to choose the security to be provided in terms of 14.3 or 14.4 as stated in the schedule. The contractor shall provide the security required or chosen by the employer in the schedule substantially in the format prescribed in the tender documents that the contractor submitted a tender offer. The required security shall be provided in the time period prescribed by the employer in the conditional letter of acceptance of the contractor's tender offer.

88 Amend sub-clause 14.3 as follows:

89 Retain clause 14.3 but in the last line of sub-clause 14.3.1 replace "twelve point five (12.5%)" with "ten (10%)".

90 Amend sub-clause 14.4 as follows:

91 Retain clause 14.4 but in the last line of sub-clause 14.4.1 replace "seven point five (7.5%)" with "ten (10%)".

92 Clause 14.7(a) The construction guarantee provided by the contractor shall remain valid for the term of the agreement until the issuing of the certificate of final completion. In case of extensions, the security must also be extended or replaced by another construction guarantee of the same value, with an effective term equal to the term of extension. If the contractor fails to keep valid security for the duration of the agreement, the principal agent shall deduct an amount of 10% from each interim payment certificate and withhold the amount until the contractor provides a valid construction guarantee. Once the contractor provides the valid construction guarantee, the principal agent will then release the amount held from each payment certificate in the next payment certificate.

93 Amend sub-clause 14.7 as follows:

94 Retain sub-clause 14.7 but in sub-clause 14.7.1 in the second and third line amend "two point five (2.5%)" to read "five (5%)".

95 Add sub-clause 14.9 as follows:

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96 A payment reduction of five (5%) of the value of each payment certificate up to a maximum of five (5%) of the contract sum will be applied until practical completion. At practical completion the amount withheld will be reduced to two point five (2.5%), which amount will reduce to nil (0%) when the final account is issued. The employer reserves the right to use retention money to correct defects where contractor fails to correct, fails or refuses to pay service provides or its subcontractors.

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Item

**EXECUTION**

**PREPARATION FOR AND EXECUTION OF THE WORKS (A15.0)**

97 In sub-clause 15.1 replace “principal agent” with “employer”

98 Clause 15.1 is amended by the addition of the following clause:

99 15.1.4 An acceptable health and safety plan, required in terms of the Occupational Health and Safety Act, 1993 (Act 85 of 1993), within twenty-one (21) calendar days of commencement date

100 Clause 15.2.1 is amended by replacing it with the following clause:

101 Give the contractor possession of the site within ten (10) working days of the contractor complying with the terms of 15.1.4

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Item

**SITE AND ACCESS (A16.0)**

102 Clause 16.0 is amended by deleting clauses 16.1 - 16.2 and replacing with the following:-

103 16.1 The contractor shall have unrestricted access to the site on being given possession thereof to fulfill his obligations [15.2.1 as amended]. Any restrictions to the site area, including servitudes and the like, that the contractor may not occupy are defined in the contract data. The contractor shall not extend his operations into such defined areas

104 16.2 The employer, principal agent and agents shall have reasonable access to the works, workshops and other places where work in terms of this agreement is being prepared, executed or stored

105 16.3 The contractor and n/s subcontractors shall be given reasonable access to the works and any section thereof subsequent to practical completion to fulfill their obligations [25.0, 26.0 as amended]

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- 106 16.4 Where a geotechnic investigation has been undertaken by the employer the results thereof shall be provided in the contract data
- 107 16.5 The contractor shall be deemed to have inspected the site and any existing structures thereon and to be thoroughly acquainted with the conditions under which the works is to be executed including the means of access to the works, the condition of the roads and generally of all matters which may influence the execution of the works.
- 108 16.6 Where the existing premises will be in use and occupied during the execution of the works the contractor shall execute the works with the least interference with the general routine of the occupants of the premises and minimise any nuisance dust, noise or other causes. Specific requirements of the employer are described in detail in the contract data. The contractor shall put particular emphasis on traffic management and undertake this as and when necessary.
- 109 16.7 The employer has recorded all known services in the contract documents and annotated as to whether such services are to be terminated, diverted or continue in use either temporarily permanently. Where undocumented services are encountered the contractor shall immediately suspend all affected work in the vicinity and request the principal agent to issue a contract instruction in regard thereto
- 110 16.8 Trees and shrubs shall not be removed, cut back or disturbed without a contract instruction from the principal agent. Specific requirements of the employer are described in the contract data
- 111 16.9 Any relics, treasure or other articles of potential value found on the site shall remain the property of the employer and shall be handed over to the principal agent who shall be the sole arbiter of what is an article of value
- 112 16.10 Unless agreed to by the principal agent, the contractor shall not, at any time, use the lifts or completed portions of the works (whether practical completion has been achieved or not) for any purposes other than testing and/or commissioning. The storage of materials in premises once practical completion has been achieved shall not be permitted. The conveyance of construction personnel and materials in lifts is prohibited at all times.
- 113 16.11 Notwithstanding anything to the contrary in the agreement, the contractor acknowledges that access to the works and sections after the date of practical completion is subject to prior consent of the principal agent and in turn subject to the consent of the occupants or management of that part of the works
- 114 16.12 The contractor shall plan his methodology for executing the works in line with the parameters contained in the scope of works including necessary large and small plant, etc. No additional claims in this regard shall be entertained.

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Item

**CONTRACT INSTRUCTIONS (A17.0)**

- 115 Clause 17.0
- 116 Clause 17.1.11 is amended by deleting the words "and the appointment of nominated and selected subcontractors"
- 117 Clause 17.1 is amended by the addition of the following:
- 118 Clause 17.1.21 Changes to the sequence and timing of the works.
- 119 Clause 17.1.22 Any acceleration to the approved Construction programme needs to follow due process. The contractor shall submit the necessary quotes, effects on the construction programme, including critical path and the necessary motivations, after which the Principal Agent will submit all documentation to the Client along with his recommendation, for final approval or otherwise

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Item

**SETTING OUT OF THE WORKS (A18.0)**

- 120 The following sub-clauses are hereby added to this clause:-
- 121 18.5 The contractor shall provide general attendance and all reasonable assistance to the employer's appointed land surveyor, or any other land surveyor who may be appointed by the employer.
- 122 18.6 The contractor shall notify the principal agent of any encroachments of adjoining foundations, buildings, structures, pavements, boundaries, etc. in order that the necessary arrangements may be made for the rectification of any such encroachments.
- 123 18.7 The contractor shall perform tolerance control checks regularly throughout the construction period and report on these at regular intervals to the principal agent in a format approved by the principal agent. Should the contractor fail to comply with this requirement to the satisfaction of the principal agent, progressively as the works are implemented, the employer shall be entitled to commission a registered land surveyor to do so on the contractor's behalf and at the contractor's expense

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Item

**ASSIGNMENT (A19.0)**

- 124 Clause 19.1

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- 125 19.1 The contractor does not cede, delegate or assign any of its rights or obligations to any person.
- 126 19.2 Notwithstanding the above, the employer may, on written notice to the contractor, cede and delegate, handover, its rights and obligations under this contract to a Related Party or a Client of the employer. On cession the Client becomes the employer and takes full responsibility. For the purpose hereof the above clause:
- 127 19.2.1 a "Related Party" means any entity that directly or indirectly, through one or more intermediaries, controls or is controlled by, or is under common control with the employer and includes any other "Organ of State" as defined in section 239 of the Constitution of the Republic of South Africa, 1996 and any entity or Organ of State for whom the Employer carries out the works or acts as an implementing agent, ("control" means the beneficial ownership of the majority in number of the issued equity of any entity (or the whole or majority of the entity's assets), and/or the right or ability to direct or otherwise control the entity or the votes attaching to the majority of the entity's equity and "controlled" or "under common control" shall have a similar meaning); and Client means the owner, funder and or sponsor of the project and or programme managed in terms of the MOA between the Client and DBSA.

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Item

**NOMINATED SUBCONTRACTORS (A20.0)**

- 128 Clause 20.0
- 129 Clause 20.1.3 is amended by replacing it with the following:
- 130 No clause
- 131 Note: See item B9.1 and B9.2 hereinafter for adjustment of attendance on nominated subcontractors executing work allowed for under provisional sums. Notwithstanding anything to the contrary contained in the agreement, the contractor shall be aware that profit and attendance shall only be certified once in respect of each provisional sum.

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Item

**SELECTED SUBCONTRACTORS (A21.0)**

- 132 Clause 21.0
- 133 The contractor cannot exclude the sub-contract tendered works from his responsibility, after the selected sub-contractor has been accepted, subject to the tendered conditions being met.

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134 Clause 21.1.4 Replace sub-clause 21.1.2 to 21.1.4 and 21.2 to 21.6 with the following:

135 The contractor and principal agent shall appoint a selected subcontractor in accordance with the provisions of the Scope of Work.

136 Clause 21.0 is amended by the addition of the following:

137 Clause 21.11 The contractor will provide specific provisions regarding the use of all plant, equipment and services allowed for the various sub-contractors, to ensure comprehensive pricing by such sub-contractors. The relevant amendments to the sub-contract tender documents are to be clearly identified by the contractor and included in the sub-contract tender documentation and agreements to be signed with each of the sub-contractor and as such, the contractor shall be fully responsible for the management and cost of such sub-contracts.

138 Note: See item B9.1 and B9.2 hereinafter for adjustment of attendance on selected subcontractors executing work allowed for under provisional sums. Notwithstanding anything to the contrary contained in the agreement, the contractor shall be aware that profit and attendance shall only be certified once in respect of each provisional sum.

F:..... V:..... T:.....

Item

**EMPLOYER’S DIRECT CONTRACTORS (A22.0)**

139 Clause 22.0

F:..... V:..... T:.....

Item

**CONTRACTOR’S DOMESTIC SUBCONTRACTORS (A23.0)**

140 Amend Clause 23 by the addition of the following sub-clauses:

141 23.3 The contractor may not subcontract the whole of the work without the written instruction or approval of the employer. In such event the employer may require the contractor to cede the contract to the subcontractor.

142 23.4 The subcontractors appointed by the contractor to comply with the developmental and transformation requirements from the employer in terms of applicable legislation, including but not limited to the Preferential Procurement Policy Framework Act, 5 of 2000, and regulation thereto, will be domestic subcontractors for purposes of this agreement, and sub-clauses 23.1 and 23.2 will apply accordingly

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143 23.5 The contractor shall submit the agreement for each subcontract to the Principal Agent and employer may redact all commercially sensitive information.

144 23.6 Contractors failure to pay SubcontractorsIf the contractor fails to make payment of any amount due and payable to a subcontractor (“the Subcontractor debt”) and the Principal Agent considers that the subcontractor debt has an adverse impact(s) on the progress of the works or the obligations of the contractor under the agreement, the Principal Agent may request evidence of payment to the subcontractor. In the absence of such evidence, the employer may (at its own discretion) pay the subcontractor debt directly to the subcontractor concerned. Such payment is, for all purposes under the agreement, regarded as a payment made on behalf of the contractor and at the request of and with the approval and consent of the contractor, as a payment towards the contract sum. As such, payment to the contractor shall be less the payment to the subcontractor.All adverse effects as a result of or arising from the subcontractor debt does not entitle the contractor to any cost or time.

F:..... V:..... T:.....

Item

**COMPLETION**

**PRACTICAL COMPLETION (A24.0)**

145 Clause 24.1 shall be amended by the addition of the following clause:

146 24.1.3 In order to achieve practical completion of the various sections of works and without derogating from the generality of the term practical completion, the contractor shall, as a minimum comply with the following basic criteria. These criteria should not be regarded as comprehensive but as an expansion of the term practical completion.

147 24.1.3.1 In regard to the various completion dates applicable to the particular section of the works, the following shall apply:

148 24.8 Without derogating from the generality of the requirements of practical completion the following specific requirements shall apply:-

149 24.8.1 All items on the practical completion list must be completed and attended to in their entirety.

150 24.8.2 All defects noted on the quality control sheets issued by the principal agent of the employer during the currency of the contract are to have been completed and attended to in their entirety.

151 24.8.3 The following certificates of compliance shall be required (excluding others that may be required by the local/national authority) from the contractor to achieve practical completion:

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152 a) A certificate from the contractor that all aspects of the construction regulations of 2014 have been complied with.

153 b) A certificate from the contractor that the National Building Regulations have been complied with.

154 c) IOPSA (Institute of Plumbing South Africa) Certificate/s of compliance with respect to plumbing and drainage if applicable.

155 d) Soil compaction certificate/s

156 Note: The above list is not exhaustive and the contractor will be required to provide all further certificates/guarantees as requested by the principal agent

F:..... V:..... T:.....

Item

**WORKS COMPLETION (A25.0)**

157 Clause 25.0

F:..... V:..... T:.....

Item

**FINAL COMPLETION (A26.0)**

158 Clause 26.0

159 Clause 26.1.2 is amended by inserting "#" next to 26.1.2

160 Clause 26.0 is amended by the addition of the following:

161 Clause 26.8 The contractor shall attend to defects during the defects liability period on a progressive basis, to the satisfaction of the principal agent, and will not be permitted to wait until the end of the defects liability period or until the amount of defects accumulates in order to attend to a comprehensive list of defects.

F:..... V:..... T:.....

Item

**LATENT DEFECTS LIABILITY PERIOD (A27.0)**

162 Clause 27.0

163 Clause 27.0 is amended by the addition of the following:

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164 27.3 The contractor shall make good all defects that appear up to the date of final completion and shall make good all latent defects that become patent and are notified to the contractor prior to the expiry of the latent defects liability period.

F:..... V:..... T:.....

Item

**SECTIONAL COMPLETION (A28.0)**

165 Clause 28.0

F:..... V:..... T:.....

Item

**REVISION OF DATE FOR PRACTICAL COMPLETION (A29.0)**

166 Clause 29.0

167 Clause 29.1.1 is amended by the addition of the following:

168 Revisions to the date for practical completion in respect of inclement weather will only be considered by the principal agent, at the request of the contractor, to the extent that actual recorded inclement weather on site affecting work on a critical activity during the course of the agreement, exceeds the agreed weather allowance.

169 Clause 29.4.3 The first line of clause 29.4.3 is amplified and amended to read as follows:

170 “Within twenty (20) working days (unless the circumstance in question is the adverse effects of weather conditions, in which case within five (5) working days) from the date upon which the contractor became aware or...”

171 Clause 29.0 is amended by the addition of the following:-

172 Clause 29.9 No revision to the date for practical completion shall be considered unless the contractor demonstrates, to the reasonable satisfaction of the principal agent and on the basis of the current programme or other programme acceptable to the principal agent for this purpose, that the delay is on the critical path to practical completion of the works or section thereof (as the case may be).

173 Clause 29.10 The removal and replacement of materials and/or workmanship that do not conform to specification or drawings shall not constitute grounds for a revision of the date for practical completion nor for any adjustment of the contract value.

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174 Clause 29.11 If the contractor is instructed to accelerate, the contractor shall promptly take necessary steps to ensure that the works are completed timeously, including the provision by him of additional resources, plant, manpower, etc. and the working overtime or additional overtime beyond that contemplated at the time of tender (at all times adhering to the regulations and requirements of all authorities) and by all other adequate and proper means and methods. The contractor shall prove that such steps are being taken if called upon to do so.

175 Clause 29.12 Notwithstanding anything to the contrary the contractor shall not be entitled to a revision of the date for practical completion for delays arising from municipal or other interruption in energy supply to the site.

F:..... V:..... T:.....

Item

**PENALTY FOR LATE AND NON-COMPLETION (A30.0)**

176 Clause 30.0

177 Amend clause 30.1 to replace reference to "36.3" at end of sentence with "36.0"

F:..... V:..... T:.....

Item

**PAYMENT**

**INTERIM PAYMENT (A31.0)**

178 Clause 31.0

179 Sub-clause 31.9 is hereby amended by the substitution of the words "seven (7) calendar days" in the first line by the words "thirty (30) calendar days"

**Clause 31.12 is amended by Deleting "Payment shall be subject to the employer giving the contractor a tax invoice for the amount due."**

**ADJUSTMENT TO THE CONTRACT VALUE (A32.0)**

180 Clause 32.0

181 Clauses 32.5.1, 32.5.4 and 32.5.7 are amended by the addition of the following at the end of the sentence:

182 "due to no fault of the contractor"

183 Clause 32.6.1 is deleted and replaced by the following:-

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184 32.6.1 - The contractor shall within forty (40) working days of the delay ceasing, submit details of the expense and loss to the principal agent failing which the contractor shall forfeit such claim. In addition, the contractor shall not be entitled to claim for expense and loss based on the final adjustment of quantities and where provisional sums are omitted.

185 Clause 32.0 is amended by the addition of the following:-

186 Clause 32.16 Where prices are submitted by the contractor or n/s subcontractor during the progress of the works in respect of contract instructions or in regard to a claim under the terms of the agreement or in respect to provisional sums or budgetary allowances and notwithstanding the fact that such prices may be used in an interim payment certificate, there shall be no presumption of acceptance. Should the principal agent wish to accept any such prices prior to the issue of the final payment certificate, such acceptance shall be in writing.

187 Clause 32.17 The contractor shall not receive any mark-up for overheads and profit on any omission of tenant installation work or tenant installation work by direct contractors and others, except where pricing is allowed for in the Bills of Quantities. Claims for loss of profit shall not be entertained.

F:..... V:..... T:.....

Item

**RECOVERY OF EXPENSE AND LOSS (A33.0)**

188 Clause 33.0

F:..... V:..... T:.....

Item

**FINAL ACCOUNT AND FINAL PAYMENT (A34.0)**

189 Clause 34.0

190 Clause 34.1 is amended by removing "#" next to 34.1

191 Clause 34.2 is amended by inserting "#" next to 34.2

192 Clause 34.8 is amended by deleting the words "where security as a fixed construction guarantee in terms of 14.4 has been selected or where payment reduction has been applied in terms of 14.7.1"

193 Clause 34.13 is amended by deleting the words "subject to the employer giving the contractor a tax invoice for the amount due"

F:..... V:..... T:.....

Item

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**PAYMENT TO OTHER PARTIES (A35.0)**

194 Clause 35.0

F:..... V:..... T:.....

Item

**CANCELLATION**

**CANCELLATION BY EMPLOYER – CONTRACTOR’S DEFAULT (A36.0)**

195 Clause 36.0

196 Clause 36.1 is amended by the addition of the following clauses:

197 36.1.3 refuses or neglects to comply strictly with any of the conditions of contract

198 36.1.4 estate being sequestrated, liquidated or surrendered in terms of the insolvency laws in force within the Republic of South Africa

199 36.1.5 in the judgement of the employer, has engaged in corrupt or fraudulent practices in competing for or in executing the contract

200 Clause 36.3 is amended by replacing the word "principal agent" with "employer"

201 "The employer (through instruction to the principal agent) may furthermore terminate this agreement by giving written notice of termination where:-

202 (i) the contractor becomes bankrupt or insolvent (commercially or otherwise),

203 (ii) an application is made, or a resolution is adopted, for the winding-up of the contractor (whether provisional or final)

204 (iii) business rescue proceedings have commenced in respect of the contractor in accordance with the Companies Act, 71 of 2008 (as amended) ("the Companies Act"), or

205 (iv) the contractor proposes or effects an offer of compromise with the contractor's creditors in accordance with section 155 of the Companies Act or begins negotiations or takes any other step with a view to generally deferring, re-scheduling or otherwise re-adjusting all or a material part of the contractor's indebtedness or proposes or makes a general scheme, arrangement or composition with or for the benefit of the contractor's creditors or a moratorium is proposed or agreed in respect of or affecting all or a material part of the contractor's indebtedness.

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206 Note: In the case of a Joint Venture or Consortium, the employer shall have the right to proceed with cancellation in terms of Clause 36 (as amended) where a minimum of one (1) party to the Joint Venture or Consortium is in default.

207 Clause 36.0 is amended by the addition of the following clause:

208 36.7 Notwithstanding any clause to the contrary, on cancellation of this agreement either by the employer or the contractor; or for any reason whatsoever, the contractor shall on written instruction, discontinue with the works on a date stated and withdraw himself from the site. The contractor shall not be entitled to refuse to withdraw from the works on the grounds of any lien or right of retention or on the grounds of any other right whatsoever

F:..... V:..... T:.....

Item

**CANCELLATION BY EMPLOYER – LOSS AND DAMAGE (A37.0)**

209 Clause 37.0

210 Clause 37.1 is amended by the addition of the following sub-clauses:

211 Clause 37.1.3 "Where the employer does not receive the requisite local authority approvals (to the employer's satisfaction) for the construction of the permanent works at the site".

212 Clause 37.5 Notwithstanding any clause to the contrary, on cancellation of this agreement either by the employer or the contractor; or for any reason whatsoever, the contractor shall on written instruction, discontinue with the works on a date stated and withdraw himself from the site. The contractor shall not be entitled to refuse to withdraw from the works on the grounds of any lien or right of retention or on the grounds of any other right whatsoever

F:..... V:..... T:.....

Item

**CANCELLATION BY CONTRACTOR – EMPLOYER'S DEFAULT (A38.0)**

213 Clause 38.0 is amended by the addition of the following clause:

214 Clause 38.7 Notwithstanding any clause to the contrary, on cancellation of this agreement either by the employer or the contractor; or for any reason whatsoever, the contractor shall on written instruction, discontinue with the works on a date stated and withdraw himself from the site. The contractor shall not be entitled to refuse to withdraw from the works on the grounds of any lien or right of retention or on the grounds of any other right whatsoever

F:..... V:..... T:.....

Item

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**CANCELLATION – CESSATION OF THE WORKS (A39.0)**

215 Clause 39.0

F:..... V:..... T:.....

Item

**DISPUTE**

**DISPUTE SETTLEMENT (A40.0)**

216 Clause 40.0 Retention of Clause 40 in respect of dispute settlement to be retained in its original form not applying the state clause amendments.

F:..... V:..... T:.....

Item

**STATE PROVISIONS**

**STATE SUBSTITUTIONS (A41.0)**

217 Clause 41 State Substitutions is amended as set out below with reference to sub-clause 41.1 or the original clause number stated therein.

In sub-clause 41.1.3 the definition for CONSTRUCTION PERIOD is amended to read:CONSTRUCTION PERIOD means a duration of 4 months commencing from the period the contractor takes possession of the sites to the date the certificate of practical completion is issued.

clause 39.2 to be amended as follows: delete the third sentence and replace with the following:“The employer shall pay the contractor all amounts due in terms of the contract for work completed at the date of termination or cancellation in terms of this clause 39.2, including retention money after deducting any amounts due to the employer. The employer will also return any guarantees still valid to the contractor after such cancellation.

”Clauses 39.2.1 to 39.2.3 no clause

218 41.1.4 Notwithstanding any clause to the contrary, on cancellation of this agreement either by the employer or the contractor, or for any reason whatsoever, the contractor shall on written instruction, discontinue with the works on a stated date and withdraw himself from the site. The contractor shall not be entitled to refuse to withdraw from the works on the grounds of any lien or right of retention or on the grounds of any other right whatsoever.

F:..... V:..... T:.....

Item

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**CONTRACT VARIABLES (A42.0)**

219 Clause 42.0 is amplified by the addition of the following:

**SECTION B: JBCC PRELIMINARIES**

**DEFINITIONS AND INTERPRETATION (B1.0)**

**Definitions and interpretation (B1.1)**

220 See also clause A1.0 of Section A for additional and/or amended definitions which shall apply equally to this Section

**DOCUMENTS (B2.0)**

**Checking of documents (B2.1)**

221 The tenderer shall check the numbers of the pages of the tender documents and should any be missing or duplicated, or the reproduction is indistinct, or if any doubt exists as to the intent or meaning of any description, or where the contract documents contain any obvious errors, the tenderer shall notify the principal agent forthwith thereof and the principal agent shall promptly give a written directive.

F:..... V:..... T:.....

Item

**Provisional bills of quantities (B2.2)**

F:..... V:..... T:.....

Item

**Availability of construction documentation (B2.3)**

222 Where the construction documentation for the works is not complete and will only be completed during the construction period the contractor and principal agent shall work together to identify the requirements for the provision of construction documentation. The contractor and principal agent shall agree the dates that are reasonable by when the contractor is to be provided with each outstanding item of the anticipated construction documentation.

223 The contractor and n/s subcontractor shall agree dates by when the n/s subcontractor is to be provided with each outstanding item of the anticipated construction documentation.

224 The budgetary allowances for selected sub-contract amounts allocated for subsequent trades included in this document will be separately procured, based on multiple procurement of selected sub-contractors during the construction period.

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	F:..... V:..... T:.....	Item	
	<b><u>Interests of agents (B2.4)</u></b>		
	F:..... V:..... T:.....	Item	
	<b><u>Priced documents (B2.5)</u></b>		
	F:..... V:..... T:.....	Item	
	<b><u>Tender submission (B2.6)</u></b>		
225	Clause 2.6 is amended by replacing “JBCC Form of Tender” with “Form of Offer and Acceptance.		
	F:..... V:..... T:.....	Item	
	<b><u>THE SITE (B3.0)</u></b>		
	<b><u>Defined works area (B3.1)</u></b>		
	F:..... V:..... T:.....	Item	
	<b><u>Geotechnical investigation (B3.2)</u></b>		
	F:..... V:..... T:.....	Item	
	<b><u>Inspection of the site (B3.3)</u></b>		
	F:..... V:..... T:.....	Item	
	<b><u>Existing premises occupied (B3.4)</u></b>		
226	The contractor is note well that the existing hospital is occupied and will remain as such for the duration of the contract. As such, planning and execution of the works shall employ methodologies to minimise the impact on the hospital operations with particular emphasis on usage of space, noise reduction, etc.		
	F:..... V:..... T:.....	Item	
	<b>Carried to Collection</b>	R	
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**Previous work – dimensional accuracy (B3.5)**

227 In consecutive contracts the contractor shall, within a reasonable period after taking possession of the site, but not exceeding ten (10) per cent of the construction period or twenty (20) working days whichever is the lesser, check the existing levels, lines, profiles and the like affecting the works and satisfy himself as to the dimensional accuracy of work previously executed. The contractor shall forthwith notify the principal agent and request a contract instruction regarding any dimensional inaccuracy found in work previously executed.

F:..... V:..... T:.....

Item

**Previous work – defects (B3.6)**

228 The contractor on becoming aware of a defect in work previously executed shall forthwith notify the principal agent and request a contract instruction regarding any defect in the existing works. Should same not be carried out including the provision evidence indicating the damage prior to commencement of operations in the area i.e. photographs, reports etc., same shall be regarded as damage to the existing works by the contractor, and rectification of same shall be for the contractors account. The onus is therefore on the contractor to create and maintain a detailed photographic record of the existing facilities in order to ensure that any defects are timeously brought to the attention of the principal agent prior to commencement of works in the specific area.

F:..... V:..... T:.....

Item

**Services – known (B3.7)**

F:..... V:..... T:.....

Item

**Services – unknown (B3.8)**

F:..... V:..... T:.....

Item

**Protection of trees (B3.9)**

F:..... V:..... T:.....

Item

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**Articles of value (B3.10)**

229 Tenderers are to note that all existing facilities are heritage sites and as such are under the direction of Heritage Western Cape (HWC). Further to this, all usable materials removed from the existing buildings will be required to be stored in a guarded, secure environment free from water and damp penetration, excessive temperature variations and all effects of the elements for the duration of the contract and upon completion handed over to the user client offices by the Contractor. Allowance is to be made for all necessary requirements to effect this, under this item.

230 Should any materials as reflected above be damaged, lost or stolen during the period of possession of said materials by the contractor (up until and including delivery of same to the user client by the contractor), the principal agent shall be empowered to make a monetary determination for same and adjust in payment valuations and the final account accordingly.

F:..... V:..... T:.....

Item

**Inspection of adjoining properties (B3.11)**

231 Tenderers are to see section C of these Preliminaries for specific requirements.

F:..... V:..... T:.....

Item

**MANAGEMENT OF CONTRACT (B4.0)**

**Management of the works (B4.1)**

F:..... V:..... T:.....

Item

**Programme for the works (B4.2)**

F:..... V:..... T:.....

Item

**Progress meetings (B4.3)**

F:..... V:..... T:.....

Item

**Technical meetings (B4.4)**

F:..... V:..... T:.....

Item

**Labour and plant records (B4.5)**

F:..... V:..... T:.....

Item

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R

**SAMPLES, SHOP DRAWINGS AND MANUFACTURERS' INSTRUCTIONS (B5.0)**

**Samples of materials (B5.1)**

F:..... V:..... T:.....

Item

**Workmanship samples (B5.2)**

F:..... V:..... T:.....

Item

**Shop drawings (B5.3)**

- 232 Clause 5.3 is amended by the addition of the following:
- 233 Clause 5.3.3 - General responsibilities - The contractor shall provide a person or persons who shall be available immediately upon commencement of the contract, whose responsibility will be:
- 234 a) To familiarise himself with all drawings produced for construction purposes. This will involve a clear understanding of services and element co-ordination, in order that sub-contractors can be properly briefed.
- 235 b) To provide comprehensive lists of shop drawings to be prepared by relevant sub-contractors.
- 236 c) To check all shop drawings for sufficiency prior to submission. It is expected that such checking will include all co-ordination and pro-active resolution of any conflicting services and elements. It is also noted that resolution of co-ordination problems will require attendance at services and element co-ordination meetings called by the principal agent and when necessary.
- 237 Clause 5.3.4 - Procedures - The contractor shall, at his own expense, prepare and submit one reproducible print of shop drawings of all fabricated work, working or setting out drawings, shop details and schedules and such work shall not be performed by the contractor until approval has been given. The contractor shall take cognisance of and adhere to the Project Document Numbering System.
- 238 The contractor shall present a complete schedule showing the sequence of submission of shop drawings, including submission dates, for all trades and the scheduled dates for approval of all drawings. This schedule shall take into account a two weeks check period from the date of the receipt of all shop drawings and/or catalogue data.

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- 239 All submissions shall be on dates as indicated in the above schedule and sufficiently in advance to permit the contractor to meet fabrication deadlines; no claim for extensions to the construction period will be granted to the contractor by reason of his failure in this respect.
- 240 The contractor shall submit four copies of catalogues and data for approval. The contractor shall check all submissions for conformity with the contract drawings and specifications and correct any errors, omissions or deviations before submission.
- 241 All submissions shall bear the contractor's dated stamp of approval as evidence that they have been so checked and corrected by the contractor. Any drawings, schedule or catalogue submitted without this stamp will not be considered and will be returned unapproved.
- 242 When the principal agent advises the contractor that shop drawings have been approved, he shall immediately submit to the principal agent the original transparencies of such drawings so that the principal agent's stamp of approval may be appended thereto. Thereafter the contractor shall furnish to the principal agent four prints of the approved shop drawings, setting out drawings and schedules. The contractor shall also furnish as many prints of the approved shop drawings and schedules as may be required for use on the site. No work shall be performed from any shop drawings and/or catalogues not stamped with the principal agent's approval.
- 243 The contractor shall be responsible for ensuring that all dimensions conform to the dimensions of built work.
- 244 If the submissions differ from the requirements of the contract, the contractor shall make specific mention of each difference in his letter of transmission with a request for substitution, together with his reasons for same, in order that, if acceptable, suitable action may be taken by the principal agent. Otherwise the executing of the work shall be in strict accordance with the requirements of the contract.
- 245 Corrections of shop drawings by the principal agent shall not change the scope of work. Should any such correction be considered to constitute a change of scope of work, the contractor shall notify the principal agent in writing within not more than seven (7) calendar days of such change and shall not proceed with the fabrication until so authorised by the principal agent. Claims for change of scope made after performance of the work constituting the claimed change of scope will not be considered.
- 246 Unless otherwise agreed with the principal agent, shop drawings shall be prepared to show all details of installation, including reticulation, fixing, etc. of all components and assemblies, or if the contractor desires to deviate from the design these drawings shall be all to accordance with the above procedures and at the contractors expense.

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F:..... V:..... T:.....

Item

**Compliance with manufacturers' instructions (B5.4)**

F:..... V:..... T:.....

Item

**TEMPORARY WORKS AND PLANT (B6.0)**

**Deposits and fees (B6.1)**

247 The contractor shall pay all deposits, fees and charges according to law, regulation or by law of any local or other authorities that relate to hoardings, the use of pavements, street encroachment or crossing, permission for the suspension of parking facilities and the like.

F:..... V:..... T:.....

Item

**Enclosure of the works (B6.2)**

F:..... V:..... T:.....

Item

**Advertising (B6.3)**

F:..... V:..... T:.....

Item

**Plant, equipment, sheds and offices (B6.4)**

F:..... V:..... T:.....

Item

**Main notice board (B6.5)**

F:..... V:..... T:.....

Item

**Subcontractors' notice board - N/A (B6.6)**

F:..... V:..... T:.....

Item

**TEMPORARY SERVICES (B7.0)**

**Location (B7.1)**

F:..... V:..... T:.....

Item

**Water (B7.2)**

248 Clause 7.2 is amplified by the addition of the following:

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F:..... V:..... T:.....

Item

**Electricity (B7.30)**

249 Tenderers are referred to schedule of variables hereinafter.

F:..... V:..... T:.....

Item

**Telecommunication facilities (B7.4)**

250 Clause 7.4 is amended by deleting it in its entirety and replacing with the following:

251 The contractor shall provide telecommunication facilities as required for his staff as well as for the agents of the employer when on site and shall be liable for all costs related thereto.

F:..... V:..... T:.....

Item

**Ablution facilities (B7.4)**

252 Clause 7.5 is amended by deleting it in its entirety and replacing with the following:

253 Ablution facilities shall be provided by the contractor as stated in the schedule and shall be provided for the use of all persons on the site. The contractor shall maintain such facilities in a thoroughly clean and tidy condition and make good damage thereto at his own expense.

F:..... V:..... T:.....

Item

**PRIME COST AMOUNTS (B8.0)**

**Responsibility for prime cost amounts (B8.1)**

254 Clause 8.1 is amended by deleting it in its entirety and replacing with the following:

255 All prime cost amounts are for materials and goods delivered to the site. The contractor shall make provision in his rates for taking delivery, unloading, checking against invoices and/or delivery notes, getting in, unpacking, storing, hoisting and fixing of such materials and goods on taking delivery as any materials and goods subsequently found missing or damaged shall be replaced at the contractor's expense.

F:..... V:..... T:.....

Item

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**ATTENDANCE ON N/S SUBCONTRACTORS (B9.0)**

**General attendance (B9.1)**

F:..... V:..... T:.....

Item

**Special attendance (B9.2)**

256 Clause 9.2 is amended by deleting it in its entirety and replacing with the following:

257 The contractor shall make provision in his rates for special attendance on each n/s sub-contractor. Special attendance such as unloading, storing, placing in position, providing special power supplies, specific hoisting, craneage and scaffolding requirements, provision of temporary casing and/or other specific protection of the works, special security and clearing away rubbish are to be determined by the tenderer and shall be deemed to be included in rates for attendance.

F:..... V:..... T:.....

Item

**Commissioning – fuel, water and electricity (B9.3)**

F:..... V:..... T:.....

Item

**FINANCIAL ASPECTS (B10.0)**

**Statutory taxes, duties and levies (B10.1)**

F:..... V:..... T:.....

Item

**Payment for preliminaries (B10.2)**

F:..... V:..... T:.....

Item

**Adjustment of preliminaries (B10.3)**

258 Clauses B10.3.1 and B10.3.2 are amended by replacing “within fifteen (15) working days of taking possession of the site” with “when submitting his priced bills of quantities / lump sum document”

F:..... V:..... T:.....

Item

**Payment certificate cash flow (B10.4)**

F:..... V:..... T:.....

Item

**Carried to Collection**

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**GENERAL (B11.0)**

**Protection of the works (B11.1)**

F:..... V:..... T:.....

Item

**Protection / isolation of existing / sectionally occupied works (B11.2)**

F:..... V:..... T:.....

Item

**Security of the works (B11.3)**

259 The contractor shall take all appropriate measure for general security of the works.

F:..... V:..... T:.....

Item

**Notice before covering work (B11.4)**

F:..... V:..... T:.....

Item

**Disturbance (B11.5)**

260 The contractor shall execute the works with a minimum of disturbance to adjoining premises, any part of the works already handed over and the occupants of those premises and/or parts. Any specific requirements are stated in the schedule.

F:..... V:..... T:.....

Item

**Environmental disturbance (B11.6)**

261 The contractor shall execute the works without any unreasonable adverse effect on the environment. Any specific requirements are stated in the schedule.

F:..... V:..... T:.....

Item

**Works cleaning and clearing (B11.7)**

F:..... V:..... T:.....

Item

**Vermin (B11.8)**

F:..... V:..... T:.....

Item

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R

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**Overhand work (B11.9)**

F:..... V:..... T:.....

Item

**Instruction manuals and guarantees (B11.10)**

F:..... V:..... T:.....

Item

**As built information (B11.11)**

F:..... V:..... T:.....

Item

**Tenant installations (B11.12)**

F:..... V:..... T:.....

Item

**SCHEDULE OF VARIABLES (B12.0)**

F:..... V:..... T:.....

Item

262 This schedule contains all variables referred to in this document and is divided into pre-tender and post-tender categories. The pre-tender category must be completed in full and included in the tender documents. Both the pre-tender and post-tender categories form part of these Preliminaries

263 Spaces requiring information must be filled in, shown as “not applicable” or deleted and not left blank. Where choices are offered, the non-applicable items are to be deleted. Where insufficient space is provided the information should be annexed hereto and cross-referenced to the applicable clause of the schedule. Key cross reference clauses are italicised in [ ] brackets

**PRE-TENDER INFORMATION (B12.1)**

**Provisional bills of quantities (B12.1.1)**

264 

The quantities are provisional	(yes/no)	<b>YES</b>
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F:..... V:..... T:.....

Item

**Availability of construction documentation (B12.1.2)**

265 

Construction documentation complete	(yes/no)	<b>No</b>
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	<b><u>Interests of agents (B12.1.3)</u></b>		
266	Details: Not Applicable  F:..... V:..... T:.....	Item	
	<b><u>Defined works area (B12.1.4)</u></b>		
267	Details: Yes, as per Scope of Works and section C of these Preliminaries  F:..... V:..... T:.....	Item	
	<b><u>Geotechnical investigation (B12.1.5)</u></b>		
268	Details: Yes – as attached  F:..... V:..... T:.....	Item	
	<b><u>Existing premises occupied (B12.1.6)</u></b>		
269	Specific requirements: Yes, although the structures subject to this bid are not occupied, they form part of the larger Charlotte Maxeke Johannesburg Academic Hospital, which is fully occupied.  F:..... V:..... T:.....	Item	
	<b><u>Previous work – dimensional accuracy (B12.1.7)</u></b>		
270	Details: Whilst every effort has been made to ensure the dimensional accuracy of existing works on site, the onus rests on the Tenderer to ensure that same is checked and pricing is done accordingly. No further claims in this regard will be entertained.  F:..... V:..... T:.....	Item	
	<b><u>Previous work – defects (B12.1.8)</u></b>		
271	Refer to item 3.6  F:..... V:..... T:.....	Item	
	<b><u>Services – known (B12.1.9)</u></b>		
272	Not available  F:..... V:..... T:.....	Item	
	<b>Carried to Collection</b>	R	
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	<b><u>Protection of trees (B12.1.10)</u></b>		
273	Specific requirements: Not Applicable  F:..... V:..... T:.....	Item	
	<b><u>Inspection of adjoining properties (B12.1.11)</u></b>		
274	Specific requirements: Bidders are to note that the scope includes demolition to buildings adjoining other structures to remain. Bidders are to carefully inspect same, maintaining a photographic record throughout the construction phase, and bring to the attention of the principal agent any and all further deterioration in condition of adjoining structures.  F:..... V:..... T:.....	Item	
	<b><u>Enclosure of the works (B12.1.12)</u></b>		
275	Specific requirements:  F:..... V:..... T:.....	Item	
	<b><u>Offices (B12.1.13)</u></b>		
276	Specific requirements:		
277	The contractor shall provide, maintain, and remove upon completion of the works, the following:		
278	a) Site office which shall be used for site meetings and for the contractor's use. Such an office shall comprise a minimum of 20m <sup>2</sup> in area and 3 m high, be ventilated, have good lamination, must be reasonably sound proof, and have a hard floor construction. It shall be furnished with a desk on which drawings can be rolled open and on which there is sufficient writing space and sufficient temporary chairs or benches to accommodate all persons present at site meetings. (Minimum 15-seater)		
279	b) Ablution facilities comprising male and female ablutions, 4 x male urinals and 2 x WC in male ablutions and 3 x WC in female ablutions. Ablutions need to be maintained in a clean condition for the duration of the contract and removed upon completion.  F:..... V:..... T:.....	Item	
	<b><u>Main notice board (B12.1.14)</u></b>		
280	Specific requirements:		
	<b>Carried to Collection</b>	R	
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281	The contractor shall provide, erect where directed, maintain and remove on completion of the works two (2) notice boards size 3 x 3m as type Drawing GEN 063 (available upon request), constructed of suitable boarding with flat smooth surface and with edging bead 19mm thick round outer edges and projecting 12mm from face of boarding and rounded on front edge. The board shall be securely fixed to hoarding, where hoarding is provided, or fixed to and including a suitable supporting structure of timber or tubular posts and braces. The board is to be painted ivory white and the bead and 12mm wide dividing lines dark green. All wording shall be inscribed in dark green as per the coat of arms for SA. All wording shall be inscribed in dark green painted sans serif lettering  F:..... V:..... T:.....		Item	
	<p><b><u>Subcontractors' notice board (B12.1.15)</u></b></p>			
282	Notice boards are not permitted			
283	Specific requirements: N/A			
	F:..... V:..... T:.....		Item	
	<p><b><u>Water (B12.1.16)</u></b></p>			
284	Option A (by contractor)			
	F:..... V:..... T:.....		Item	
	<p><b><u>Electricity (B12.1.17)</u></b></p>			
285	Option A (by contractor)			
	F:..... V:..... T:.....		Item	
	<p><b><u>Telecommunications (B12.1.18)</u></b></p>			
286	Telephone facilities to be adequately available to all members of the professional team for usage at all times on site			
287	Facsimile			
288	E-mail			
	F:..... V:..... T:.....		Item	
	<b>Carried to Collection</b>		R	
	Bill No. 1 Preliminaries			

	<b><u>Ablution facilities (B12.1.19)</u></b>		
289	Option A (by contractor)  F:..... V:..... T:.....		Item
	<b><u>Protection of existing/sectionally occupied works (B12.1.20)</u></b>		
	F:..... V:..... T:.....		Item
	<b><u>Special attendance (B12.1.21)</u></b>		
290	Special attendance will be deemed priced within the contract rates, whether specifically itemised or not. Tenderers are to ensure that all requirements in relation to the works to be completed by specialist sub-contractors are catered for within the tendered rates, as no further correspondence or claims in this regard will be entered into.  F:..... V:..... T:.....		Item
	<b><u>Protection of the works (B12.1.22)</u></b>		
291	Specific requirements: Protection of the existing and completed works at all times will be a requirement of this Contract  F:..... V:..... T:.....		Item
	<b><u>Disturbance (B12.1.23)</u></b>		
292	Specific requirements:		
293	The contractor shall keep the site, structures, etc well watered during operations to prevent dust and shall provide and erect and remove on completion of the works all necessary temporary dust screens all to the satisfaction of the principal agent. Pricing for same shall be allowed for in the Preliminaries notwithstanding any items measured in the Bills of Quantities, which shall be expended only as directed by the Principal Agent.  F:..... V:..... T:.....		Item
	<b><u>Environmental disturbance (B12.1.24)</u></b>		
	<b><u>Specific requirements: Not Applicable</u></b>		
	F:..... V:..... T:.....		Item
	<b>Carried to Collection</b>		R
	Bill No. 1 Preliminaries		

**POST-TENDER INFORMATION (B12.2)**

**Payment of preliminaries (B12.2.1)**

294 Option A

295 Option B

**Adjustment of preliminaries (B12.2.2)**

296 Option A

297 Option B

**Additional agreed preliminaries items (B12.2.3)**

F:..... V:..... T:.....

Item

**SECTION C: SPECIFIC PRELIMINARIES**

298 Section C contains specific preliminary items which apply to this contract except where N/A (Not Applicable) appears against an item

**CONTRACT DRAWINGS (C1.0)**

299 The drawings issued with the tender documents do not comprise the complete set but serve as a guide only for tendering purposes and for indicating the scope of the work to enable the tenderer to acquaint himself with the nature and extent of the works and the manner in which they are to be executed

Should any part of the drawings not be clearly understood by the tenderer he shall, before submitting his tender, obtain clarification in writing from the principal agent

300 Further, should any drawings that are referenced within the Bills of Quantities found not to have been included in a Bid Document, the Bidder shall immediately request for same information. Should the Bidder not request same accordingly, no claims in respect to said missing information/drawings shall be entertained, and any additional costs incurred shall be for the account of the Contractor

F:..... V:..... T:.....

Item

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**GENERAL PREAMBLES (C2.0)**

301 The complete suite of project specific specifications are appended at the back of these Bills of Quantities, and shall be read in conjunction with the bills of quantities and be referred to for the full descriptions of work to be done and materials to be used. These specifications shall take precedence in any discrepancy between themselves and the general specifications and/or between themselves and the Bills of Quantities. Should any document referenced in the Bills of Quantities not be present in a Bid Document, the Bidder is to notify the Employer's representative immediately. Rates for work will be deemed to be inclusive of all requirements as per the project specific and general specifications

F:..... V:..... T:.....

Item

**TRADE NAMES (C3.0)**

302 Wherever a trade name for any product has been described in the bills of quantities the tenderer's attention is drawn to the fact that any other product of equal quality may be used subject to the written approval of the principal agent being obtained prior to the closing date for submission of tenders

303 If prior written approval for an alternative product is not obtained, the product described shall be deemed to have been tendered for

F:..... V:..... T:.....

Item

**VIEWING THE SITE IN SECURITY AREAS (C5.0)**

304 The site is situated in a security area and the tenderer must arrange with the Principal Agent or other responsible officer to obtain permission to enter the site for tendering purposes

F:..... V:..... T:.....

Item

**COMMENCEMENT OF WORKS IN SECURITY AREAS (C6.0)**

305 As the works falls within a security area the contractor must give the Principal Agent or other responsible officer notice before commencement of the works. Should the contractor fail to make such arrangements, admission to the site may be refused and any additional costs will be for the contractor's account.

Further, the tenderer's attention is drawn to the hospital's security checklist and the OHS specification for further detailed requirements on site access.

F:..... V:..... T:.....

Item

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**ENTRANCE PERMITS TO SECURITY AREAS (C7.0)**

306 As the works falls within a security area the contractor shall obtain entrance permits for his personnel and workmen entering the area and shall comply with all regulations and instructions which may be issued from time to time regarding the protection of persons and property under the control of the Department of Health.

F:..... V:..... T:.....

Item

**SECURITY CHECK OF PERSONNEL (C8.0)**

307 The bidder is advised that being a national key point, stringent security vetting on all personnel will need to be carried out. No additional claims in this regard will be entertained, as it is expected of bidders to fully acquaint themselves with the necessary procedures, timelines, etc.

308 In the event of the principal agent requesting the removal of a person or persons from the works for security reasons, the contractor shall do so forthwith and shall thereafter ensure that such person or persons are denied access to the works and the site and/or to any document or information relating to the works

F:..... V:..... T:.....

Item

**UNAUTHORISED PERSONS ON SITE (C9.0)**

309 The contractor shall at all times strictly exclude all unauthorized persons from the works.

310 No workmen are to be allowed under any circumstances to sleep or deposit any personal effects on the site. The contractor must provide any necessary independent shelters or sheds required for any workmen off site.

311 Furthermore, the contractor shall take all measures necessary to ensure that no unauthorised workmen are allowed onto the site at any time without the specific permission of the principal agent.

F:..... V:..... T:.....

Item

**CONTRACTOR ACCESS (C10.0)**

312 The contractor shall provide for a security access card for all personnel (management and labour) entering the site. Each identification tag is to include for the following information: -

313 i. Project name

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314 ii. Colour photo (ID book size)

315 iii. Company name

316 iv. Name and ID number

F:..... V:..... T:.....

Item

**STOCKPILE (C11.0)**

F:..... V:..... T:.....

Item

**SITE ESTABLISHMENT (C12.0)**

317 The contractor may erect/hire/purchase an establishment on or contiguous to the site to include offices, stores, lay down areas etc. for his own, and sub-contractor's use subject to the foregoing provisions of Clause B3.1 of these Preliminaries. Such establishment is to be pre-planned and is subject to the approval of the principal agent.

318 Notwithstanding the principal agent's approval, the contractor shall be responsible for any costs relating to relocation of any site establishment required to allow access for the timeous execution of the works.

F:..... V:..... T:.....

Item

**PRICING OF BILLS OF QUANTITIES (C13.0)**

319 Tenderers are to allow opposite each item for all costs in connection therewith. All prices to include, unless otherwise stated, for all materials, fabrication, conveyance and delivery, unloading, storing, unpacking, hoisting, labour, setting, fitting and fixing in position, cutting and waste (except where to be measured in accordance with the Standard System of Measurement) patterns, models and templates, plant, temporary works, returning of packing, duties, taxes, imposts, establishment charges, overheads, profit, attendance (general and specific) and all other obligations arising out of the agreement.

320 The rate inserted by the tenderer opposite each item will be deemed to be applicable to the item as originally specified. Should the tenderer wish to offer an alternative specification to any particular item, he is to provide this as an alternative to his Bid sum for consideration by the principal agent as a submission with his Bid. No alternatives will be accepted during the construction period unless prior approval at tender stage is granted in writing by the Principal Agent. Under no circumstances are the descriptions in the bills of quantities to be altered by the tenderer.

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321 Where a bill of quantities item includes "or other approved" within its description and the tenderer has priced a "or other approved" specification, the tenderer is to provide a schedule of all such bill items that have been priced as "or other approved" including the full details and specifications of the "or other approved" items priced. Should no schedule of "or other approved" items be received with the 'formal tender submission' from the tenderer it shall be deemed that the tenderer has priced the item as per the original specification in the tender documents and no alternative specifications will be accepted for the tendered rate.

322 Items left unpriced will be deemed to be covered in prices against other items throughout these bills of quantities and no claim for any extras arising out of the tenderer's omission to price any item will be entertained.

323 Prices for all plant, temporary works, services and other items provided shall include for the supply, maintenance, operating cost and subsequent removal and making good as necessary.

324 The contractor shall execute work during "overtime" hours as necessary in order to complete the project within the agreed construction period and shall provide such resources and work such overtime hours as necessary. Costs for the execution of this work under these conditions shall be included within the contract sum and no additional time or monetary claims in this regard will be entertained.

F:..... V:..... T:.....

Item

**COSTS OF CLAIMS (C15.0)**

325 All costs incurred by the contractor in the preparation of claims to the satisfaction of the principal agent and/or quantity surveyor shall be borne by the contractor.

326 In furtherance of the above, the Contractor shall ensure that at least one dedicated, full-time, senior resource is allocated for the preparation of cost related information including but not limited to payment claims, cost reports, contractor cashflows, etc. Pricing will be deemed to be inclusive of this requirement

F:..... V:..... T:.....

Item

**SATISFACTION OF CONTRACTOR AS TO SCOPE OF INSURANCES (C16.0)**

327 Submission of a tender shall be deemed as acceptance by the contractor that he is satisfied with the scope of the insurances effected by the employer, supplemented by any additional insurances considered necessary by himself.

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R

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- 328 The employer warrants that the insurances effected by him shall remain in force for the duration stipulated in the agreement.
- 329 Any clarification of the scope of cover provided by the policies arranged by the employer should be obtained from the employer's representative.
- 330 The contractor warrants that he shall give all notices and shall observe all the terms and conditions and requirements of all insurances applicable to this contract.
- 331 Where the contractor is responsible for the appointment of nominated or selected sub-contractor then the contractor shall :
- 332 1. Ensure that potential and appointed sub-contractors are aware of the whole content of clauses A8, A9, A10, A11 and A12.
- 333 2. Ensure the compliance of sub-contractors with these clauses where applicable. In the event of any occurrence which is likely to give rise to a claim under the insurances arranged by the employer, the contractor/sub-contractor shall:
- 334 3. In addition to any statutory requirement or other requirements contained in the agreement, immediately notify the employer's insurance Brokers by telephone or email giving the circumstances, nature and an estimate of the loss or damage or liability;
- 335 4. Complete a claims advice form, in conjunction with both the principal agent and the employer and return to the Insurance Brokers without delay;
- 336 5. Assist as required, in negotiations of the settlement of claims with the insurers through the employer's Insurance Brokers.
- 337 The employer shall have the right to make all and any enquiry on the site or elsewhere as to the cause and results of any such occurrence and the contractor shall give the employer and his insurers full facilities for carrying out such enquiries.

F:..... V:..... T:.....

**PROHIBITION ON TAKING OF PHOTOGRAPHS (C17.0)**

- 338 In terms of article 119 of the Defence Act, 44 of 1957, it is prohibited to sketch or to take photographs of any military site or installation or any building or civil works thereon or to be in possession of a camera or other apparatus used for taking of photographs except when authorized thereto by or on behalf of the Minister

**Carried to Collection**

Bill No. 1  
 Preliminaries

Item

R

339 The same prohibition is also applicable to all correctional institutions in terms of article 44.1(e) of the Correctional Services Act 8 of 1959

F:..... V:..... T:.....

Item

**OCCUPATIONAL HEALTH AND SAFETY ACT (C19.0)**

340 The contractor shall comply with all the requirements set out in the Construction Regulations, 2003 issued under the Occupational Health and Safety Act, 1993 (Act No 85 of 1993)

341 It is required of the contractor to thoroughly study the project-specific Health and Safety Specification and Baseline Risk Assessment that must be read together with and is deemed to be incorporated under this Section of the bills of quantities.

342 The contractor must take note that compliance with the Occupational Health and Safety Act, Construction Regulations and Health and Safety Specification is compulsory. In the event of partial or total non-compliance, the principal agent, notwithstanding the provisions of clause A31.0 of Section A or any other clause to the contrary, reserves the right to delay issuing any progress payment certificate until the contractor provides satisfactory proof of compliance. The contractor shall not be entitled to any compensation of whatsoever nature, including interest, due to such delay of payment

343 Provision for pricing of the Occupational Health and Safety Act, Construction Regulations and Health and Safety Specification is made under this clause and it is explicitly pointed out that all requirements of the aforementioned are deemed to be priced hereunder and no additional claims in this regard shall be entertained

F:..... V:..... T:.....

Item

**DILAPIDATION AND MONITORING SURVEY RECORD (C22.0)**

344 Provision of dilapidation assessments, monitoring and reporting including all necessary elements and costs shall be priced for under this item. It is pivotal for the Contractor to read and understand the requirements of this specification, as pricing will be deemed to be inclusive of all necessary requirements in this regard.

F:..... V:..... T:.....

Item

**Carried to Collection**

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Bill No. 1  
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**MATERIALS REQUIRED BY AMAFA (C23.0)**

345 Due to the age and historical significance of the Structures subject to this tender, the facility is under the control of Heritage Western Cape, and is a listed heritage building. As such, and with particular reference to the alterations and demolition of existing structures, It is required that various items of historic value be retained by themselves. The Contractor is thus to price under this item for the storage of items for the duration of the contract in a secure environment free from the effects of the elements, and handover to the user client. Items that will be retained by user client will include, but not limited to: light fittings, statues, etc. throughout the building, floor tiles, timber floor blocks, roof tiles, plaster mouldings, doors and windows, ironmongery, etc.

F:..... V:..... T:.....

Item

**TRAFFIC AND MUNICIPAL REQUIREMENTS (C24.0)**

346 Due to the location of the site, it will be required of the Contractor to obtain the necessary local authority permissions and clearances, and to make the necessary arrangements including the employment of specialist service providers and/or personnel in for traffic diversion, road closures etc. as required for timeous delivery of materials, etc. to site. The Bidder is to price for all necessary requirements under this item.

347 In addition, the Contractor shall be responsible for the effective management of traffic into and out of the site for the duration of the contract including ensuring that the occupants of the precinct are adequately directed to designated parking areas and that order is generally maintained through the adequate deployment of resources including traffic cones, danger tape, temporary traffic barriers and consultation with a traffic specialist all to the approval of the principal agent.

F:..... V:..... T:.....

Item

**Domestic Sub-Contractors (C30.0)**

348 Notwithstanding the relevant conditions of contract and amendments thereto in respect of domestic sub-contractors, it is a specific condition of this contract that should the contractor at any time subsequent to award of the contract elect to change or replace any specialist domestic sub-contractor in his employ, reasons for the change or replacement shall be furnished by the contractor to the principal agent, who shall, after performing a risk assessment of the proposed new specialist sub-contractor, reserve the right to reject the appointment of a new sub-contractor based on either the reasons put forward by the main contractor for removal of the previous sub-contractor, or due perceived risk as per the aforementioned risk assessment. The contractor shall be obliged to abide by the decision of the principal agent in this regard.

F:..... V:..... T:.....

Item

**Carried to Collection**

R

Bill No. 1  
 Preliminaries







Item No		Quantity	Rate	Amount
	<p><b><u>BILL NO. 2</u></b></p> <p><b><u>ALTERATIONS (PROVISIONAL)</u></b></p> <p>Tenderers are referred to the Model Preambles for All Trades as published by the Association of South African Quantity Surveyors (Tel. 011-315 4140) and the Architectural and Structural Works Information before pricing this Bill of Quantities</p>			
	<p><b><u>SUPPLEMENTARY PREAMBLES</u></b></p> <p><b><u>Proprietary items or materials</u></b></p> <p>Proprietary items or materials where specified are to be of the brand specified or other approved by the Representative / Agent</p> <p><b><u>View site:</u></b></p> <p>Before submitting his tender the contractor shall visit the site and satisfy himself as to the nature and extent of the work to be done and the value of the materials contained in the buildings or portions of the buildings to be demolished. No claim for any variations of the contract sum in respect of the nature and extent of the work or of inferior or damaged materials will be entertained</p> <p><b><u>Damage to existing finishes:</u></b></p> <p>The Contractor will be held responsible for all damage, however caused, to existing finishes and fittings etc. and he must make good all damage at his own expense to the approval of the Principal Agent</p>			
	<b>Carried to Collection</b>			R
	<p>Bill No. 2            Alterations (Provisional)</p>			

Breaking down, demolition and alteration activities and tasks, hacking off of existing plaster, etc. is to be executed with care so as to prevent damage to remaining floor and wall surfaces and finishes (where these are to be retained). Tenders will be deemed to include allowance for any necessary protection of existing surfaces and structures as may be necessary to effect the above, as the cost of repairing damage to existing surfaces and structures will be solely for the Contractors account

**Responsibility for site:**

The contractor is to note that upon possession of the site by himself, and extending until practical completion is achieved, he is solely responsible for the site, site security, general upkeep and cleaning of the site and all other responsibilities in maintaining a construction site in conformance with but not limited to, the Construction Regulations 2003, all local by-laws, all user client regulations, and all Client regulations and procedures. Tenderers are therefore urged to study all available material and to investigate fully the site and areas contiguous to the site, in order to determine the range and extent of responsibility. No additional monetary and/or time claims will be entertained in respect of the above

**Explosives :**

No explosives whatsoever may be used for demolition purposes unless otherwise stated

**General:**

The contract shall carry out the whole of the works with as little mess and noise as possible and with a minimum of disturbance to adjoining classroom blocks and their students. He shall provide proper protection and provide, erect and remove when directed, any temporary tapaulins that may be necessary during the progress of the works, or to the satisfaction of the principal agent

**Carried to Collection**

Bill No. 2  
 Alterations (Provisional)

R

Water supply pipes and other piping that may be encountered and found necessary to disconnect or cut, shall be effectually stopped off or grubbed up and removed, and any new connections that may be necessary shall be made with proper fittings, to the satisfaction of the principal agent

Prices for taking out of doors, windows, etc. shall include for removal of all beads, architraves, ironmongery, etc

Prices for taking out and removing doors and frames shall include for removing door stops, cabin hooks, etc. and making good floor and wall finishes to match existing

With regard to building up of openings in existing walls, cement screeds and pavings, granolithic, tops of walls, etc., shall be levelled and prepared for raising of brickwork

Making good of finishes shall include making good of the brick and concrete surfaces onto which the new finishes are applied, where necessary

The contractor will be required to take all dimensions affecting the existing buildings on the site and he will be held solely responsible for the accuracy of all such dimensions where used in the manufacture of new items (doors, windows, fittings, etc.)

**Removal of materials:**

Where removal is included in the heading, sub-heading or item description, prices shall be deemed to include for the necessary costs in removal and appropriate disposal of materials including but not limited to labour, transportation and disposal costs. No further claims in this regard will be entertained

**Propping**

Propping for the entire contract duration, supplied, delivered and erected in position, as directed by the Engineer. Propping to be installed in position before commencement of any demolition works

**Carried to Collection**

Bill No. 2  
 Alterations (Provisional)

R

**Temporary propping, including removal upon completion of the Demolition contract**

1	Temporary propping of floors to accommodate 33 kN per m2 load	m2	2 238
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**TEMPORARY BARRIERS AND SCREENS**

**Temporary barriers, screens, etc. including removal**

2	22mm Thick double-sided shutter board framed barriers approximately 3 - 4m high formed of timber studs and rails covered on one side with 12,7mm gypsum board panels and finished with two coats interior quality PVA paint on one side, including corners, end	m	185
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3	22mm Thick double-sided shutter board framed barriers approximately 4 - 5m high formed of timber studs and rails covered on one side with 12,7mm gypsum board panels and finished with two coats interior quality PVA paint on one side, including corners, end	m	89
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4	22mm Thick double-sided shutter board framed barriers approximately 5 - 6m high formed of timber studs and rails covered on one side with 12,7mm gypsum board panels and finished with two coats interior quality PVA paint on one side, including corners, end	m	65
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**REMOVAL OF EXISTING WORK**

**Breaking up and removing reinforced concrete**

5	200mm Thick surface bed	m2	740
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**Breaking up and removing reinforced concrete including cutting off and removing reinforcement**

6	Columns	m3	10
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7	300mm Thick slabs	m2	21 299
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**Breaking down and removing brickwork etc**

8	One brick wall	m2	70
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**Carried to Collection**

Bill No. 2  
Alterations (Provisional)

R

**Hacking up/off and removing granolithic, screeds, plaster, etc from concrete or brickwork and preparing surfaces for new screeds, plaster, etc**

9	5mm Screed from floors	m2	9 032
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**CAREFULLY REMOVING AND SETTING ASIDE FOR RE-USE**

**Carefully taking out and removing existing Facade precast concrete walls and setting aside and re-install as determined by the Principal agent**

10	Facade precast concrete walls size approximately 150mm thick . (Labour Intensive)	m2	400
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**PREPARATORY WORK TO EXISTING SURFACES**

11	Hacking face of existing brickwork to receive plaster	m2	69
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**REPAIRS TO AND MAKING GOOD OF EXISTING WORKS**

12	Make good surfaces of existing concrete surface beds by scabbling to remove loose material and expose concrete aggregate in order to facilitate adhesion of new concrete. etc. (New concrete surface beds elsewhere measured)	m2	200
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13	Carbon wrap existing concrete columns by preparing to clean the concrete surface to achieve a laitance - free, contaminant-free, open-textured surface. Apply two layers "SikaWrap®-300 C" woven carbon fibre fabric or equally approved to concrete columns all in strict accordance with the manufacturer's installation specifications	m2	16
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14	Prepare surfaces and remove all loose material on concrete surface,Thoroughly pre-dampen the prepared concrete substrate with water and apply "Sikacrete - 213F" fire protection mortar on concrete surfaces at openings to floors or equally approved, all in strict accordance with the manufacturer's installation specifications	m2	50
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 Alterations (Provisional)

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15	Remove 100mm width of plaster on either side of crack, rake out crack: 6mm X 6mm deep, clean out all loose material and repair crack using Prostruct 506 Flexicoat polymer modified cementitious coating or equally approved, to Manufacturer's specification	m	57		
	<b><u>Making good internal cement plaster</u></b>				
16	Walls in patches	m2	125		
	<b><u>Making good external cement plaster</u></b>				
17	Walls in patches	m2	56		
	<b><u>BUDGETARY ALLOWANCES</u></b>				
	<b><u>Unforeseen alteration works:</u></b>				
18	Allow the sum of R 6,000,000.00 (Six Million Rand) for unforeseen alteration works to be valued in accordance with the relevant conditions of contract			Item	6 000 000.00
	<b><u>Removal refurbishment and reinstatement of steel roofing system:</u></b>				
19	Allow the sum of R 3,000,000.00 (Three Million Rand) for the removal, refurbishment and reinstatement of steel roofing system including fabrication of new steelwork to suit all as per the Structural engineers requirements			Item	3 000 000.00
	<b><u>Removal, refurbishment and reinstatement of lattice concrete frames in interstitial floors:</u></b>				
20	Allow the sum of R 1,000,000.00 (One Million Rand) for the removal, refurbishment and reinstatement of lattice concrete frames in interstitial floors as per the structural engineers requirements			Item	1 000 000.00
	<b><u>Supply and install precast concrete facade walls</u></b>				
21	Allow the sum of R 500,000.00 (Five Hundred Thousand Rand) for the supply and installation of precast concrete facade walls as per the Structural engineers requirements			Item	500 000.00
	<b>Carried to Collection</b>				
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**Removal of structural steel work**

22 Allow the sum of R 2,000,000.00 (Two Million Rand) to carefully cut, remove and dispose off 4mm diameter post tension strand and cables all as per the Structural engineers requirements

Item

2 000 000.00

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Bill No. 2  
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Bill No. 2

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Bill No. 2  
 Alterations (Provisional)

Item No		Quantity	Rate	Amount
	<p><b><u>BILL NO. 3</u></b></p> <p><b><u>EARTHWORKS (PROVISIONAL)</u></b></p> <p>Tenderers are referred to the Model Preambles for All Trades as published by the Association of South African Quantity Surveyors (Tel. 011-315 4140) and the Architectural and Structural Works Information before pricing this Bill of Quantities</p>			
	<p><b><u>SUPPLEMENTARY PREAMBLES</u></b></p> <p><b><u>EXCAVATION, FILLING, ETC OTHER THAN BULK</u></b></p> <p><b><u>Working at Heights</u></b></p> <p>Bidders are to note that the work to be undertaken will require all necessary scaffolding, due to the heights of the structures to be constructed/altered. Bidders are to therefore price accordingly as rates will be deemed to include for same and no furthe</p> <p><b><u>Labour Intensive</u></b></p> <p>Bidders are to note well that specific items within these Bills of Quantities have been designated as LABOUR INTENSIVE by the addition of the words "Labour Intensive" at the end of the description for the said item. Where items have been designated as bei</p> <p><b><u>Nature of ground</u></b></p> <p>The nature of the ground is assumed to be loose sandy material, therefore 'earth', but possibly interspersed with 'soft rock' or 'hard rock'</p> <p>A soils investigation has been carried out on the site by the engineer and the report is annexed to these bills of quantities.</p>			
	<b>Carried to Collection</b>			R
	<p>Bill No. 3                      Earthworks (Provisional)</p>			

**Carting away of excavated material**

Descriptions of carting away of excavated material shall be deemed to include loading excavated material onto trucks directly from the excavations or, alternatively, from stock piles situated on the building site, and dumping at Registered dumpsites.

Bulking

No allowance has been made for bulking

**Filling**

Notwithstanding the reference to prescribed multiple handling in clause 1 page 6 of the Standard System of Measuring Building Work, prices for filling and backfilling shall include for all selection and any necessary multiple handling of material

**Testing**

Prices for filling are to include for all necessary density tests in accordance with the relevant sections of SANS.

**Proximity to existing structures**

Bidders are to note that some of the following measured work is to be undertaken in close proximity to existing buildings. No claims in this regard will be entertained.

Bidders are to note that all excavations required are within the footprint of an existing building and thus mechanization of process may not be possible. Bidders are advised to price accordingly as no additional monetary or time claims in this regard will be entertained

**Excavation in earth not exceeding 2m deep**

1	Reduced levels under floors	m3	690
2	Trenches	m3	323
3	Bases	m3	29

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<b><u>Back excavation of vertical sides of excavations in earth for working space including backfilling compacted to 95% Mod AASHTO density</u></b>				
4	Not exceeding 500mm deep for placing and removing formwork to walls etc., against excavated face	m2	269	
5	Exceeding 500mm and not exceeding 1500mm deep for placing and removing formwork to walls etc., against excavated face. (Labour Intensive)	m2	161	
<b><u>Extra over trench and hole excavations in earth for excavation in</u></b>				
6	Soft rock	m3	104	
7	Hard rock	m3	13	
<b><u>Extra over all excavations for carting away</u></b>				
8	Surplus material from excavations and/or stock piles on site to a dumping site to be located by the contractor	m3	869	
<b><u>Risk of collapse of excavations</u></b>				
9	Sides of trench and hole excavations not exceeding 1,5m deep	m2	435	
<b><u>Keeping excavations free of water</u></b>				
10	Keeping excavations free of all water other than subterranean water		Item	
<b><u>Earth filling obtained from the excavations and/or prescribed stock piles on site compacted to 90% Mod AASHTO density</u></b>				
11	Backfilling to trenches, holes, etc	m3	252	
12	Over site	m3	300	
<b><u>Earth filling of G2 material supplied by the contractor compacted to 102% Mod AASHTO density, in layers not exceeding 200mm thick</u></b>				
13	Under floors, steps, pavings, etc	m3	104	
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<b><u>Earth filling of G5 material supplied by the contractor compacted to 98% Mod AASHTO density, in layers not exceeding 150mm thick.</u></b>		
14	Under floors, steps, pavings, etc	m3 169
<b><u>Coarse river sand filling supplied by the contractor</u></b>		
15	Under floors etc	m3 36
<b><u>Compaction of surfaces</u></b>		
16	Compaction of ground surface under floors etc including scarifying for a depth of 150mm, breaking down oversize material, adding suitable material where necessary and compacting to 95% Mod AASHTO density	m2 690
17	Compaction of trench surface including scarifying for a depth of 150mm, breaking down oversize material, adding suitable material where necessary and compacting to 90% Mod AASHTO density	m2 440
<b><u>Prescribed density tests on filling</u></b>		
18	"Modified AASHTO Density" test	No 33
<b><u>SOIL POISONING</u></b>		
<b><u>Soil insecticide</u></b>		
19	Under floors etc including forming and poisoning shallow furrows against foundation walls etc, filling in furrows and ramming	m2 690
20	To bottoms and sides of trenches etc	m2 440

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 Earthworks (Provisional)

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Bill No. 3  
 Earthworks (Provisional)

Item No		Quantity	Rate	Amount
	<p><b><u>BILL NO. 4</u></b></p> <p><b><u>CONCRETE, FORMWORK AND REINFORCEMENT</u></b></p> <p>Tenderers are referred to the Model Preambles for All Trades as published by the Association of South African Quantity Surveyors (Tel. 011-315 4140) and the Architectural and Structural Works Information before pricing this Bill of Quantities</p>			
	<p><b><u>SUPPLEMENTARY PREAMBLES</u></b></p> <p><b><u>Proprietary items or materials</u></b></p> <p>Proprietary items or materials where specified are to be of the brand specified or other approved by the Representative / Agent</p> <p><b><u>Working at Heights:</u></b></p> <p>Bidders are to note that the work to be undertaken will require all necessary scaffolding, due to the heights of the structures to be constructed/altered. Bidders are to therefore price accordingly as rates will be deemed to include for same and no furthe</p> <p><b><u>Labour Intensive</u></b></p> <p>Bidders are to note well that specific items within these Bills of Quantities have been designated as LABOUR INTENSIVE by the addition of the words "Labour Intensive" at the end of the description for the said item. Where items have been designated as bei</p> <p><b><u>Cost of tests</u></b></p> <p>The costs of making, storing and testing of concrete test cubes as required under clause 7 Tests of SANS 10400 shall include the cost of providing cube moulds necessary for the purpose, for testing costs and for submitting reports on the tests to the prin</p>			
	<b>Carried to Collection</b>			
	Bill No. 4 Concrete, Formwork and Reinforcement		R	

**Formwork**

Descriptions of formwork shall be deemed to include use and waste only (except where described as 'left in' or 'permanent'), for fitting together in the required forms, wedging, plumbing and fixing to true angles and surfaces as necessary to ensure easy r

The vertical strutting shall be carried down to such construction as is sufficiently strong to afford the required support without damage and shall remain in position until the newly constructed work is able to support itself

Formwork to soffits of solid slabs etc. shall be deemed to be to slabs not exceeding 250mm thick unless otherwise described

Formwork to soffits of slabs, beams, etc. shall be deemed to be propped up exceeding 1,5m and not exceeding 3,5m high unless otherwise described

Formwork to sides of bases, pile caps, ground beams, etc. will only be measured where it is prescribed by the engineer for design reasons. Formwork necessitated by irregularity or collapse of excavated faces will not be measured and the cost thereof shall

**General Notes : Temporary Support Work and Back Propping Specifications and Requirements:**

All temporary support work (formwork and back-propping, etc) is the responsibility of the Contractor's own appointed 'Temporary Works' registered structural engineer/approved competent person (TWE). It is also the Contractor's (TWE) responsibility to revise

As per Construction Regulations 2014: Temporary Formwork and Support work of OHS ACT 1993

"A Contractor must appoint a temporary works designer in writing to design, inspect and approve the erected temporary works on site before use". The Contractor must submit this information inclusive of his (TWE) proof of (PI) to the Project Manager for approval

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 Concrete, Formwork and Reinforcement

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**UNREINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES**

**10MPa/19mm concrete**

1	Surface blinding under footings and bases	m3	4	
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**REINFORCED CONCRETE**

**30MPa/19mm concrete**

2	Surface beds and thickenings, etc cast in panels on waterproofing	m3	168	
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3	Strip footings	m3	226	
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4	Bases	m3	22	
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5	Columns in foundations (Provisional)	m3	2	
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6	Walls	m3	349	
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7	Columns	m3	8	
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8	Concrete jackets to existing columns	m3	100	
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9	Corbels	m3	6	
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**35MPa/19mm concrete**

10	Slabs including beams and inverted beams	m3	1 562	
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**REINFORCED CONCRETE PANELS CAST ON SITE**

**35MPa/19mm concrete**

11	8000 x 3500 x 300mm (16 No) Thick concrete slabs cast in panels moulds on site including bedding, jointing and pointing and later hosted and installed into position all as detailed on the Structural Engineers drawings attached to these bills of quantities (Reinforcement elsewhere measured)	m3	135	
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12	8000 x 3500 x 450mm (68 No) Thick concrete slabs cast in panels moulds on site including bedding, jointing and pointing and later hosted and installed into position all as detailed on the Structural Engineers drawings attached to these bills of quantities (Reinforcement elsewhere measured)	m3	859	
	<b><u>REINFORCED CONCRETE COLUMNS CAST ON SITE</u></b>			
	<b><u>35MPa/19mm concrete</u></b>			
13	1000 x 700 x 3240mm (5 No) High concrete columns cast in smooth formwork moulds on site and later hosted and installed into position including bedding, jointing and pointing, all as detailed on the Structural Engineers drawings attached to these bills of quantities (Reinforcement elsewhere measured)	m3	11	
	<b><u>TEST BLOCKS</u></b>			
14	Making and testing 150 x 150 x 150mm concrete strength test cube (Provisional)	Sets	383	
	<b><u>CONCRETE SUNDRIES</u></b>			
	<b><u>Finishing top surfaces of concrete smooth with a wood float</u></b>			
15	Slabs cast on site in panels, etc. (Labour Intensive)	m2	2 352	
	<b><u>Finishing top surfaces of concrete smooth with a power float</u></b>			
16	Surface beds, slabs, etc. (Labour Intensive)	m2	1 806	
	<b><u>70MPa non-shrink grout</u></b>			
17	Cement grout packed solid in 150 x 150 x 180mm deep, beneath Facade Precast concrete walls, plate girder connections and steel base plates	No	15	
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<b><u>ROUGH FORMWORK (DEGREE OF ACCURACY III)</u></b>					
<b><u>Rough formwork to sides</u></b>					
18	Rectangular columns in foundations (Provisional)	m2	20		
<b><u>SMOOTH FORMWORK (DEGREE OF ACCURACY II)</u></b>					
<b><u>Smooth formwork to soffits</u></b>					
19	Slabs exceeding 250mm and not exceeding 500mm thick propped up exceeding 1.5m and not exceeding 3.5m high	m2	3 472		
20	Walls with total height exceeding 1.5m and not exceeding 3.5m above bearing level	m2	1 743		
<b><u>Smooth formwork to sides</u></b>					
21	Edges, risers, ends and reveals not exceeding 300mm high or wide	m	425		
22	Rectangular columns	m2	267		
<b><u>MOVEMENT JOINTS ETC</u></b>					
<b><u>Two sheets of masonite with smooth surfaces as slip joints between horizontal concrete and brick surfaces including cement mortar bed</u></b>					
23	Not exceeding 300mm wide	m	903		
<b><u>Expansion joints with bitumen impregnated softboard between vertical concrete and brick surfaces</u></b>					
24	12mm Joints not exceeding 300mm high	m	896		
<b><u>Saw cut joints</u></b>					
25	5 x 30mm Saw cut joints in top of concrete	m	150		
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<b><u>REINFORCEMENT (PROVISIONAL)</u></b>					
<b><u>Mild steel and high tensile steel reinforcement</u></b>					
26	Various diameters to concrete slabs & beams, staircase, columns and foundations	t	12.40		
<b><u>High tensile steel reinforcement to structural concrete work</u></b>					
27	12mm Diameter bars	t	30.00		
28	16mm Diameter bars	t	60.00		
29	20mm Diameter bars	t	85.00		
30	25mm Diameter bars	t	68.00		
31	Various diameters bars in slabs, beams, etc.	t	340.02		
<b><u>High tensile steel dowel bars</u></b>					
32	16mm Diameter dowel bar with one end embedded horizontally for corbel construction 250mm deep in side of a 24 diameter drilled hole in concrete fully grouted with 50 MPa non shrink grout	No	216		
33	16mm Diameter dowel bar with one end embedded vertically overhead for shear wall connection to existing beams 250mm deep in side of a 24 diameter drilled hole in concrete fully grouted with 50 MPa non shrink grout	No	1 800		
34	16mm Diameter dowel bar with one end embedded horizontally overhead for shear wall connection to existing beams 250mm deep in side of a 24 diameter drilled hole in concrete fully grouted with 50 MPa non shrink grout	No	1 520		
35	12mm Diameter dowel bar with one end embedded vertically downwards for facade precast connection to top of primary beams 200mm deep in side of a 16 diameter drilled hole in concrete fully grouted with 50 MPa non shrink grout	No	210		
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36	16mm Diameter dowel bar with one end embedded horizontally for In-situ concrete panel construction to existing primary beams 250mm deep in side of a 20 diameter drilled hole in concrete fully grouted with 50 MPa non shrink grout	No	2 650	
	<b><u>Fabric reinforcement</u></b>			
37	Type 395 fabric reinforcement in concrete surface beds, slabs, etc	m2	1 200	
	<b><u>POST-TENSIONED REINFORCEMENT</u></b>			
	<b><u>POST-TENSIONED REINFORCEMENT (PROVISIONAL)</u></b>			
	<p>The Contractor is referred to the engineering specifications for the prestressed concrete and must allow for all cost deemed to be incurred in complying with the aforementioned specification.</p> <p>The specialist contractor shall provide everything necessary including all labour, material, equipment and services and perform all work required for the design, supply and installation of the post tensioning system complete.</p> <p>Post tensioning Tenderers are to note that post-tensioning has been specified to perimeter of slab as indicated on the project specifications. To this end the Contractor must provide the following free of charge:</p> <ul style="list-style-type: none"> <li>i) Electricity supply at a distribution on the deck</li> <li>ii) Wooden shutters are required for live and intermediate anchors</li> <li>iii) Suitable working platforms with safety handrails around the periphery of the deck for stressing as well as the cutting and grouting operations, 1 meter</li> <li>iv) Provide stressing boxes on the deck if required.</li> </ul>			
	<b><u>Specification</u></b>			
	Concrete and non-stressed reinforcement must comply with the requirements of SANS 2001-CC1			
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Post tensioning installation must be carried out strictly in accordance with SANS 2001-CC1

Recommended specification for post tensioning of concrete, as published by the Concrete Society of Southern Africa Prestressed Concrete Industrial Division

**Additions to SABS 10100-1**

Clause 5.3.2.3.2: Tensile stresses and flexure: Post-tensioned floor slabs are classified as Class 3 Structures.

Additions to SANS 2001-CC1 Clause 4.9.3: Refer to project specification for posttension tendon grouting product. Test cubes of the grout are required

Clause 5.2.8: The accuracy of placement is to be in accordance with Table 13

**Hoisting**

The subcontractor shall co-ordinate his plant requirements with the main contractor for the purpose of hoisting all his materials and plant to the relevant levels.

**Programme**

The subcontractor must fit in with the main programme of the works and must be fully co-operative in drawing up a construction programme.

**Availability of materials**

The subcontractor must satisfy himself to the availability of all materials required for the works, as no claims of whatever kind will be entertained in this regard.

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**Quality Assurance**

A detailed Quality Assurance plan which gives full details of ensuring material quality, inspections of the work, tests, qualifications of personnel, records, detailed stressing sheets, etc., must be submitted to the Engineer before work is commenced. The installation of the post tensioning and reinforcing in the slabs must be monitored and approved by a suitably qualified professional person appointed by the post tensioning contractor.

**Measurement and payment**

Tenders will be based on preliminary quantities as set out below. Final quantities shall be re-measured on completion of the work and may be less than the preliminary estimated quantities after final measurement.

The following quantities are provisional and is subject to final remeasurement on completion of the works.

The conventional steel reinforcement including spacer blocks has been included under the steel reinforcement below.

The work comprises the total design, supply, fabrication and installation of posttensioning and reinforcing to slabs, beams, upstand, etc. forming part of the slabs, including tendons, anchors, corrosion protection, recesses, stressing pockets, grouting and testing.

**Note:**

Support work projecting 500mm from the edge of the slab, if so required, as working platform for stressing to be provided by the Contractor and are deemed to be included within the rate for formwork to post-tensioned slab soffits.

**Note:**

Tenderers shall allow for the drilling of all holes through shutters and ensure that the formwork provided by the Contractor is suitable for the fixing of anchors.

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 Concrete, Formwork and Reinforcement

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**Note:**

Tenderers must allow for the fixing of bursting steel to the anchors.

**Note:**

Descriptions shall be deemed to include holes through formwork, tensioning, retensioning and trimming ends of tendons.

**Design, supply and installation of post tensioning system complete to the suspended concrete slabs all in accordance with the drawings prepared by Henry Fagan Consulting Engineers and Project Managers**

38	Establish on site, maintain and dismantling of post tensioning equipment (approximately 979m <sup>2</sup> )		Item	
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**Bonded post-tensioned tendon**

39	4 No x 15.24mm Diameter strands per tendon with an ultimate tensile strength of 260.7kN per strand (total per tendon 1042.8kN), in grouted flat steel ducts, including supporting chairs, etc.	m		1 915
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40	3 No x 15.24mm Diameter strands per tendon with an ultimate tensile strength of 260.7kN per strand (total per tendon 1042.8kN), in grouted flat steel ducts, including supporting chairs, etc.	m		1 915
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Note: Strand length measured from concrete faces for full length strands and concrete face to dead end for strands which stop within a span

41	Live anchor suitable for bonded multi-strand tendons, including helical reinforcement, hole through formwork for tendon, tensioning, re-tensioning as necessary, trimming end of tendon, corrosion protection, forming and grouting of pockets and preparing prescribed tensioning records, all as per engineers drawing	No		102
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42	Dead anchor suitable for bonded multi-strand tendons (4 onions per duct), including corrosion protection	No		102
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Concrete, Formwork and Reinforcement

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**Corrosion protection**

SikaTop Armatec 110 Epocem to steel exposed after duct grouting and SikaGrout 212 to recess. See Project Specification for further information.

43	Allow for keeping a full record of cable extensions signed off by a suitably qualified competent person and submitted to the Engineer for approval as stated in the Quality Assurance specification (for total slab area 979m2)		Item	
44	Allow for shop drawings to be drawn and submitted to Engineers at least 10 working days prior to construction (for total slab area 979m2)		Item	
45	Allow for the professional monitoring and approval of all post-tensioning and reinforcing installations in slabs as stated in the Quality Assurance specifications (for total slab area 979m2)		Item	
46	Allow for quality assurance and supervision (for total slab area 979m2)		Item	

**Design, supply and install high tensile steel reinforcement to post tensioned slabs**

47	10mm to 16mm Diameter bars in post tensioned slabs	t		17.90
48	Allow for spacers	No		2 000

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Item No		Quantity	Rate	Amount
	<p><b><u>BILL NO. 5</u></b></p> <p><b><u>WATERPROOFING</u></b></p> <p>Tenderers are referred to the Model Preambles for All Trades as published by the Association of South African Quantity Surveyors (Tel. 011-315 4140) and the Architectural and Structural Works Information before pricing this Bill of Quantities</p>			
	<p><b><u>SUPPLEMENTARY PREAMBLES</u></b></p> <p><b><u>Proprietary items or materials</u></b></p> <p>Proprietary items or materials where specified are to be of the brand specified or other approved by the Representative / Agent</p> <p><b><u>DAMP-PROOFING OF WALLS AND FLOORS</u></b></p> <p><b><u>ITE Products Vaporite or similar approved, water-based two part epoxy sealer which is creates a moisture or vapour barrier on concrete surface beds before self-levelling can be use. All in accordance with manufacturers installation specifications with guarantee as per manufacturer</u></b></p>			
1	On concrete floors	m2	8 934	
	<p><b><u>WATERPROOFING TO ROOFS, BASEMENTS, ETC</u></b></p> <p><b><u>"Tal Sureproof" or equally approved waterproofing system including liquid, powder and 200mm wide membrane applied strictly as per the manufacturers specifications</u></b></p>			
2	On shower floors	m2	23	
3	On walls	m2	188	
	<b>Carried to Collection</b>			R
	Bill No. 5 Waterproofing			

**JOINT SEALANTS ETC**

**"Bostik" or equally approved silicone sealing compound**

4	In joints between frame and wall	m	340
5	Applied with a pressure caulking gun sealing around sanitary fittings	m	254

**Two-part grey polysulphide sealing compound including backing cord, bond breaker, primer, etc**

6	5 x 10mm In saw cut joints in floors	m	150
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Waterproofing

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 Waterproofing

Item No		Quantity	Rate	Amount
	<p><b><u>BILL NO. 6</u></b></p> <p><b><u>CEILING, PARTITIONS AND ACCESS FLOORING</u></b></p> <p>Tenderers are referred to the Model Preambles for All Trades as published by the Association of South African Quantity Surveyors (Tel. 011-315 4140) and the Architectural and Structural Works Information before pricing this Bill of Quantities</p>			
	<p><b><u>SUPPLEMENTARY PREAMBLES</u></b></p> <p><b><u>Proprietary items or materials</u></b></p> <p>Proprietary items or materials where specified are to be of the brand specified or other approved by the Representative / Agent</p> <p><b><u>SUSPENDED CEILINGS</u></b></p> <p><b><u>OWAcoustic® Futura 60 or similar approved White 600 x 600 x 15mm thick mineral wool ceiling tiles with square edge laid on and including DONN T38FR V or similar approved exposed grid system including DONN SM25 or similar approved recessed wall angle cornice. White powder coated galvanised main tees, cross tees, hold-down clips, wedges, etc., all suspended with galvanised hangers at hanger centres not exceeding 1200mm. All in accordance with manufacturers installation specifications</u></b></p>			
1	Ceilings suspended not exceeding 1m below concrete soffits or timber / steel purlins	m2	9 032	
	<p><b><u>Owa prepainted No 56/20 - SM25 Shadowline cornices plugged</u></b></p>			
2	Galvanised pre-painted shadowline cornice	m	3 538	
	<b>Carried to Collection</b>			R
	Bill No. 6 Ceilings, Partitions & Access Flooring			

**Insulation**

3 Aerolite or similar approved 115mm (non-combustible and class 1 fire index rating) lightweight flexible fibreglass blanket insulation with a R-value of 2.88m²k/ or similar approved, fitted between brander and roof sheeting. All in accordance with manufacturers installation specifications

m2 9 032

**PARTITIONS ETC**

**"Gyproc Impact Resistant Wall System 102" consisting of outer layer RhinoBoard® DuraLine 15mm, Side 2 consisting of outer layer RhinoBoard DuraLine 15mm (locally manufactured, ISO 9001 & 14001 certification, recycled paper content, Eco specifier, Green tag level B listing, non-combustible to SANS 10177-5) fixed to both sides of the frameworks using "Gyproc Sharp-point Screws" 25mm (face layer) and at maximum 220mm centres. 102mm "Gypframe UltraSTEEL Studs"(Rigidised, 0.4mm thickness, indexed service holes, Z150 galv coating, locally manufactured, recycled content, ISO 9001 & 14001 certification) friction fitted into top and bottom 102mm "Gypframe UltraSTEEL" Tracks at 600mm centres. Floor and head track fixed with one line of proprietary fixing spaced at maximum 600mm centres. "Gypframe UltraSTEEL" Deep track shall be used for head track. Apply "Gyproc RhinoTape" to all joints and internal corners. Install 102mm Is over "Cavitybatt /Cavitylite" into frameworks with joints tightly butted, leaving no gaps. Install "Gypframe Corner Bead" to all external corners. Cover "Gyproc RhinoTape" with 1 layer of "Gyproc RhinoLite Multipurpose" (phosphogypsum, locally manufactured). Apply sealant (supplied by others) between the building structure and the drywall framework. Bulk fill the gaps at the base of the drywall and any gaps exceeding 5mm using "Gyproc RhinoLite" or "Gyproc RhinoGlide". No skimmed finish and jointed finish required when tiling. Reduce stud spacing's to 400mm centres when tiling**

4 Partitioning 3240mm high with bottom track plugged to concrete and top finished with 102mm aluminium channel

m 2 122

**Carried to Collection**

Bill No. 6  
Ceilings, Partitions & Access Flooring

R

**"Gyproc Impact Resistant Wall System 102 Moisture" consisting of outer layer "RhinoBoard Moisture Resistant" 15mm, Side 2 consisting of outer layer "RhinoBoard Moisture Resistant" 15mm (locally manufactured, ISO 9001 & 14001 certification, recycled paper content, Eco specifier, Green tag level B listing, non-combustible to SANS 10177-5) fixed to both sides of the frameworks using "Gyproc Sharp-point Screws" 25mm (face layer) and at maximum 220mm centres. 102mm "Gypframe UltraSTEEL Studs" (Rigidised, 0.4mm thickness, indexed service holes, Z150 galv coating, locally manufactured, recycled content, ISO 9001 & 14001 certification) friction fitted into top and bottom 102mm "Gypframe UltraSTEEL Tracks" at 400mm centres. Floor and head track fixed with one line of proprietary fixing spaced at maximum 600mm centres. "Gypframe UltraSTEEL Deep track" shall be used for head track. Apply "Gyproc RhinoTape" to all joints and internal corners. Install 102mm Is over "Cavitybatt®/Cavitylite" into frameworks with joints tightly butted, leaving no gaps. Install "Gypframe Corner Bead" to all external corners. Cover "Gyproc RhinoTape" with 1 layer of "Gyproc RhinoLite" Multipurpose (phosphogypsum, locally manufactured). Apply sealant (supplied by others) between the building structure and the drywall framework. Bulk fill the gaps at the base of the drywall and any gaps exceeding 5mm using "Gyproc RhinoLite" or "Gyproc RhinoGlide". No skimmed finish and jointed finish required when tiling. Reduce stud spacing's to 400mm centres when tiling**

5 Partitioning 3240mm high with bottom track plugged to concrete and top finished with 102mm aluminium channel

m

885

Carried to Collection

R

Bill No. 6  
 Ceilings, Partitions & Access Flooring

**"Gyproc Bespoke Wall System DuraLine / DuraLine TWIN" (Fire) consisting of outer layer RhinoBoard® DuraLine 15mm. Side 2 consisting of outer layer RhinoBoard® DuraLine 15mm, (locally manufactured, ISO 9001 & 14001 certification, recycled paper content, Eco specifier, Green tag level B listing, non combustible to SANS 10177-5) fixed to both sides of the frameworks using "Gyproc Sharp-point Screws" 25mm (base layer) at maximum 220mm centres. 1x 63.5mm "Gypframe UltraSTEEL" Studs (Rigidised, 0.4mm thickness, indexed service holes, Z150 galv coating, locally manufactured, recycled content, ISO 9001 & 14001 certification) friction fitted into 1 x top and bottom 63.5mm "Gypframe" "UltraSTEEL" Tracks at 600mm centres. Floor and head track fixed with one line of proprietary fixing spaced at maximum 600mm centres. 1 x 102mm "Gypframe UltraSTEEL" Studs (Rigidised, 0.4mm thickness, indexed service holes, Z150 galv coating, locally manufactured, recycled content, ISO 9001 & 14001 certification) friction fitted into 1 x top and bottom 102mm "Gypfram UltraSTEEL" Tracks (9) at 600mm centres. Floor and head track fixed with two lines of proprietary fixings staggered at 300mm centres. Install 25 x 25mm "Gyproc" Galvanised Angle at 600mm vertical centres, fixed to the studs using two lines of two "Gyproc Wafer-head Tek" Screws 13mm per stud fixing position. "Gypframe UltraSTEEL" Deep track shall be used for head track. Apply "Gyproc RhinoTape" to all joints and internal corners. Install "Gypframe" Corner Bead to all external corners. Install 63mm Is over "Cavitybatt /Cavitylite" into frameworks with joints tightly butted, leaving no gaps. Cover "Gyproc RhinoTape" with 1 layer of "Gyproc RhinoLite CreteStone" (phosphogypsum, locally manufactured). Apply sealant (supplied by others) between the building structure and the drywall framework. Bulk fill the gaps at the base of the drywall and any gaps exceeding 5mm using "Gyproc RhinoLite or Gyproc RhinoGlide". No skimmed finish and jointed finish required when tiling. Reduce stud spacing's to 400mm centres when tiling**

6 Partitioning 3240mm high with bottom track plugged to concrete and top finished with 102mm aluminium channel

m 531

Carried to Collection

R

Bill No. 6  
 Ceilings, Partitions & Access Flooring

7	Extra over partition 3.4m high for vertical abutment	No	431
8	Extra over partition 3.4m high for corner	No	256
9	Extra over partition 3.4m high for T-intersection	No	625
10	Extra over partition 3.4m high for fair end	No	32

**Doors (Ironmongery elsewhere measured)**

11	Extra over partition for 40mm semi-solid flush door 877 x 2064mm high (DA01a) hung to and including standard 'Drywall' aluminium door frame including door frame gasket with one pair of 100mm nylon washered aluminium hinges and additional studding, trimming, etc all as detailed on the Architectural drawings attached to these bills of quantities	No	103
12	Extra over partition for 40mm semi-solid flush door 977 x 2064mm high (DA01b) hung to and including standard 'Drywall' aluminium door frame including door frame gasket with one pair of 100mm nylon washered aluminium hinges and additional studding, trimming, etc all as detailed on the Architectural drawings attached to these bills of quantities	No	36
13	Extra over partition for 40mm semi-solid flush door 877 x 2064mm high (DA01c) including vent slot hung to and including standard 'Drywall' aluminium door frame including door frame gasket with one pair of 100mm nylon washered aluminium hinges and additional studding, trimming, etc all as detailed on the Architectural drawings attached to these bills of quantities	No	20
14	Extra over partition for 40mm semi-solid flush door 877 x 2064mm high (DA01d) including vent slot hung to and including standard 'Drywall' aluminium door frame including door frame gasket with one pair of 100mm nylon washered aluminium hinges and additional studding, trimming, etc all as detailed on the Architectural drawings attached to these bills of quantities	No	60

**Carried to Collection**

Bill No. 6  
Ceilings, Partitions & Access Flooring

R

15	Extra over partition for 40mm semi-solid flush door 1277 x 2070mm high (DA02a) hung to and including standard 'Drywall' aluminium door frame including door frame gasket with one pair of 100mm nylon washered aluminium hinges and additional studding, trimming, etc all as detailed on the Architectural drawings attached to these bills of quantities	No	37		
16	Extra over partition for 40mm semi-solid flush door 1277 x 2070mm high (DF02b) including aluminium kick plate hung to and including standard 'Drywall' aluminium door frame including door frame gasket with one pair of 100mm nylon washered aluminium hinges and additional studding, trimming, etc all as detailed on the Architectural drawings attached to these bills of quantities	No	8		
17	Extra over partition for 40mm semi-solid flush door 1968 x 2070mm high (DA03a) double door hung to and including standard 'Drywall' aluminium door frame including door frame gasket with one pair of 100mm nylon washered aluminium hinges and additional studding, trimming, etc all as detailed on the Architectural drawings attached to these bills of quantities	No	15		
18	Extra over partition for 40mm semi-solid flush door 1968 x 2070mm high (DF04a) double door including aluminium kick plate panel hung to and including standard 'Drywall' aluminium door frame including door frame gasket with one pair of 100mm nylon washered aluminium hinges and additional studding, trimming, etc all as detailed on the Architectural drawings attached to these bills of quantities	No	37		
19	Extra over partition for 40mm semi-solid flush door 1277 x 2070mm high (DA05a) including glass viewing panel hung to and including standard 'Drywall' aluminium door frame including door frame gasket with one pair of 100mm nylon washered aluminium hinges and additional studding, trimming, etc all as detailed on the Architectural drawings attached to these bills of quantities	No	76		
<b>Carried to Collection</b>					
Bill No. 6 Ceilings, Partitions & Access Flooring					R

20	Extra over partition for 40mm sliding door 2100 x 2380mm high (DA07a) hung to and including standard 'Drywall' aluminium door frame including door frame gasket with one pair of 100mm nylon washered aluminium hinges and additional studding, trimming, etc all as detailed on the Architectural drawings attached to these bills of quantities	No	34	
21	Extra over partition for 40mm sliding door 3400 x 2380mm high (DA07e) including aluminium kick plates hung to and including standard 'Drywall' aluminium door frame including door frame gasket with one pair of 100mm nylon washered aluminium hinges and additional studding, trimming, etc all as detailed on the Architectural drawings attached to these bills of quantities	No	4	
22	Extra over partition for 40mm sliding door 3000 x 2380mm high (DL03H) including aluminium kick plates hung to and including standard 'Drywall' aluminium door frame including door frame gasket with one pair of 100mm nylon washered aluminium hinges and additional studding, trimming, etc all as detailed on the Architectural drawings attached to these bills of quantities	No	9	
<b><u>Insulation</u></b>				
23	100mm Thick "Think-Pink" fibreglass insulation in cavity of partitioning	m2	11 463	
<b><u>BUDGETARY ALLOWANCES</u></b>				
<b><u>Bulkheads</u></b>				
24	Allow the sum of R 3,000,000.00 (Three Million Rand) for new bulkheads to ceilings as per the Architects requirements		Item	3 000 000.00
<b>Carried to Collection</b>				R
Bill No. 6 Ceilings, Partitions & Access Flooring				

Bill No. 6

Ceilings, Partitions & Access Flooring

**COLLECTION**

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Bill No. 6  
 Ceilings, Partitions & Access Flooring

Item No		Quantity	Rate	Amount
	<p><b><u>BILL NO. 7</u></b></p> <p><b><u>FLOOR COVERINGS, PLASTIC LININGS, ETC</u></b></p> <p>Refer to Standard Preambles to All Trades (WB20) attached to these Bills of Quantities</p>			
	<p><b><u>SUPPLEMENTARY PREAMBLES</u></b></p> <p><b><u>Proprietary items or materials</u></b></p> <p>Proprietary items or materials where specified are to be of the brand specified or other approved by the Representative / Agent</p> <p><b><u>FLOOR COVERINGS</u></b></p> <p><b><u>Polyflor XL PU 2mm or similar approved Heavy duty, homogenous, fully flexible Group M monolayer marbled design vinyl sheeting manufactured in accordance with EN 649/ISO 10581 including a polyurethane (PUR) surface treatment and laid in Polyflor approved acrylic adhesive which has been spread using an A2 notched trowel on a previously prepared Class 1 sub-floor with a 50mm below surface drilled moisture content reading of 75% RH in accordance with SANS 10070, using approved self-levelling screed, including all cutting and waste, rolled in both directions with an articulated 68kg three-sectional roller immediately after it has been laid into the adhesive, joints must be butted, U-shape grooved 2/3rds thickness of the sheet and heat welded using the manufacturer's welding rod. Flooring to be welded with welding rod to suit vinyl colour or darkest vinyl colour when different colours are used as approved. Vinyl not to be stripped or sealed. Installation and maintenance all according to manufacturers specifications with 10 year warranty as per manufacturer</u></b></p>			
1	On floors	m2	8 934	
	<b>Carried to Collection</b>			R
	Bill No. 7 Floor Coverings, Wall Linings, etc			

**WALL LININGS**

**Polyflor XL PU 2mm or similar approved Heavy duty, homogenous, fully flexible Group M monolayer marbled design vinyl sheeting manufactured in accordance with EN 649/ISO 10581 including a polyurethane (PUR) surface treatment and laid in Polyflor approved acrylic adhesive which has been spread using an A2 notched trowel on a previously prepared Class 1 sub-floor with a 50mm below surface drilled moisture content reading of 75% RH in accordance with SANS 10070, using approved self-levelling screed, including all cutting and waste, rolled in both directions with an articulated 68kg three-sectional roller immediately after it has been laid into the adhesive, joins must be butted, U-shape grooved 2/3rds thickness of the sheet and heat welded using the manufacturer's welding rod. Flooring to be welded with welding rod to suit vinyl colour or darkest vinyl colour when different colours are used as approved. Vinyl not to be stripped or sealed. Installation and maintenance all according to manufacturers specifications with 10 year warranty as per manufacturer**

2	On walls	m2	3 211
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**SKIRTINGS, NOSINGS, ETC**

3	Black vinyl skirting with 25mm over lap, top and bottom on 16 mm MDF stabilisers pieces at maximum of 500mm intervals with 16mm MDF board creating a chamfered skirting finished with PVC top trim vinyl, all as detailed on the Architectural drawings attached to these bills of quantities	m	85
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4	Black vinyl skirting with 25mm over lap, top and bottom on "PolyFlor PC20", vinyl cove former with 16mm MDF board creating a chamfered skirting finished with PVC top trim vinyl all as detailed on the Architectural drawings attached to these bills of quantities	m	122
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**"M-Trim" or similar approved**

5	M-Trim BFB503 size 3 x 50mm Brass flat bar strip built in with top edges flush with adjoining finishes	m	370
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**Carried to Collection**

Bill No. 7  
 Floor Coverings, Wall Linings, etc

R

**POLISH, SEALERS, ETC**

6	Strip with "Prostrip" and seal 3 coats matt sealer "ProflorHM" from "Industro Clean" (011 8014600)	m2	12 145
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**Carried to Collection**

Bill No. 7  
Floor Coverings, Wall Linings, etc

R

Bill No. 7

Floor Coverings, Wall Linings, etc

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Bill No. 7

Floor Coverings, Wall Linings, etc

Item No		Quantity	Rate	Amount
	<p><b><u>BILL NO. 8</u></b></p> <p><b><u>IRONMONGERY</u></b></p> <p>Tenderers are referred to the Model Preambles for All Trades as published by the Association of South African Quantity Surveyors (Tel. 011-315 4140) and the Architectural and Structural Works Information before pricing this Bill of Quantities</p>			
	<p><b><u>SUPPLEMENTARY PREAMBLES</u></b></p> <p><b><u>Proprietary items or materials</u></b></p> <p>Proprietary items or materials where specified are to be of the brand specified or other approved by the Representative / Agent</p> <p><b><u>Finishes to ironmongery</u></b></p> <p>Where applicable finishes to ironmongery are indicated by suffixes in accordance with the following list: BS Satin bronze lacquered CH Chromium plated SC Satin chromium plated SE Silver enamelled GE Grey enamelled AS Anodised silver AB Anodised bronze AG Anodised gold ABL Anodised black PB Polished brass PL Polished and lacquered PT Epoxy coated SD Sanded</p> <p><b><u>DOOR CLOSERS</u></b></p> <p><b><u>"Dorma" or similar approved</u></b></p>			
1	<p>"TS91B HO - SL" Mechannical hold open cam action slide channel door closer. Max door width 950mm. Closing force EN 3. Hydraulic speed control. Pull-side door leaf fixing (Standard), Push-side transom fixing. Door closer compliant with EN 1154. Door closer is CERTI FIRE approved (Certificate No. CF 119) for door types ITT 120, MM/IMM 240. Certified manufacturer to ISO 9001</p>	No	24	
	<b>Carried to Collection</b>			R
	<p>Bill No. 8 Ironmongery</p>			

2	"TS90 - SL" EN 3/4 cam action slide channel NON HOLD OPEN door closer - hydraulic speed control. Pull side - leaf or transom fixing; Push side - leaf or transom fixing	No	20	
3	"TS73V PA DC- PAB - SL" EN 2-4 Parallel arm DELAYED ACTION door closer. Push side fixing (parallel arm bracket included)	No	16	
<b><u>BATHROOM FITTINGS</u></b>				
<b><u>"Franke" or similar approved</u></b>				
4	TCS Hygiene (TR3N Vandal Proof White) or similar approved 3 roll Vandal Proof Toilet roll holder, white 1mm M/S. Size: 360 x 130 x 130mm, plugged and screwed to wall. All in accordance with manufacturers installation specifications	No	67	
<b><u>"Railman" or similar approved</u></b>				
5	Railman or similar approved 32mm diameter Stainless steel, grade 304, grab rails plugged and screwed to wall set of grabrails consisting of 1 x Dogleg side rail (DL3) with centre flange 300 x 300 x 300 x 90mm and 1 x Straight back rail (SR2) over toilet, 750 x 206mm	No	16	
6	32mm Side grab rail 900mm girth plugged	No	16	
<b><u>"Milga Manufacturing" or similar approved</u></b>				
7	Type M.M.24 general purpose grab rail	No	16	
<b><u>LETTERS, NAMEPLATES, ETC</u></b>				
<b><u>Signage</u></b>				
8	Provide a budgetary amount of R 200,000.00 (Two hundred thousand Rand) for statutory fire signage and general direction signage		Item	200 000.00
<b>Carried to Collection</b>				R
Bill No. 8 Ironmongery				

**PELMETS AND CURTAIN TRACKS**

**"Hospi-Track" or similar approved**

9	Hospi-Track (Code: H/T/BS1900 ) or similar approved including Cubical Curtains. Manufactured in a poly-cotton, non-iron, fully washable material @ a ratio of 1:25 to the length of the Bedscreen Rail. Colour as per client's request. Installation and maintenance all according to manufacturers specifications	m	1 124	
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**BUMPER RAILS, CORNER PROTECTORS, ETC**

**"Gradus" or similar approved**

10	GRADUS WGS200 (code: WGS200F) or similar approved Wall Guard. Overall size 200mm(h) x 25mm(d) x 4m (l) installed on 10 x aluminium retainer supports per 4m length @ ± 500mm centres and snap-on 2mm PVC-u cover. Installation and maintenance all according to manufacturers specifications	m	897	
11	GRADUS SUREPROTECT ENDURE K2 (code: CGH75135) rubrails	No	114	

**BUDGETARY ALLOWANCES**

**Additional ironmongery**

12	Allow an amount of R1,500,000.00 (One Million Five Hundred Thousand) for the supply and installation of additional ironmongery as per the Architects requirements		Item	1 500 000.00
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**Carried to Collection**

R

Bill No. 8  
 Ironmongery

Bill No. 8

Ironmongery

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Bill No. 8  
 Ironmongery

Item No		Quantity	Rate	Amount
	<p><b><u>BILL NO. 9</u></b></p> <p><b><u>METALWORK</u></b></p> <p>Tenderers are referred to the Model Preambles for All Trades as published by the Association of South African Quantity Surveyors (Tel. 011-315 4140) and the Architectural and Structural Works Information before pricing this Bill of Quantities</p>			
	<p><b><u>SUPPLEMENTARY PREAMBLES</u></b></p> <p><b><u>Proprietary items or materials</u></b></p> <p>Proprietary items or materials where specified are to be of the brand specified or other approved by the Representative / Agent</p> <p><b><u>WELDED GALVANISED SCREENS, GATES, ETC</u></b></p> <p>Note: All opening gates are to be provided with one heavy duty padlock and two keys</p> <p><b><u>Mesh covered gates</u></b></p>			
1	<p>Manufacture supply and install single gate type size 800 x 2100 comprising gate and frame of 60 x 40 x 3mm GMS rectangular section with 16mm diameter solid round vertical bars as infill at 110mm centres, 40 x 6mm intermediate horizontal supports with 19mm holes for vertical rods, 3 x 25mm diameter x 80mm long pin type hinges to allow 180° opening, 10mm barrel bolt, clasp, pack lugs and "Buildware" B1292 heavy duty spring loaded door holder, etc,</p>	No	4	
	<b>Carried to Collection</b>			R
	<p>Bill No. 9                      Metalwork</p>			

**Galvanised mild steel clad gate**

2	Manufacture supply and install double gate type size 1600 x 1800 comprising gate and frame of 60 x 40 x 3mm GMS rectangular section with 16mm diameter solid round vertical bars as infill at 110mm centres, 40 x 6mm intermediate horizontal supports with 19mm holes for vertical rods, 3 x 25mm diameter x 80mm long pin type hinges to allow 180° opening, 10mm barrel bolt, clasp, and "Buildware" B1292 heavy duty spring loaded door holder and 3mm thick sheet metal cladding to both sides of each leaf	No	4
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**ALUMINIUM WINDOWS, DOORS, ETC**

Note: Tenderers are referred to architect's drawings annexed to these bill of quantities.

Aluminium window manufacturers must be registered with "The Association of Architectural Aluminium Manufacturers of South Africa (AAAMSA)" and "The South African Glass & Glazing Association (SAGGA)" and shall comply with the National Building Regulations and Building Standards Act 103 of 1977 and SANS 10137 Code of Practice for the Installation of Glazing in Buildings

**Bronze anodised aluminium windows and doors glazed with 6mm thick tinted toughened safety glass and plugged to brickwork or concrete**

3	Window size 300 x 1100mm high (WST01) all as detailed on the architectural drawings attached to these bills of quantities	No	5
4	Window size 600 x 1100mm high (WST02) all as detailed on the architectural drawings attached to these bills of quantities	No	6
5	Window size 900 x 1100mm high (WST03) all as detailed on the architectural drawings attached to these bills of quantities	No	70
6	Double door size 1840 x 2125mm high	No	4
7	Sliding door size 4000 x 2100mm high	No	4

**Carried to Collection**

Bill No. 9  
Metalwork

R

**Corner protectors**

8	"M-Trim" or similar approved aluminium retro fit corner protector - Silver size 3000 x 25 x 25mm wide installed above capping strip. Installation and maintenance all according to manufacturers specifications	m	185	
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**STEEL ROLLER SHUTTERS ETC**

**Colour coated roller shutters fixed to brickwork**

9	"Seranda" or equally approved roller shutter door and frame (RS01) for 1050 x 2385mm high opening all as detailed on the Architectural drawings attached to these bills of quantities	No	3	
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**Carried to Collection**

Bill No. 9  
 Metalwork

R

Bill No. 9

Metalwork

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Bill No. 9  
 Metalwork

Item No		Quantity	Rate	Amount
	<b><u>BILL NO. 10</u></b>			
	<b><u>PLASTERING</u></b>			
	Tenderers are referred to the Model Preambles for All Trades as published by the Association of South African Quantity Surveyors (Tel. 011-315 4140) and the Architectural and Structural Works Information before pricing this Bill of Quantities			
	<b><u>SUPPLEMENTARY PREAMBLES</u></b>			
	<b><u>Proprietary items or materials</u></b>			
	Proprietary items or materials where specified are to be of the brand specified or other approved by the Representative / Agent			
	<b><u>SCREEDS</u></b>			
	<b><u>Screeds power floated on concrete</u></b>			
1	25mm Thick on floors and landings	m2	98	
	<b><u>ITE Products Levelite F30 or similar approved, no less than 5mm thick self-levelling floor screed compound which is a free flowing self-levelling compound for heavy commercial and light industrial applications that sets to 25MPa. All in accordance with manufacturers installation specifications with guarantee as per manufacturer with guarantee as per manufacturer</u></b>			
2	5mm Thick on floors and landings	m2	8 934	
	<b><u>INTERNAL PLASTER</u></b>			
	<b><u>Cement plaster on brickwork</u></b>			
3	On walls	m2	1 413	
4	On narrow widths	m2	38	
	<b>Carried to Collection</b>			R
	Bill No. 10 Plastering			

5 On projecting and isolated columns

m2

1 232

Bill No. 10  
Plastering

**Carried to Collection**

R



Item No		Quantity	Rate	Amount
	<b><u>BILL NO. 11</u></b>			
	<b><u>TILING</u></b>			
	Tenderers are referred to the Model Preambles for All Trades as published by the Association of South African Quantity Surveyors (Tel. 011-315 4140) and the Architectural and Structural Works Information before pricing this Bill of Quantities			
	<b><u>SUPPLEMENTARY PREAMBLES</u></b>			
	<b><u>Proprietary items or materials</u></b>			
	Proprietary items or materials where specified are to be of the brand specified or other approved by the Representative / Agent			
	<b><u>WALL TILING</u></b>			
	<b><u>Allow the Prime Cost sum of R600.00/m<sup>2</sup> for the supply, delivery of wall tiles and lay tiles with an approved adhesive and grout to floors</u></b>			
1	On walls	m2	807	
2	On walls in isolated panels, splashbacks, etc	m2	122	
3	Fair exposed cutting and fitting around pipe not exceeding 100mm internal diameter (Provisional)	No	359	
4	Fair exposed cutting and fitting around pipe exceeding 100mm and not exceeding 200mm internal diameter (Provisional)	No	38	
	<b><u>FLOOR TILING</u></b>			
	<b><u>Allow the Prime Cost sum of R450.00/m<sup>2</sup> for the supply, delivery of floor tiles and lay tiles with an approved adhesive and grout to floors</u></b>			
5	On floors and landings	m2	98	
	<b>Carried to Collection</b>			R
	Bill No. 11			
	Tiling			

6 Skirting 75mm high of cut tiles

m

141

Bill No. 11  
Tiling

**Carried to Collection**

R

Bill No. 11

Tiling

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Bill No. 11

Tiling

Item No		Quantity	Rate	Amount
	<p><b><u>BILL NO. 12</u></b></p> <p><b><u>PLUMBING AND DRAINAGE (PROVISIONAL)</u></b></p> <p>Tenderers are referred to the Model Preambles for All Trades as published by the Association of South African Quantity Surveyors (Tel. 011-315 4140) and the Architectural and Structural Works Information before pricing this Bill of Quantities</p>			
	<p><b><u>SUPPLEMENTARY PREAMBLES</u></b></p> <p><b><u>Proprietary items or materials</u></b></p> <p>Proprietary items or materials where specified are to be of the brand specified or other approved by the Representative / Agent</p> <p><b><u>Wire gratings:</u></b></p> <p>Descriptions of gutter outlets etc. shall be deemed to include wire balloon gratings</p> <p><b><u>Stormwater channels:</u></b></p> <p>Descriptions of channels shall be deemed to include necessary excavation, surface preparation, compaction, etc., and disposal of surplus material on site :</p> <p><b><u>French drains:</u></b></p> <p>Descriptions of French drains shall be deemed to include excavation, stone filling graded from 300mm diameter at bottom to 75mm diameter at top, geofabric filter blanket over stone, 300mm earth filling over and disposal of surplus material on site :</p>			
	<b>Carried to Collection</b>			R
	<p>Bill No. 12          Plumbing &amp; Drainage (Provisional)</p>			

**Septic tanks:**

Descriptions of proprietary type septic tanks shall be deemed to include excavation, bedding and jointing, concrete base slabs, jointing to drains and backfilling, compaction, etc. all in accordance with the manufacturer's instructions and disposal of surplus material on site

**Stainless steel basins, sinks, wash troughs, urinals, etc:**

Stainless steel for economy basins, domestic sinks and worktops shall be Type 430 (17/0) Stainless steel for urinals, basins, quality sinks, wash troughs, institutional equipment, etc. shall be Type 304 (18/8) Stainless steel for laboratory sinks, photographic equipment, etc. shall be Type 316 (18/8) Units shall have standard aprons on all exposed edges and tiling keys against walls where applicable

**Sealing of edges:**

Outer edges of sinks, basins, baths, urinals, etc. are to be sealed against adjacent surfaces with approved silicone

**uPVC pipes and fittings:**

Sewer and drainage pipes and fittings shall be jointed and sealed with butyl rubber rings. Soil, waste and vent pipes and fittings shall be solvent weld jointed or sealed with butyl rubber rings

**uPVC pressure pipes and fittings:**

Pipes of 50mm diameter and smaller shall be plain ended with solvent welded uPVC loose sockets and fittings. Pipes of 63mm diameter and greater shall have sockets and spigots with push-in type integral rubber ring joints. Bends shall be uPVC and all other fittings shall be cast iron, all with similar push-in type joints

**High density polyethylene (HDPE) pipes and fittings:**

Pipes shall be type IV and of the class specified with Plasson or Alprene compression fittings

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**Polypropylene pipes:**

Polypropylene pipes 54mm diameter and smaller shall be seamless copper coloured Class 16 pipes jointed with Fast-fuse heat welded thermoplastic or where so described Polylock compression fittings. Pipes shall be firmly fixed to walls, etc. with coloured nylon snap-in pipe clips with provision for accommodating thermal movement and jointed and fixed strictly in accordance with the manufacturer's instructions

**Copper pipes:**

Pipes shall be hard drawn and half-hard Maksal pipes of the class described. Class 0 (thin walled hard drawn) pipes shall not be bent. Class 1 (thin walled half-hard), Class 2 (half-hard) and Class 3 (heavy walled half-hard) pipes shall only be bent with benders with inner and outer formers. Fittings to copper waste, vent and anti-siphon pipes, capillary solder fittings and compression fittings shall be 'Cobra Watertech' or equal approved type. Capillary solder fittings shall comply with ISO 2016

Copper pipes are to be installed in accordance with the latest revision of the Code of Practice for Copper Plumbing soldering techniques. Flux, solder, etc. to be strictly in accordance with the manufacturer's requirements with special attention to copper flux composition

**Reducing fittings:**

Where fittings have reducing ends or branches they are described as 'reducing' and only the largest end or branch size is given. Should the contractor wish to use other fittings and bushes or reducers he may do so on the understanding that no claim in this regard will be entertained

**Fixing of pipes:**

Unless specifically otherwise stated, descriptions of pipes shall be deemed to include fixing to walls, etc., casting in, building in or suspending not exceeding 1m below suspension level

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**Paper wrapping to pipes:**

Pipes chased into brickwork must be wrapped with two layers of stout brown paper tied with wire. Rates are to include for wrapping around joints and fittings

**Disinfection of water pipework:**

Water pipework is to be disinfected at completion in accordance with SANS

**Densyl petrolatum anti-corrosion tape as manufactured by Denso SA (Pty) Ltd:**

Pipes to be taped shall be coated with the appropriate primer and the tape shall be applied in the appropriate widths and with 25% overlaps. Couplings and fittings to pipes shall be taped in strict accordance with the manufacturer's instructions including mastic, tape, Layflat sheeting, securing of same, etc

Prices for wrapping of pipes shall include for all work as described to couplings in the length

**Laying, backfilling, bedding, etc. of pipes:**

Pipes shall be laid and bedded in accordance with manufacturers' instructions and trenches shall be carefully backfilled

Where no manufacturers' instructions exist, pipes shall be laid in accordance with SANS

**General:**

Descriptions of cast iron roof outlets shall be deemed to include joints to pipes and casting into concrete and shall include adaptors for joints to PVC pipes, etc.). Descriptions of overflow pipes where measured in number, shall be deemed to include joints to cisterns and splay cut ends

Descriptions of pipes laid in and including trenches and of inspection chambers, catchpits, etc. shall be deemed to include excavation, bedding, backfilling, compaction to a minimum of 98% Mod AASHTO density and disposal of surplus material off site

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Descriptions of service pipes and flexible connecting pipes shall be deemed to include connections to taps, cisterns, etc., steel pipes, copper pipes, etc

Descriptions of WC pans, slop hoppers, etc. shall be deemed to include for joints to soil pipes (pan connectors are separately measured)

**As-built drawings:**

The contractor shall prepare an updated set of as-built drawings. At completion of the contract the contractor shall hand these drawings to the principal agent for reproducing onto the originals for handing over to the employer (provision for allowance of as-built drawings elsewhere)

**SANITARY FITTINGS**

**"Vaal" or similar approved**

1	510 x 405mm rounded "Hibiscus" (code 702303) basin with two semi-punched tapholes (in RHS configuration), integrated overflow and chainstay hole bolted to wall with two 10mm bolts (code 8448Z0). Including Cobra Watertech 32mm chrome plated slotted basin waste (code 303) with plug and 62mm diameter flange, 77mm long shank, plug, chain and stay, and 2 x Cobra Watertech 15mm ball type angle valves (Code: 832-10). Cobra Watertech 32mm chrome plated bottle trap (Code: 340) with 75mm deep re-seal, adjustable telescopic pipe and 32mm outlet. All in accordance with manufacturers installation specifications	No	16
2	"Sola Medical 610" wash hand basin fitted with and including (Cobra Watertech 15mm chrome plated wall mounted mixer, Code: 515/055-21P	No	70

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3	<p>"Azalea 540" or similar approved vitreous china semi-recessed basin colour White (Code: 705700WH), size 540 x 450 x 165mm with one taphole with integrated overflow, fitted onto vanity top (elsewhere specified) and sealed with silicone sealant where basin meets the top. Including Cobra Watertech click waste (Code: 302-32) and 400mm long flexible inlets, manufactured in accordance with SANS 1480:2005 (BS EN 1286), and 2 x Cobra Watertech 15mm ball type angle valves (Code: 832-10). Cobra Watertech 32mm chrome plated bottle trap (Code: 340) with 75mm deep re-seal, adjustable telescopic pipe and 32mm outlet. All in accordance with manufacturers installation specifications</p>	No	101		
4	<p>Vaal Sanitaryware vitreous china or similar approved "Afsan" low level 90° outlet washdown pan with Vaal vitreous china "Hibiscus Elite Vandal Proof" low level cistern (code 7116LV), complete with front push button, lid, fitments and low level flush pipe. With 1 x Cobra Watertech 15mm ball type angle valves (Code: 832-10). All in accordance with manufacturers installation specifications</p>	No	59		
5	<p>Vaal Sanitaryware vitreous china "Pearl Paraplegic" or similar approved semi-close coupled 90° outlet open rim washdown pan and matching 9 litre cistern complete with lid, fitments, and purpose made C.P. side-flush lever (left or right). Supplied with purpose made thermoset seat and cover plate. The suite is designed to flush effectively on 6 litres. With 1 x Cobra Watertech 15mm ball type angle valves (Code: 832-10). All in accordance with manufacturers installation specifications</p>	No	20		
6	<p>600 x 385 x 380mm Lavatera white vitreous china wall mounted top inlet urinal (code: 705426) including 38mm chromium plated domical grating (code: 8787Z0) and chromium plated top inlet spreader spreader (code: 7054Z1), flush valve (by others - Recommended: Cobra FJ6000), fixed on and including two hanger brackets (code: 8127Z0). Cobra Watertech exposed urinal chrome plated Junior Flushmaster flushvalve (code: FJ6.000) with non-hold open feature, wall flange and 20mm "Ball-o-Stop" control inlet. Cobra Watertech chrome plated 15mm outlet x 215mm long with 27mm offset urinal flush pipe (Code: FJT5.5). Cobra Watertech 40mm chrome plated bottle trap (Code: 360) with 75mm deep re-seal, adjustable telescopic pipe and 40mm outlet</p>	No	5		
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7	Plexicor cross linked cast acrylic Perspex Carmen 1700 rectangular bath colour White, overall size 1700 x 700 x 390mm deep with 52mm end waste outlet, supported on 38 x 38mm timber battens fixed to adjacent walls and bed in 1:5 cement mortar on a brick bed, three bricks wide for full length of bath with the void between the bath and enclosing walls filled with 1:10 uncompacted cement mix and point all round with mildew resistant silicone, all in accordance with the manufacturer's recommendations. Cobra Watertech Noka 15mm chrome plated wall mounted underwall mixer (Code: NA-956), manufactured in accordance with SANS 226:2004 Type 2 (BS 5412), and chainstay hole bolted to wall with two 10mm bolts (Code: 8448Z0) and sealed with silicone sealant where basin meets wall. Including Cobra hand shower set: 067S, 001W-Alpine, 006S-20, 008/5C. Cobra Watertech 40mm chrome plated basin/bath waste (Code: 316) with 70mm diameter flange, 45mm long shank, plug, chain and stay. Cobra Watertech 40mm rough brass bath P trap (Code: 370) with shallow seal and cleaning eyes	No	42
8	"Urinal division Code - 705228WH" complete with fixing screw and hanger bracket	No	5
	<b><u>"Franke" or similar approved</u></b>		
9	Franke sluices 890 x 390mm (code 350300)	No	10
10	Franke sluices 1490 x 390mm (code: 350300)	No	10
11	Franke Model EC Combination Bedpan and Wsh-Up sink manufactured from grade 304 (18/10 stainless steel 1.6mm (draining board) and 1.2mm thick (bowls). Unit with a 150mm high integral splash back to the rear and 15mm deep hospital bead 100mm apron to front and sides	No	13
12	Franke slop hoppers code 351350	No	33

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13	"Projectline model PLN611" Grade 304 18/10 polished stainless steel single end bowl inset sink, overall size 800 x 460mm with one 340 x 370 x 140mm deep bowl, fitted onto cupboard and including Cobra Watertech 40mm chrome plated basin/bath waste (Code: 316) with 70mm diameter flange, 45mm long shank, plug, chain and stay, and 2 x Cobra Watertech 15mm ball type angle valves (Code: 832-10). All in accordance with manufacturers installation specifications	No	20		
14	"Franke Projectline Model PLN621 Grade 304 18/10" polished stainless steel single end bowl inset sink, overall size 1160 x 460mm with two 340 x 370 x 140mm deep bowl, fitted onto cupboard and including Cobra Watertech 40mm chrome plated basin/bath waste (Code: 316) with 70mm diameter flange, 45mm long shank, plug, chain and stay, and 2 x Cobra Watertech 15mm ball type angle valves (Code: 832-10). All in accordance with manufacturers installation specifications	No	13		
15	Franke Pressed Shower Tray BS 401' 900 x 900 x 88mm deep, levelled and fully embedded in and including cement and sand 1:3 screed 100mm thick overall	No	29		
<b><u>TRAPS ETC</u></b>					
<b><u>"Marley" or similar approved</u></b>					
16	38mm Deep seal "P" or "S" trap	No	95		
<b><u>"Cobra Watertech" or similar approved</u></b>					
17	32mm 340 CP bottle trap including C-342/1 with tail pipe, C-342/2 capnut and C-342/3 wall flange	No	220		
<b><u>TAPS, VALVES, ETC</u></b>					
<b><u>"Cobra" or similar approved</u></b>					
18	"Code - 401" or equally approved CP Basin set comprising one pair 15mm "Star" pillar taps including basin waste plug (Code - 301) or equally approved with chain, stay and backnut	No	16		
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19	ITD ECO rain rectangular head 190 x 150mm (economical water saving spray) TVSH1208/CH	No	29
20	"Code 3328SB026-065" shower set complete with 2 x taps (hot & cold), flanges, shower arm (026) and head (065). All in accordance with manufacturers installation specifications	No	29
21	"Code CS-296CP" Capstan swan neck one hole swivel sink mixer. ½" BSP female inlets. All in accordance with manufacturers installation specifications	No	33
22	Cobra Watertech (Code 508) or similar approved Elbow action wall mounted medical pillar type mixer with swan neck aerated swivel outlet, elbow action lever and concealed S-connections. All in accordance with manufacturers installation specifications	No	187
23	"Ref FM1.210CP" Flushmaster toilet flush valve with FM8.80 extended lever	No	18

**SANITARY PLUMBING**

**uPVC pipes**

24	50mm Pipes	m	3 345
25	110mm Pipes	m	2 618

**Extra over uPVC pipes for fittings**

26	50mm Bend	No	2 677
27	50mm Access bend	No	2 007
28	50mm Access junction	No	2 341
29	50mm Vent valve	No	93
30	110mm Vent valve	No	119
31	110mm Straight pan connector	No	119
32	110mm Bent pan connector	No	18

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**WATER SUPPLIES**

**Class 2 copper pipes**

33	15mm Pipes	m	834	
34	22mm Pipes	m	738	
35	15mm Pipes chased into brick walls	m	100	
36	22mm Pipes chased into brick walls	m	64	

**Extra over class 2 copper pipes for capillary fittings**

37	15mm Fittings	No	128	
38	22mm Fittings	No	86	

**Copper overflow and service pipes**

39	15mm Bent service pipe average 450mm girth and joint to copper and fittings	No	64	
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**TESTING**

40	Allow for testing the whole of the sanitary plumbing, water supplies and fire services to the satisfaction of the Head: Works and Local Authorities. All defective work is to be taken out and replaced at the Contractor's expense and the whole re-tested until found satisfactory			Item
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**BUDGETARY ALLOWANCES**

41	Allow an amount of R200,000.00 (Two hundred thousand Rand) for repairs to plumbing and drainage system			Item	200 000.00
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**COLLECTION**

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Item No		Quantity	Rate	Amount
	<p><b><u>BILL NO. 13</u></b></p> <p><b><u>GLAZING</u></b></p> <p>Tenderers are referred to the Model Preambles for All Trades as published by the Association of South African Quantity Surveyors (Tel. 011-315 4140) and the Architectural and Structural Works Information before pricing this Bill of Quantities</p>			
	<p><b><u>SUPPLEMENTARY PREAMBLES</u></b></p> <p><b><u>Proprietary items or materials</u></b></p> <p>Proprietary items or materials where specified are to be of the brand specified or other approved by the Representative / Agent</p> <p><b><u>TOPS, SHELVES, DOORS, MIRRORS, ETC</u></b></p> <p><b><u>6mm Silvered float glass copper backed mirrors with polished edges holed for and fixed with chromium plated dome capped mirror screws with rubber buffers to plugs in brickwork or concrete</u></b></p>			
1	Mirror size 400 x 900mm high with four screws	No	22	
2	Mirror size 600 x 1000mm high with four screws	No	18	
3	Mirror size 1950 x 850mm high with four screws	No	5	
	<b>Carried to Summary</b>			R
	Bill No. 13 Glazing			

Item No		Quantity	Rate	Amount
	<p><b><u>BILL NO. 14</u></b></p> <p><b><u>PAINTWORK</u></b></p> <p>Tenderers are referred to the Model Preambles for All Trades as published by the Association of South African Quantity Surveyors (Tel. 011-315 4140) and the Architectural and Structural Works Information before pricing this Bill of Quantities</p>			
	<p><b><u>SUPPLEMENTARY PREAMBLES</u></b></p> <p><b><u>Proprietary items or materials</u></b></p> <p>Proprietary items or materials where specified are to be of the brand specified or other approved by the Representative / Agent</p> <p><b><u>PREPARATORY WORK TO EXISTING WORK</u></b></p> <p><b><u>Previously painted plastered surfaces</u></b></p> <p>Surfaces shall be thoroughly washed down and allowed to dry completely before any paint is applied. Blistered or peeling paint shall be completely removed and cracks shall be opened, filled with a suitable filler and finished smooth</p> <p><b><u>PAINTWORK ETC TO PREVIOUSLY PAINTED WORK</u></b></p> <p><b><u>ON FLOATED PLASTER</u></b></p> <p><b><u>Prepare surfaces and remove all loose material, apply one coat "Plascon or equally approved Professional Plaster Prime (PP700)" thinned 20% and two coats "Plascon Egg Shell Enamel (PSB700)" paint</u></b></p>			
1	On internal walls	m2	353	
2	On ceilings and beams	m2	501	
	<b>Carried to Collection</b>			R
	Bill No. 14 Paintwork			

3	On columns	m2	408	
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**ON METAL**

**Prepare surfaces and remove all loose material structural steel surfaces, apply "Sika Unitherm Platinum" (Solvent free, intumescent, resistant) fire protection coating, or equally approved all in strict accordance with the manufacturer's installation specifications**

4	On structural steelwork	m2	45	
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**PAINTWORK ETC TO NEW WORK**

**ON FLOATED PLASTER**

**Prepare surfaces and remove all loose material, apply one coat "Plascon or equally approved Professional Plaster Prime (PP700)" thinned 20% and two coats "Plascon Egg Shell Enamel (PSB700)" paint**

5	On internal walls	m2	1 413	
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6	On ceilings and beams	m2	31	
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7	On columns	m2	1 232	
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**ON PLASTER BOARD**

**Prepare surfaces and remove all loose material, one undercoat and two coats interior paint" Dulux Almond White " or equally approved paint**

8	On partitions	m2	11 463	
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**ON FIBRE-CEMENT**

**Prepare surfaces and remove all loose material, apply one coat "Dulux Plaster Primer or equally approved" and two coats "Dulux Pure Brilliant White" or equally approved paint**

9	On ceilings and cornices	m2	9 032	
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**Carried to Collection**

Bill No. 14  
Paintwork

R

**ON WOOD**

**Spot, sand down and prepare wood surfaces and  
apply three coats "Plascon Woodcare Woodcoat  
Polyurethane or equally aproved" matt clear varnish**

10

On doors

m2

1 901

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Paintwork

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Bill No. 14 Paintwork <b><u>COLLECTION</u></b>  Total Brought Forward from Page No.	<b>Page No</b> 117  118  119	<b>Amount</b>  ----- ----- -----
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Bill No. 14 Paintwork		

Item No		Quantity	Rate	Amount
	<b><u>BILL NO. 15</u></b>			
	<b><u>ELECTRICAL WORK (PROVISIONAL)</u></b>			
	<b><u>ELECTRICAL PREAMBLES</u></b>			
	Where trades names are used, it shall be read to include the phrase "or approved equal"			
	Installation and Commissioning of Electrical and Electronic Systems must include for necessary accessories for all items to ensure that the installation works as intended			
	All items on the Bill are re-measurable			
	All items shall be priced for whatever cost may be considered necessary for Preliminary and General items to carry out the Electrical and Electronic installations in full. This bill must be read and completed in conjunction with specifications and drawings			
	All Provisional Sums (PSUM) shall be paid out on a proven cost basis			
	<b><u>EXTRAS NOT LISTED ABOVE</u></b>			
1	Cranage	Item		
2	Scaffolding	Item		
3	Contractor to ensure health and safety compliance on site as per the Occupational Health and Safety Act 85 of 1993, Pricing to include all Health and Safety related activities and equipment such as H&S file, toolbox talks, risk assessments, PPE etc	Item		
4	Allowance for construction program management		SUM	
	<b>Carried to Collection</b>			
	Bill No. 15 Electrical Work (Provisional)		R	

**ELECTRICAL**

**CABLING - UNIT WIRING**

**Circuit wiring along with earth wire with the following sizes of PVC insulated copper conductor single core cable (red, green, black) in recessed PVC conduit as required, for the wiring of lighting circuits, extractor fans, small power circuits and stove points according to SANS 10142.**

5	Supply and install 2.5 mm <sup>2</sup> GP wire for wiring of light fittings, motion detectors and extractor fans	m	89 712
6	Supply and install 4 mm <sup>2</sup> GP wire for small power circuits, 10A and 20A Isolators	m	34 830
7	Supply and install 4 mm <sup>2</sup> 1-phase 3-core CU cable compatible with SANS 1507-3	m	500
8	Supply and install cable terminations set for 4 mm <sup>2</sup> 3 core Cu cable	No	10
9	Supply and install 4 mm <sup>2</sup> 3-phase 4-core CU cable compatible with SANS 1507-3	m	300
10	Supply and install cable terminations set for 4 mm <sup>2</sup> 4 core Cu cable	No	6
11	Supply and install 6 mm <sup>2</sup> 1-phase 3-core CU cable complete compatible with SANS 1507-3	m	175
12	Supply and install cable terminations set for 6 mm <sup>2</sup> 3 core Cu cable	No	5
13	Supply and install 6 mm <sup>2</sup> 3-phase 4-core ECC SWA CU cable complete compatible with SANS 1507-3	m	45
14	Supply and install cable terminations set for 6 mm <sup>2</sup> 4 core Cu cable	No	3
15	Supply and install 10 mm <sup>2</sup> 1-phase 3-core ECC SWA CU cable complete compatible with SANS 1507-3	m	50
16	Supply and install cable terminations set for 10 mm <sup>2</sup> 3 core Cu cable	No	5

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Bill No. 15  
Electrical Work (Provisional)

17	Supply and install 10 mm <sup>2</sup> 3-phase 4-core SWA CU cable compatible with SANS 1507-3	m	45		
18	Supply and install cable terminations set for 10 mm <sup>2</sup> 4 core Cu cable	No	3		
19	Supply and install 16 mm <sup>2</sup> 1-phase 3-core ECC SWA CU cable complete compatible with SANS 1507-3	m	225		
20	Supply and install cable terminations for 16 mm <sup>2</sup> 3 core Cu cable	No	6		
21	Supply and install 16 mm <sup>2</sup> 3-phase 4-core SWA CU cable compatible with SANS 1507-3	m	60		
22	Supply and install cable terminations set for 16 mm <sup>2</sup> 4 core Cu cable	No	3		
23	Supply and install 25 mm <sup>2</sup> 3-phase 4-core ECC SWA CU cable complete compatible with SANS 1507-3	m	60		
24	Supply and install cable terminations set for 25 mm <sup>2</sup> 4 core Cu cable	No	3		
25	Supply and install 35 mm <sup>2</sup> 3-phase 4-core ECC SWA CU cable complete compatible with SANS 1507-3	m	120		
26	Supply and install cable terminations set for 35 mm <sup>2</sup> 4 core Cu cable	No	6		
27	Supply and install ECC 50 mm <sup>2</sup> 3-phase 4-core SWA CU cable compatible with SANS 1507-3	No	90		
28	Supply and install cable terminations set for 50 mm <sup>2</sup> 4 core Cu cable	No	3		
29	Supply and install ECC 70 mm <sup>2</sup> 3-phase 4-core SWA CU cable compatible with SANS 1507-3	No	60		
30	Supply and install cable terminations set for 70 mm <sup>2</sup> 4 core Cu cable	No	3		
31	Supply and install ECC 95 mm <sup>2</sup> 3-phase 4-core SWA CU cable compatible with SANS 1507-3	No	120		
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Bill No. 15 Electrical Work (Provisional)					R

32	Supply and install cable terminations set for 95 mm <sup>2</sup> 4 core Cu cable	No	6		
33	Supply and install ECC 120 mm <sup>2</sup> 3-phase 4-core SWA CU cable compatible with SANS 1507-3	No	180		
34	Supply and install cable terminations set for 120 mm <sup>2</sup> 4 core Cu cable	No	6		
35	Supply and install ECC 150 mm <sup>2</sup> 3-phase 4-core SWA CU cable compatible with SANS 1507-3	No	240		
36	Supply and install cable terminations set for 150 mm <sup>2</sup> 4 core Cu cable	No	6		
37	Supply and install ECC 185 mm <sup>2</sup> 3-phase 4-core SWA CU cable compatible with SANS 1507-3	No	120		
38	Supply and install cable terminations set for 185 mm <sup>2</sup> 4 core Cu cable	No	6		
39	Supply and install M20 uPVC conduit complete with elbows, junction boxes, clamps and fittings chased into wall for 1,5mm wire and 2,5mm wire	m	6 919		
40	Supply and install M20 galvanised conduit complete with elbows, junction boxes, clamps and fittings chased into wall for 1,5mm wire and 2,5mm wire	m	15 568		
41	Supply and install M25 uPVC conduit complete with elbows, junction boxes, clamps and fittings chased into wall for 6 mm <sup>2</sup> wire and electronic services	m	6 051		
42	Supply and install M25 galvanised conduit complete with elbows, junction boxes, clamps and fittings chased into wall for 6 mm <sup>2</sup> wire and electronic services	m	7 563		
43	Supply and install M32 uPVC conduit complete with elbows, junction boxes, clamps and fittings chased into wall for 6 mm <sup>2</sup>	m	2 000		
44	Supply and install M32 galvanised conduit complete with elbows, junction boxes, clamps and fittings chased into wall for 6 mm <sup>2</sup>	m	2 800		
45	Supply and install M50 uPVC conduit complete with elbows, junction boxes, clamps and fittings	m	250		
<b>Carried to Collection</b>					
Bill No. 15 Electrical Work (Provisional)					R

46	Supply and install M50 KABELFLEX or SIMILAR Sleeves complete with elbows, junction boxes, bends, clamps, fittings and all necessary accessories for Power and Fibre	m	360
47	Chasing 40mm wide x 30mm deep, and make good	m	4 608
48	Chasing 400mm wide x 50mm deep, and make good	m	4
49	305 Perforated cable tray for electrical and electronic services. Heavy duty, complete with elbows, junction boxes, bends, clamps, fittings and all necessary accessories	m	947
50	228 Perforated cable tray for electrical and electronic services. Heavy duty, complete with elbows, junction boxes, bends, clamps, fittings and all necessary accessories	m	557
51	152 Perforated cable tray for electrical and electronic services. Heavy Duty, complete with elbows, junction boxes, bends, clamps, fittings and all necessary accessories	m	195
52	P9000 trunking for electrical services, complete with elbows, junction boxes, bends, clamps, fittings and all necessary accessories	m	1 638
53	P7810 trunking for electronic services, complete with elbows, junction boxes, bends, clamps, fittings and all necessary accessories	m	1 638

**Carried to Collection**

Bill No. 15  
 Electrical Work (Provisional)

R

**LIGHTING - LIGHT FITTINGS**

**Supply and installation of the following lamps and light fittings with Electronic Control Gear, starter, capacitor, tubes/lamps, reflector, diffuser, holder etc. complete with all fixing accessories. Includes installation of the 1.5 sq.mm wiring to all light points as indicated in the lighting layout drawing. Contractor to confirm all luminaires with the Engineer before purchasing.**

54	40W 600mm x 600mm 40W side lit LED panel fitting; 4000k with 5 year warranty; with 600mm x 600mm surface mount box.Regent Luxon Prism or similar SABS approved.	No	456
55	40W 600mm x 600mm 40W side lit LED panel fitting; with battery back-up, 4000k with 5 year warranty;with 600mm x 600mm surface mount box. Regent Luxon Prism or similar SABS approved.	No	229
56	40W 600mm x 600mm 40W Medical LED panel fitting; 4000k with 5 year warranty; with 600mm x 600mm surface mount box.Regent Medical or similar. SABS approved.	No	315
57	40W 600mm x 600mm 40W Medical LED panel fitting; with battery back-up; 4000k with 5 year warranty; with 600mm x 600mm surface mount box. Regent Medical or similar. SABS approved.	No	158
58	47W 1200mm LED IP54 linear batten with sensor, 4000K. Regent Nasa or similar. SABS approved.	No	788
59	47W 1200mm LED IP54 linear batten with sensor; with battery back-up; 4000K. Regent Nasa or similar SABS approved.	No	197
60	18W LED bulkhead surface mounted dust and vapour proof, 4000K IP65. Regent Solo or similar. SABS approved.	No	81
61	18W LED bulkhead surface mounted dust and vapour proof; with battery back-up; 4000K IP65. Regent Solo or similar. SABS approved.	No	10

**Carried to Collection**

R

Bill No. 15  
Electrical Work (Provisional)

**OCCUPANCY SENSORS**

62	Supply and installation of Passive Infrared Occupancy sensors, for the control of lighting circuits.	No	52
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**DAYLIGHT SENSORS**

63	Supply and installation of daylight activated photo sensors, for the control of outdoor and general area lighting circuits.	No	6
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**LIGHT SWITCHES**

**Supply and install "Crabtree Diamond" range switches in accordance with SANS10142-1, complete with cover plate. Includes wiring of the switch points**

64	1-lever 1-way switch, 100mm x 50mm with cover plate, white cover	No	147
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65	1-lever 2-way switch, 100mm x 50mm with cover plate, white cover	No	18
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66	2-lever 1-way switch, 100mm x 50mm with cover plate, white cover	No	27
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67	2-lever, 1 x 1-way, 1 x 2-way switch, 100mm x 50mm with cover plate, white cover	No	14
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68	3-lever, 1 x 1-way, 2 x 2-way switch, 100mm x 50mm with cover plate, white cover	No	6
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69	3-lever, 2 x 1-way, 1 x 2-way switch, 100mm x 50mm with cover plate, white cover	No	4
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70	Testing and Commissioning of lighting installation	No	1
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71	4 x 2mm PVC boxes complete with fittings	No	206
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72	5A plugs for light fitting	No	2 286
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73	PVC round boxes	No	2 286
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**Carried to Collection**

R

Bill No. 15  
Electrical Work (Provisional)

**SMALL POWER**

**Supply and installation of "Crabtree Diamond" range small power equipment in accordance with SANS10142-1. Includes wiring of the switch points**

74	16A switchable 3-pin double socket outlet and euro single socket outlet with cover plate, white, 100mm X 100mm, SABS approved	No	227
75	16A switchable 3-pin single socket outlet and euro single socket outlet with cover plate, white, 100mm X 100mm, SABS approved	No	106
76	16A switchable 3-pin single socket outlet with euro single socket outlet and USB outlet with cover plate, white, 100mm X 100mm, SABS approved	No	25
77	16A switchable 3-pin dedicated single socket outlet with cover plate, white, 100mm X 100mm, SABS approved	No	57
78	Weatherproof IP65 rated 16A switchable 3-pin single socket outlet and euro socket outlet (SANS 164-2) with metal cover plate, white, 100mm X 100mm, SABS approved.	No	33
79	Cluster Socket, 1 x single socket outlet, 1 x euro socket outlet (SANS 164-2), 1 x data point, 1 x telephone point, 1 x USB A point and 1 x USB C point, white. SABS approved	No	179
80	Data Point including cover plate and accessories complete	No	15
81	Telephone Point (DSTV) including cover plate and accessories complete	No	15

**Carried to Collection**

R

Bill No. 15  
Electrical Work (Provisional)

**ISOLATORS**

**Supply and installation of flush or surface mounted Isolators in either 100 x 100, 100 x 50mm, round box or wiring channel, and conduit connections, including cover plate**

82	5A Single Phase Double Pole 6KA Isolators for Electrical Points with light indicator and cord grip.	No	10
83	10A Single Phase Double Pole 6KA Isolators for Electrical Points with light indicator and cord grip.	No	10
84	20A Single Phase Double Pole 6KA Isolators for Electrical Points with light indicator and cord grip.	No	18
85	30A Single Phase Double Pole 6KA Isolators for Electrical Points with light indicator and cord grip.	No	5
86	40A Single Phase Double Pole 6KA Isolators for Electrical Points with light indicator and cord grip.	No	5
87	20A Three Phase Triple Pole 6KA Isolators for Electrical Points with light indicator and cord grip. Crabtree Diamond Range or similar.	No	5
88	30A Three Phase Triple Pole 6KA Isolators for Electrical Points with light indicator and cord grip, IP65. Crabtree Diamond Range or similar.	No	3
89	40A Three Phase Triple Pole 6KA Isolators for Electrical Points with light indicator and cord grip. Crabtree Diamond Range or similar.	No	3
90	60A Three Phase Triple Pole 6KA Isolators for Electrical Points with light indicator and cord grip. Crabtree Diamond Range or similar.	No	3
91	80A Three Phase Triple Pole 6KA Isolators for Electrical Points with light indicator and cord grip. Crabtree Diamond Range or similar.	No	3
92	100A Three Phase Triple Pole 6KA Isolators for Electrical Points with light indicator and cord grip. Crabtree Diamond Range or similar.	No	3

**Carried to Collection**

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93	160A Three Phase Triple Pole 10KA Isolators for Electrical Points with light indicator and cord grip. Crabtree Diamond Range or similar.	No	3		
94	180A Three Phase Triple Pole 10KA Isolators for Electrical Points with light indicator and cord grip. Crabtree Diamond Range or similar.	No	2		
<b><u>POWER SKIRTING</u></b>					
<b><u>Supply and installation of "Cabstrut P801 Metal power skirting" in Hammertone Grey/Beige including bends and end caps to suit. All points to be robustly installed and should be screwed in with self-tappers on power skirting where necessary</u></b>					
95	Cabstrut P801 2 Tier Metal Power Skirting in hammertone grey including bends, end caps and all relevant accessories	m	322		
96	Data and Telephone point in power skirting including cover plate and accessories	No	89		
97	SSO, 20A switchable single socket outlet in power skirting with cover plate and accessories	No	89		
98	Euro socket outlet (SANS 164-2), 20A switchable single socket outlet in power skirting with cover plate and accessories	No	89		
99	Dedicated SSO, 20A switchable single socket outlet in power skirting with cover plate and accessories	No	89		
100	4 x 4mm PVC boxes complete with fittings	No	666		
101	4 x 2 PVC boxes complete with fittings	No	112		
102	Testing and Commissioning of small power installation	No	1		
<b>Carried to Collection</b>					
Bill No. 15 Electrical Work (Provisional)				R	

**DISTRIBUTION BOARDS & SUPPLY**

**Supply and install Distribution Boards, with a minimum of 25% spare capacity per DB, in accordance with SANS10142 as per the following:**

103	<p>Floor DB:</p> <p>350A, 15kA three phase incoming CB normal section 250A, 15kA three phase incoming CB emergency section</p> <p>Each section to be equipped with: 10x 10A, 6kA, 220V circuit breaker for Lighting Circuit 20x 20A,6kA switched sockets circuits 5x 63A, 30mA Earth leakage units 10x 20A, 6kA Dedicated switched circuits 5x 63A, 30mA Earth leakage units 10x 20A, 1PH isolator circuits 5x 30A, 3PH isolator circuits Neutral, Earth and Busbar Earthing and Class 2 Surge Protection to suit All boards to allow for 25% spare capacity.</p>	No	6	
104	<p>Floor Sub DB:</p> <p>200A, 15kA three phase incoming CB normal section 100A, 15kA three phase incoming CB emergency section</p> <p>Each section to be equipped with: 5x 10A, 6kA, 220V circuit breaker for Lighting Circuit 12x 20A,6kA switched sockets circuits 3x 63A, 30mA Earth leakage units 6x 20A, 6kA Dedicated switched circuits 2x 63A, 30mA Earth leakage units 5x 20A, 1PH isolator circuits 3x 30A, 3PH isolator circuits Neutral, Earth and Busbar Earthing and Class 2 Surge Protection to suit All boards to allow for 25% spare capacity.</p>	No	6	
<b><u>LIGHTNING PROTECTION AND EARTHING</u></b>				
105	<p>Allow the sum of R 71,000.00 (Seventy One Thousand Rand) for lightning protection and earthing as per the Electrical engineers requirements</p>	Item		71 000.00
106	<p>Contractors Profit and Attendance</p>	Item		
<b>Carried to Collection</b>				R
<p>Bill No. 15 Electrical Work (Provisional)</p>				

**ELECTRONICS**

**FIRE DETECTION AND EVACUATION SYSTEM**

**Supply and install Class A Ziton 3 Addressable fire detection system, equipment, address labels, remote alarm indicators and cabling as per Fire Engineer specifications. This includes for safety files, minimum 12 month warranty on equipment. To include for remote alarm indicators, relays for fire dampers, extractors, fire doors and automated doors (including user interface units). To allow for integration with electronic services specialist regarding automatic release for all doors and tripping of airconditioners/cooling units in the event of the system being engaged. Contractors to include for CoC in book form in accordance to SANS 10139, Logbook, Mimic Diagrams in all foyers and entrances/exits. Programming of fire detection system to be included. Fire detection evacuation system spec to be same as completed installation at Block 1**

107	Supply, install and programming of Ziton 3 Addressable Fire Panel with user interface and 2 x BS131N - 2 Loop small	No	2
108	Supply, install and programming of Ziton Repeat Display Unit (RDU)	No	3
109	ZP7 Series optical smoke detector and base including address label and address cards	No	485
110	Heat detector and base including address label and address cards	No	521
111	Manual call point with protection cover and isolator (red)	No	62
112	ZP755HAV-2R Addressable sounder with visual indicator (RED)	No	112
113	Addressable line interface unit	No	12
114	Fire Phone	No	3
115	2V DC Amp Power Supply + Battery Charger 12V 7.0AH	No	5

**Carried to Collection**

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116	Supply and install 1.5 mm <sup>2</sup> 2-core fire retardant cable including cable fasteners including 25mm sprague flexible conduit complete with all accessories- PH30	m	59 750		
117	Supply, install and commission 8-core 850-nm laser-optimized, 50-µm core diameter/125-µm cladding diameter graded- index multimode fibre link between main panel and sub panels, c/w all splicing, terminations, splice and patch panels and dome enclosures to ensure complete installation.	m	555		
118	Supply, install and commission 8-core 1300-nm laser-optimized, 50-µm core diameter/125-µm cladding diameter graded- index multimode fibre link between main panel and sub panels, c/w all splicing, terminations, splice and patch panels and dome enclosures to ensure complete installation.	m	100		
119	Supply and install fibre to copper converters	No	2		
120	Remote microphone with active alarm button for VM-3000.	No	1		
121	Voice alarm system amplifier 360W - 6 zone.	No	1		
122	1 Channel power amplifier @ 420W RMS per channel.	No	1		
123	Power amplifier input module (use with VM-3000).	No	1		
124	Emergency power supply unit for Evac Systems (Supplies DC power to VX-2000 and VM-3000).	No	1		
125	12 V 65 A/H battery (Special sealed battery certified for use with VA systems).	No	1		
126	10U rack and accessories	No	2		
127	Surface mounted speaker 5inch 6W, EN54	No	115		
128	Horn Speaker - Certified BS & EN54-24	No	2		
<b>Carried to Collection</b>					
Bill No. 15 Electrical Work (Provisional)				R	

**CCTV AND ACCESS CONTROL SYSTEM**

**CCTV and Access Control System**

129 Provide the Amount of R 3 378 050.00 (Three Million, Three Hundred And Seventy Eight Thousand And Fifty Rand) for the CCTV and Access Control System

Item	3 378 050.00
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**NETWORK INFRASTRUCTURE**

**Network Infrastructure**

130 Provide the Amount of R 1 267 650.00 (One Million Two Hundred And Sixty Seven Thousand Six Hundred And Fifty Rand) for the Network Infrastructure.

Item	1 267 650.00
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**Carried to Collection**

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Bill No. 15  
 Electrical Work (Provisional)

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**COLLECTION**

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**Carried to Summary**

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Bill No. 15  
 Electrical Work (Provisional)

Item No		Quantity	Rate	Amount
	<p><b><u>BILL NO. 16</u></b></p> <p><b><u>MECHANICAL WORKS (PROVISIONAL)</u></b></p>			
	<p>Tenderers are referred to the mechanical works specifications attached to these this Bill of Quantities before pricing</p>			
	<p><b><u>SUPPLEMENTARY PREAMBLES</u></b></p> <p><b><u>Proprietary items or materials</u></b></p> <p>Proprietary items or materials where specified are to be of the brand specified or other approved by the Representative / Agent</p> <p><b><u>Responsibility for site:</u></b></p> <p>The contractor is to note that upon possession of the site by himself, and extending until practical completion is achieved, he is solely responsible for the site, site security, general upkeep and cleaning of the site and all other responsibilities in maintaining a construction site in conformance with but not limited to, the Construction Regulations 2003, all local by-laws, all user client regulations, and all Client regulations and procedures. Tenderers are therefore urged to study all available material and to investigate fully the site and areas contiguous to the site, in order to determine the range and extent of responsibility. No additional monetary and/or time claims will be entertained in respect of the above</p> <p><b><u>Working at Heights</u></b></p> <p>Bidders are to note that the work to be undertaken will require all necessary scaffolding, due to the heights of the structures to be constructed/altered. Bidders are to therefore price accordingly as rates will be deemed to include for same and no furthe</p>			
	<b>Carried to Collection</b>			
	<p>Bill No. 16                      Mechanical Works (Provisional)</p>		R	

**PART II: DECOMMISSIONING, REMOVAL AND DISPOSAL OF EXISTING SYSTEM**

**GRID LINES: A/D - 19/28 = 2077M<sup>2</sup>**

**Existing Air Handling Unit No. 6 plant room and HVAC Services in the Interfloor Level Services**

Prior to removal of unit, the HVAC contractor shall ensure that all isolation valves feeding the chilled water piping and steam/heated water piping are shut off/closed-off, the HVAC contractor shall ensure that all the power feeding the makeup-air fans and the chilled water pump is cut-off

1	Removal of the 9.9m <sup>3</sup> /s chilled water cooling coil	No	1
2	Removal of the heating coil	No	1
3	Removal of the humidifying unit	No	1
4	Removal of the insulation, cladding and water piping: CHW and HTW piping	No	2
5	Removal of the 18.5kW makeup-air fan	No	1
6	Dismantling of the unit's enclosure and primary filters 20 x 600 x 600mm	No	1
7	Removal of the chilled water pump	No	1
8	Removal of valves and strainers	No	10
9	Removal of the insulation and ducting	m	10
10	Removal of stack-piping (through the "interfloor" level)	m	10
11	Removal of insulation and ducting (in the "Interfloor" level)	m	50
12	Removal of the existing indoor fan-coil units (in the "Interfloor" level)	No	32
13	Removal of the insulation, cladding and water piping: CHW and HTW piping (in the "Interfloor" level)	m	500

**Carried to Collection**

Bill No. 16  
Mechanical Works (Provisional)

R

14	Removal of the existing Motor Control Centres	No	3
15	Removal of ALL the wall-mounted 600 x 600mm primary filters and the holding-frames	No	2
<b><u>Existing Medical Gas Services</u></b>			
<u>Prior to removal of the medical gas piping, the medical gas contractor shall ensure that ALL MAIN isolation valves serving Level 5 and the "Inter floor level" above are shut off/closed-off. Also, all the isolation valves in the valve boxes feeding the oxygen lines (OXY), vacuum lines (VAC) and the medical air lines (MA4) are shut off/closed-off</u>			
16	Removal of the oxygen (OXY) lines	m	450
17	Removal of the vacuum (VAC) lines	m	450
18	Removal of the medical-air (MA4) lines	m	450
19	Removal of the valve boxes	No	2
20	Removal of the Vacuum Trap bottles	No	4
<b><u>Existing Wet (Plumbing) Services</u></b>			
<u>Prior to removal of the domestic water supply piping, the plumbing contractor shall ensure that all main isolation valves serving taps and toilets on Level 5 are shut off/closed-off. Also, all domestic water pipe lines running in the "Inter floor level" above are shut off/closed off</u>			
21	Removal of the cold water lines	m	600
22	Removal of the hot water lines	m	600
23	Removal of all hydro-boils	No	4

**Carried to Collection**

Bill No. 16  
Mechanical Works (Provisional)

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**PART III: REPLACEMENT MAKE-UP AIR HANDLING UNIT PLANT ROOM**

**GRID LINES: A/D - 19/28 = 2077M<sup>2</sup>**

**Replacement Air Handling Unit No. 6 plant room and HVAC Services in the Interfloor Level Services**

Customized air-handling units c/w canvas connections for the supply, primary washable filters (F2), secondary bag filters (G6), duty and standby plug fan, cooling chilled water coil and heating hot water coil and bypass damper

AHU -06 Comprising off:

1. Maximum Makeup-Air = 10000l/s
2. Cooling Coil-Capacity = 100,5kW (Total)
3. SHR = 0,9 (estimated)
  - Face Area = 4,32m<sup>2</sup>
  - A = 486 m<sup>2</sup> (approximately)
  - Empty Weight = 238kg (approximately)
  - Tubes High = 48 (approximately)
  - Tubes per circuit = 4 (approximately)
  - Linked Tubes = None
  - Connection = Same-side
  - Water-Flow Rate = 4,00l/s
- 2.Heating Coil-Capacity = 100,5kW
  - Face Area = 4,32m<sup>2</sup>
  - Water-Flow Rate = 4,80l/s
- 3.S/A Fan Static Pressure = 400Pa
  - Motor Capacity = 8,21kW/400V/3ph/50Hz N+E (each) - Duty + Backup
- 4.Primary Filters: F2 Type Washable Filters
  - 12 off (600 x 600mm)
- 5.Secondary Filters: G6 Type Disposable Filters
  - 12 off (600 x 600mm)

24	The New AHU-06:	No	1	
25	Supply, Delivery, Rigging, hoisting placing in position, Project management, engineering of system, overall commissioning and mark-up and profit incl. 12 months maintenance and guarantee	No	1	

**Carried to Collection**

Bill No. 16  
Mechanical Works (Provisional)

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**Makeup-Air Ducting**

Sheet-metal ducting: for AHU-06

26	Category 1	m2	107
27	Category 3	m2	7
28	Category 4	m2	2

Sheet-metal ducting: painting

29	Category 1	m2	116
30	Category 3	m2	7
31	Category 4	m2	2

**Makeup-Air Ducting (Continued)**

Sheet-metal ducting: Insulation

32	Category 1	m2	115
33	Category 3	m2	7
34	Category 4	m2	2

**Sheet-metal ducting: fittings**

Bends:

35	Category 1	No	4
36	Category 3	No	5

Double Bends (Y-Piece):

37	Category 1	No	1
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Duct Transformation:

38	Category 1	No	12
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**Carried to Collection**

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 Mechanical Works (Provisional)

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	<u>Duct Stop-Ends:</u>				
39	Category 1	No	4		
	<u>Spigots: Insulated</u>				
40	250mm Diameter (100mm Long)	No	8		
	<u>Flexible ducting: for all Fan-Coil Units</u>				
41	250mm Diameter (2500mm Long, average, insulated)	No	8		
	<b><u>Air-handling unit Sound Attenuators</u></b>				
	Air-handling Unit Sound Attenuators Comprising:				
	1. Design Flow Rate = 10000l/s, 2. Width = 1800mm, 3. Height = 1200mm, 4. Length = 1500mm.				
42	Rectangular SA1:	No	1		
	<b><u>Chilled Water Coil Pumps:</u></b>				
	DCHWP-01 and Backup CHWP-02:				
	1. Water Capacity = 4,00l/s (each) 2. Input Power Capacity = 1,68kW/400V/3ph/50Hz N+E 3. Approximate Weight = 200kg				
43	Supply and delivery of Duty and Backup Units	No	2		
	<b><u>Heated Water Coil Pumps:</u></b>				
	Duty HTWP-03 and Backup HTWP-04:				
	1. Water Capacity = 4,80l/s (each) 2. Input Power Capacity = 2,01kW/400V/3ph/50Hz N+E 3. Approximate Weight = 200kg				
44	Supply and delivery of duty and backup units	No	2		
	<b>Carried to Collection</b>				
	Bill No. 16 Mechanical Works (Provisional)			R	

45	Supply, delivery, rigging, hoisting placing in position, project management, engineering of system, overall commissioning and mark-up and profit including 12 months maintenance and guarantee	No	4		
	<b><u>Variable Frequency/Speed Drives</u></b>				
46	Chilled Water Pumps, (Refer to Dwg No.: 2336-HVAC-LYT-01-02-RB)	No	2		
	<b><u>Variable Frequency/Speed Drives (HTWP-03 and HTWP-04)</u></b>				
47	Heated Water Pumps, (Refer to Dwg No.: 2336-HVAC-LYT-01-02-RB)	No	2		
	<b><u>Water Treatment Plant</u></b>				
48	Water treatment for chilled water system until end of 12 month guarantee	No	2		
	<b><u>Air-Source Heatpumps</u></b>				
	<u>Supply and Delivery: Air-cooled Chiller Air-to-Water System Units comprising off:</u>				
	<u>1. Heating Capacity = 62,0kW,</u>				
	<u>2. Input Power Capacity = 18,2kW/400V/3ph/50Hz N+E,</u>				
	<u>3. Approximate Weight = 455kg.</u>				
49	HP-01 Duty Unit	No	1		
50	HP-02 Duty Unit	No	1		
	<b><u>Chilled Water Piping (Supply and Return)</u></b>				
	<u>Schedule-40 chilled water straight piping, including painting, 25mm insulation and cladding:</u>				
51	80mm Diameter	m	48		
52	65mm Diameter	m	114		
53	50mm Diameter	m	206		
54	40mm Diameter	m	48		
	<b>Carried to Collection</b>				
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55	32mm Diameter	m	96
56	25mm Diameter	m	96
<b><u>T-pieces for the chilled water straight piping:</u></b>			
57	80mm Diameter	No	10
58	65mm Diameter	No	18
59	50mm Diameter	No	12
60	40mm Diameter	No	32
61	32mm Diameter	No	64
62	25mm Diameter	No	64
<b><u>Balancing Valves</u></b>			
63	80mm Diameter	No	8
<b><u>3-Way Bypass Valves</u></b>			
64	80mm Diameter	No	2
<b><u>Isolating Valves</u></b>			
65	50mm Diameter	No	16
66	25mm Diameter	No	64
<b><u>Elbows</u></b>			
67	65mm Diameter	No	18
68	50mm Diameter	No	12
69	40mm Diameter	No	32
70	32mm Diameter	No	64
71	25mm Diameter	No	64

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	<b><u>Reducers</u></b>				
72	80 x 65mm Diameter	No	18		
73	65 x 50mm Diameter	No	12		
74	50 x 40mm Diameter	No	32		
75	40 x 32mm Diameter	No	64		
76	32 x 25mm Diameter	No	64		
	<b><u>Flexible Piping</u></b>				
77	25mm Diameter	No	64		
	<b><u>Heated Water Piping (Supply &amp; Return)</u></b>				
	<u>Schedule-40 heated water straight piping, including painting, 25mm insulation and cladding:</u>				
78	80mm Diameter	m	48		
79	65mm Diameter	m	114		
80	50mm Diameter	m	206		
81	40mm Diameter	m	48		
82	32mm Diameter	m	96		
83	25mm Diameter	m	96		
	<u>T-pieces for the chilled water straight piping:</u>				
84	80mm Diameter	No	10		
85	65mm Diameter	No	18		
86	50mm Diameter	No	12		
87	40mm Diameter	No	32		
88	32mm Diameter	No	64		
89	25mm Diameter	No	64		
	<b>Carried to Collection</b>				
	Bill No. 16				
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					R



105	65mm Diameter For Air Handling Unit	No	2	
106	50mm Diameter For Pumps	No	4	
107	50mm Diameter <u>Instrumentation</u> CH/HP 01 and 02 AHU-06 Heat pump units	No	4	
108	Pressure gauges	No	12	
109	Thermometers	No	8	
110	Binder test points	No	8	
111	Pockets for control sensors  <b><u>CHWP-01 and 02, HTWP-03 and 04 Pumps</u></b>	No	8	
112	Pressure gauges	No	16	
113	Thermometers	No	4	
114	Binder test points	No	8	
115	Pockets for control sensors  <b><u>Other</u></b>	No	8	
116	Automatic air vents for AHU-06 Chilled Water & Heated Water piping	No	4	
	<b><u>Condensate Drain Piping</u></b>  <u>40mm Diameter PVC AND 32mm diameter PVC condensate drain piping to drain points provided by plumber above the floor and above ceiling, respectively, to nearest fullbore drain</u>			
117	40mm Diameter Straight Piping	m	45	
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118	40mm Diameter Drain Piping Rings	No	16
119	40mm Diameter Bends	No	25
120	32mm Diameter Straight Piping	m	476
121	32mm Diameter Drain Piping Rings	No	25
122	32mm Diameter Bends	No	35

**HVAC ALLOWANCES: BMS AND REPLACEMENT FAN-COIL UNITS**

**GRID LINES: A/G - 19/28 = 4533M<sup>2</sup>**

**Replacement Fan-Coil Units (Piping and other accessories already measured and included in "Items under 4,9" and "Items under 4,10" above**

**Fan-Coil Units**

123	Ceiling mounted chilled/heated water fan-coil units complete with chilled water coil, heated water coil and extended drain pan	No	76
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**Fan-Coil Unit Accessories**

Loop Bypass Valve: 50mm Diameter

124	50mm Diameter (One for CHW & One for HTW)	No	2
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Balancing Valves

125	FCU-1400: 25mm Diameter	No	152
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2-Way Valves

126	FCU-1400: 25mm Diameter	No	152
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Ball Valves

127	FCU-1400: 25mm Diameter	No	304
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<u>Wall-mounted controllers</u>				
128	Stand-alone controller for ceiling mounted chilled/heated water fan-coil units mounted at 1500mm AFFL onto a 80mm round draw box installed by electrical subcontractor. Controller to provide following functions, - Unit On/Off, Temperature setpoint adjustment (20°C → 24°C), Fan speed adjustment (Low/Medium/High) and wiring to VFC occupancy sensor provided by others within 2m of FCU for switching of FCU, including electrical connection to isolator provided by others.	No	76	
<b><u>Control Location of BMS at Level 9M. Controllers in panel in accordance with the specification and points schedule (specify number). Controllers for the following points schedule:</u></b>				
<b><u>Controllers for the following points schedule:</u></b>				
<b><u>1. Air Handling Unit (x1)</u></b> <b><u>2. All Fan-coil Units (x32)</u></b> <b><u>3. Air Heatpump Units (x2)</u></b> <b><u>4. All Circulation Pumps (x4)</u></b>				
129	Building Management System	No	83	
<b><u>Other Air Terminals</u></b>				
<b><u>Door Grilles</u></b>				
130	DG01, 300 x 200mm (Single deflection aluminium frame)	No	8	
<b><u>Supply-Air Terminal(s)</u></b>				
131	Supply-Air Diffusers: CV01 - 600 x 600mm (250mm diameter neck c/w plenum box over)	No	305	
<b><u>Motor Control Centres</u></b>				
132	Supply, Delivery, Rigging, hoisting placing in position, Project management, engineering of system, overall commissioning and mark-up and profit incl. 12 months maintenance and guarantee of the Motor Control Centre		Item	200 000.00
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**STAIRWELL PRESSURIZATION FAN & SMOKE EXHAUST FAN AND RELATED DUCTING ACCESSORIES**

**BLOCK 4:**

**Top Injection Fan: FA-01 A/B - 22/23**

Donkin Majax-2 (or equivalent), Axial Flow Fan comprising off:

1. Fan Size = 1000mm diameter.
2. Fan Duty = 9534,0l/s (Design at 55%)
3. Selected Duty = 9535,7l/s (Design)
4. Maximum Capacity = 17334,0l/s (Design at 100%)
5. Blade Angle = 23 degrees.
6. Number of Blades = 4
7. Total Pressure = 188Pa (Design)
8. Total Pressure = 188.1Pa (Actual)
9. Running Power = 2.37kW
10. Peak Power = 2.39kW
11. V/ ph/ Hz = 400V/ 3phase/ 50 Hz N+E
12. Speed = 960RPM (V.S.D. controlled)
13. Drive Type = Direct Drive
14. Efficiency = 75.83%

Including Smoke-Exhaust Ducting and Accessories:  
Canvas Connection Size = 1000mm diameter x 150mmL (2 off)

133	1000mm Diameter Fan	No	1
134	Sound Attenuators: SA30 comprising off 1000mm internal diameter and 1500mm long, Pod-Type	No	2
<b><u>Make-Air Ducting and Accessories:</u></b>			
<u>Sheet-metal ducting</u>			
135	Category 4	m2	30
<u>Bends</u>			
136	Category 4	No	1

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	<u>Double-Bend (Y-Piece)</u>					
137	Category 4	No	1			
	<u>Miter Bends</u>					
138	Category 4	No	1			
	<b><u>Makeup-Air Filters</u></b>					
	<u>G4 Primary Washable Type Filters (600 x 600mm panels by 50mm thick); NBS 30% - 35%</u>					
139	FB1 Duty = 9534.0l/s, (Clean = 50Pa; Dirty = 150Pa)	No	8			
	<b><u>Motor Control Centres, including. V.S.D</u></b>					
140	Supply, Delivery, Rigging, hoisting placing in position, Project management, engineering of system, overall commissioning and mark-up and profit incl. 12 months maintenance and guarantee of the Motor Control Centre			Item		39 417.00
	<b><u>Smoke Exhaust Fan: FA-02 (Smoke exhaust ducting to run through FAHU-06 plantroom and the fans to be installed just outside the FAHU plantroom on the roof level above)</u></b>					
	<u>Donkin Majax-2 (or equivalent), Axial Flow Fan Comprising Off:</u>					
	<u>1. Maximum Capacity = 9824.0l/s (Design at 100%),</u>					
	<u>2. Blade Angle = 12 degrees,</u>					
	<u>3. Number of Blades = 4,</u>					
	<u>4. Total Pressure = 300Pa (Design),</u>					
	<u>5. Total Pressure = 306.85Pa (Actual),</u>					
	<u>6. Running Power = 3.92kW,</u>					
	<u>7. Peak Power = 4.12kW,</u>					
	<u>8. V/ ph/ Hz = 400V/ 3phase/ 50 Hz N+E,</u>					
	<u>9. Speed = 1440RPM (V.S.D. controlled),</u>					
	<u>10. Drive Type = Direct Drive,</u>					
	<u>11. Efficiency = 77.66%</u>					
141	Donkin Majax-2 (or equivalent), Axial Flow Fan	No	4			
142	Sound Attenuators: SA61 Pod-Type, comprising off 1000mm Internal Diameter, 2000mm long (Upstream - Side)	No	4			
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**Smoke-Exhaust Ducting and Accessories:**

<u>Canvas Connection</u>			
143	Size 1000mm diameter x 150mm long (2 off)	No	2
<u>Sheet-metal ducting</u>			
144	Category 6 (1000mm diameter)	m2	106
<u>Bends</u>			
145	Category 6 (3-Gore, 90 degree Bends, radius = 0.75)	No	8
<u>Wire Mesh</u>			
146	Category 6 (1000mm diameter)	No	4
<u>Smoke Exhaust Grilles</u>			
600 x 600mm aluminium frame c/w motorized smoke-detection damper: signal via DDC			
147	Level 5	No	96
148	Level 4	No	32
<u>Wall-mounted Smoke Exhaust Grilles</u>			
149	N.B.: Grille to be mounted c/w wiremesh screen in the Inter floor Level zone: 900x900mm complete with motorized blade-type fire dampers	No	12

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**HVAC ALLOWANCES**

**Building Management System (BMS)**

**Allowance for the following (per Stairwell Ventilation Fans) Comprising off:**

- 1. Static Pressure Sensor (located at mid-height of the stairwell) = 1 points.**
- 2. Stairwell Fan = 1 fans/points.**
- 3. Interface with the escape door = 1 points.**
- 4. Interface with the fan(s) = 1 points (VSD)**

150	Pressure sensors	No	2	
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**Allowance for the following (per Smoke Exhaust Fan1) Comprising off:**

- 1. Smoke detectors (located at either the "Inter floor level" or Ceiling void) = 4 points/levels.**
- 2. Smoke Exhaust Fans = 1 fans.**
- 3. Interface with the main (12 x 900 x 900mm fire dampers = 4 zones/levels (3 per zone/level).**
- 4. Interface with the smoke detection dampers (Daisy-chained) = 4 zones/levels.**
- 5. Interface with the fan(s) = 1 zones (VSD)**

151	Smoke detectors	No	14	
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**PART IV: DOMESTIC COLD & HOT WATER SUPPLY INSTALLATION**

**GRID LINES: A/G - 19/28 = 4533M<sup>2</sup>**

**Level 5: Cold and Hot Water Supply Piping and uPVC drainage Piping**

All piping to be copper [plumbing tube, drawn (hard) temper] for domestic water applications, painted and to include supports:

152	35mm Diameter NB (Straight Lengths) - uninsulated	m	280	
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153	22mm Diameter NB (Straight Lengths) - uninsulated	m	90	
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154	15mm Diameter NB (Straight Lengths) - uninsulated	m	420	
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<u>All pipe fittings to be copper [plumbing tube, drawn (hard) temper] for domestic water applications:</u>			
155	35mm Diameter NB Bends - uninsulated	No	90
156	22mm Diameter NB Bends - uninsulated	No	120
157	15mm Diameter NB Bends - uninsulated	No	180
158	35mm Diameter NB to 22mm Diameter NB T-Pieces - uninsulated	No	225
159	35mm Diameter NB to 15mm Diameter NB T-Pieces - uninsulated	No	275
160	35mm Diameter NB Ball Valves	No	6
161	22mm Diameter NB Ball Valves (Isolation Valves)	No	4
162	22mm Diameter NB Flexible Piping	No	4
163	15mm Diameter NB Ball Valves (Isolation Valve)	No	54
164	15mm Diameter NB Flexible Piping	No	54
165	Hot Water Geyser: 200L Capacity c/w 3.0kW heating element, all the pipe fittings and pipe accessories	No	1
<b><u>uPVC Drainage Piping</u></b>			
<u>For Wash-hand basins and showers</u>			
166	75mm Diameter NB (Straight piping)	m	300
167	75mm Diameter NB (Fittings: 45°, 90°, Tees, Airvents)	No	25
For Toilets			
168	110mm Diameter NB (Straight piping)	m	65
169	110mm Diameter NB (Fittings: 45°, 90°, Tees, Airvents)	No	25
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**Level 4: Cold and Hot Water Supply Piping and uPVC drainage Piping**

All piping to be copper [plumbing tube, drawn (hard) temper] for domestic water applications, painted and to include supports:

170	35mm Diameter NB (Straight Lengths) - uninsulated	m	35
171	22mm Diameter NB (Straight Lengths) - uninsulated	m	25
172	15mm Diameter NB (Straight Lengths) - uninsulated	m	80
<u>All pipe fittings to be copper [plumbing tube, drawn (hard) temper] for domestic water applications:</u>			
173	35mm Diameter NB Bends - uninsulated	No	20
174	22mm Diameter NB Bends - uninsulated	No	20
175	15mm Diameter NB Bends - uninsulated	No	35
176	35mm Diameter NB to 22mm Diameter NB T-Pieces - uninsulated	No	40
177	35mm Diameter NB to 15mm Diameter NB T-Pieces - uninsulated	No	55
178	35mm Diameter NB Ball Valves	No	3
179	22mm Diameter NB Ball Valves (Isolation Valves)	No	2
180	22mm Diameter NB Flexible Piping	No	2
181	15mm Diameter NB Ball Valves (Isolation Valve)	No	27
182	15mm Diameter NB Flexible Piping	No	27
183	Hot Water Geyser: 200L Capacity c/w 3.0kW heating element, all the pipe fittings and pipe accessories	No	1

**uPVC Drainage Piping**

For Wash-hand basins and showers

184	75mm Diameter NB (Straight piping)	m	75
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185	75mm Diameter NB (Fittings: 45°, 90°, Tees, Airvents) For Toilets	No	13
186	110mm Diameter NB (Straight piping)	m	35
187	110mm Diameter NB (Fittings: 45°, 90°, Tees, Airvents)	No	13
<b><u>Level 1 : Cold and Hot Water Supply Piping and uPVC drainage Piping</u></b>			
<u>All piping to be copper [plumbing tube, drawn (hard) temper] for domestic water applications, painted and to include supports:</u>			
188	35mm Diameter NB (Straight Lengths) - uninsulated	m	190
189	22mm Diameter NB (Straight Lengths) - uninsulated	m	158
190	15mm Diameter NB (Straight Lengths) - uninsulated	m	735
<u>All pipe fittings to be copper [plumbing tube, drawn (hard) temper] for domestic water applications:</u>			
191	35mm Diameter NB Bends - uninsulated	No	158
192	22mm Diameter NB Bends - uninsulated	No	210
193	15mm Diameter NB Bends - uninsulated	No	315
194	35mm Diameter NB to 22mm Diameter NB T-Pieces - uninsulated	No	420
195	35mm Diameter NB to 15mm Diameter NB T-Pieces - uninsulated	No	455
196	35mm Diameter NB Ball Valves	No	11
197	22mm Diameter NB Ball Valves (Isolation Valves)	No	7
198	22mm Diameter NB Flexible Piping	No	7
199	15mm Diameter NB Ball Valves (Isolation Valve)	No	94
200	15mm Diameter NB Flexible Piping	No	94

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201	Hot Water Geyser: 200L Capacity c/w 3.0kW heating element, all the pipe fittings and pipe accessories	No	4		
	<b><u>uPVC Drainage Piping</u></b>				
	<u>For Wash-hand basins and showers</u>				
202	75mm Diameter NB (Straight piping)	m	525		
203	75mm Diameter NB (Fittings: 45°, 90°, Tees, Airvents)	No	46		
	For Toilets				
204	110mm Diameter NB (Straight piping)	m	122		
205	110mm Diameter NB (Fittings: 45°, 90°, Tees, Airvents)	No	46		
	<b><u>MEDICAL GAS ALLOWANCES</u></b>				
	<b><u>Oxygen Installation</u></b>				
	<u>Supply and install medical grade copper piping including supports and brackets</u>				
206	Straight Piping: 10mm diameter	m	150		
207	Straight Piping: 12mm diameter	m	420		
208	Straight Piping: 15mm diameter	m	330		
209	Straight Piping: 22mm diameter	m	80		
210	Fittings Welded	No	58		
211	Bedhead / Pendant mounted Oxygen Outlets	No	38		
	<b><u>Vacuum Installation</u></b>				
	<u>Supply and install medical grade copper piping including supports and brackets</u>				
212	Straight Piping: 12mm diameter	m	150		
213	Straight Piping: 15mm diameter	m	420		
214	Straight Piping: 22mm diameter	m	330		
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215	Fittings Welded	No	58
216	Bedhead / Pendant mounted Vacuum Outlets	No	38
217	Vacuum bottle trap	No	2
<b><u>Low Pressure Medical Air Installation</u></b>			
<u>Supply and install medical grade copper piping including supports and brackets</u>			
218	Straight Piping: 10mm diameter	m	150
219	Straight Piping: 12mm diameter	m	440
220	Straight Piping: 15mm diameter	m	140
221	Fittings Welded	No	38
222	Bedhead / Pendant mounted LPAir Outlets	No	38
<b><u>Valve Box</u></b>			
<u>Valve box, flush mounted, complete with ball valves. Including an emergency and maintenance inlet point downstream of each area shut-off valve</u>			
223	Valve box with two valves (15mm Oxygen + 15mm LPAir) and one VAC outlets	No	2
<b><u>Warning Light Alarm Panel</u></b>			
224	Alarm fascia with 4 gas indication and cw wiring from plantroom in Galvanized conduit	No	1

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Item No		Quantity	Rate	Amount
	<p><b><u>BILL NO. 17</u></b></p> <p><b><u>FIRE PROTECTION (PROVISIONAL)</u></b></p> <p>Tenderers are referred to the fire protection specifications attached to these this Bill of Quantities before pricing</p>			
	<p><b><u>SUPPLEMENTARY PREAMBLES</u></b></p> <p><b><u>Proprietary items or materials</u></b></p> <p>Proprietary items or materials where specified are to be of the brand specified or other approved by the Representative / Agent</p> <p><b><u>FIRE PROTECTION PREAMBLES</u></b></p> <p>Where trades names are used, it shall be read to include the phrase "or approved equal"</p> <p>Installation and Commissioning of Fire Systems must include for all hangers, support, and trunking</p> <p>All items on the Bill are re-measurable</p> <p>All items shall be priced for whatever cost may be considered necessary for Preliminary and General items to carry out the Fire Protection installations in full. This bill must be read and completed in conjunction with specifications and drawings</p> <p><b><u>FIRE HYDRANTS AND HOSE REELS</u></b></p> <p><b><u>Supply and Install SANS 62-1/2 class medium steel piping. Pipes shall be free of rust, flakes or other defects and shall be cleaned internally before installation. The pipework shall be c/w Victaulic connections, hangers, supports, fittings and all necessary accessories. Black</u></b></p>			
1	15NB - screwed	m	5	
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2	25NB - screwed	m	150	
3	32NB - screwed	m	3	
4	40NB	m	2	
5	50NB	m	150	
6	65NB	m	3	
7	80NB	m	4	
8	100NB	m	1	
9	125NB	m	1	
10	150NB	m	50	
	<b><u>Unions - SANS 62, medium, Black</u></b>			
11	15NB - screwed	No	5	
12	25NB - screwed	No	50	
13	32NB - screwed	No	4	
	<b><u>Barrel Nipples - SANS 62, medium, Black</u></b>			
14	15NB - screwed	No	5	
15	25NB - screwed	No	50	
16	32NB - screwed	No	3	
	<b><u>Elbows - SANS 62, medium, Black</u></b>			
17	15NB - screwed	No	2	
18	25NB - screwed	No	50	
19	32NB - screwed	No	3	
20	40NB	No	4	
21	50NB	No	50	
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22	65NB	No	2
23	80NB	No	3
24	100NB	No	25
25	125NB	No	2
26	150NB	No	1
<b><u>Equal Tee - SANS 62, Medium, Black</u></b>			
27	15NB - screwed	No	2
28	25NB - screwed	No	3
29	32NB - screwed	No	1
30	40NB	No	2
31	50NB	No	20
32	65NB	No	3
33	80NB	No	4
34	100NB	No	1
35	125NB	No	2
36	150NB	No	20
<b><u>Reducing Tee - SANS 62, Medium, Black</u></b>			
37	150NB/100NB	No	2
38	100NB/50NB	No	3
39	50NB/25NB	No	2
<b><u>Ecentric Reducer - SANS 62, Medium, black</u></b>			
40	150NB/100NB	No	2
41	100NB/50NB	No	4

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42	50NB/25NB	No	3
	<b><u>Concentric Tee - SANS 62, Medium, Black</u></b>		
43	150NB/100NB	No	20
44	100NB/50NB	No	20
45	50NB/25NB	No	50
	<b><u>Painting and labelling of all fire pipework(25NB) as per SANS 10252 and SANS 10140.</u></b>		
46	15NB - screwed	m	2
47	25NB - screwed	m	150
48	32NB - screwed	m	4
49	40NB	m	3
50	50NB	m	150
51	65NB	m	4
52	80NB	m	2
53	100NB	m	2
54	125NB	m	1
55	150NB	m	50
56	Supply and install Fire Hose Reels (30m long) c/w chromium plated 25mm valve, connection, fittings, fixings and dial type (100mm) glycerine filled pressure gauge with union and isolating valve suitable for systems working pressure.	No	20
57	Supply and Install Fire Hydrant c/w take-off, piping, connection, fittings, valves of gunmetal and of the instantaneous female outlet type with screwed or flanged pipe connections. Right-angled valves with 65mm internal diameter hose connections shall be fitted, unless other valve types or internal diameters are required by the local fire department.	No	4

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58	The fire brigade booster connections shall be of gunmetal construction, and be complete with reflux valves and blank-off caps. They shall be of the instantaneous male connection type and shall have a nominal diameter of 65mm, or as required by the local fire department.	No	2
59	Supply and Install Fire Hydrant c/w take-off, piping, connection, fittings, valves of gunmetal and of the instantaneous female outlet type with screwed or flanged pipe connections. Right-angled valves with 100mm internal diameter (Storz Type) hose connections shall be fitted, unless other valve types or internal diameters are required by the local fire department.	No	2
<b><u>Supply and install Weldolet to suit piping. To be installed as tap off on existing piping for new hose reels</u></b>			
60	15NB - screwed	No	3
61	25NB - screwed	No	2
62	32NB - screwed	No	4
63	Test and commission fire installation as required by SANS 10400 and SANS 10287	No	1

**PUMP AND TANK - To feed Hose Reels and Hydrants below**

**Supply and Install fire booster pumps for fire water supply, complete with pressure vessel, non-return valves, anti-vibration connections, shut-off valves, suction and delivery manifolds, Variable speed drive (VSD), float switches, flow switches, pressure sensors and all necessary accessories to ensure a successful installation. The pumps shall be installed as indicated on the drawings and in accordance to manufacturers' specification and recommendations. Pumps shall be powered from backup power supply.**

64	Vertical multi-stage Booster pump set (2 pumps per set); delivery: 1200 litres/min @ 6000kPa	No	1
65	100 litres Pressure Vessel for the above pump systems	No	1

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66	Float switch (Water Level sensor)	No	1	
67	Flow switch	No	1	
68	Pressure sensor	No	1	
69	90mm diameter Pressure Gauge	No	3	
70	76mm Diameter solenoid valve	No	1	
71	Tie into existing tank on roof for Block 5 North	No	1	
72	Test and commission fire installation as required by SANS 10400 and SANS 10287	No	1	
<b><u>EXTINGUISHERS</u></b>				
<b><u>Dry Chemical Powder</u></b>				
73	4.5kg	No	36	
74	9kg	No	6	
75	5kg CO2	No	2	
76	10kg	No	2	
<b><u>Foam or Water</u></b>				
77	9 Litre	No	4	
<b><u>SIGNAGE</u></b>				
<b><u>Photoluminescent Signage in line with SANS 1186. Signage detail and fixing detail with frame to be allowed for. Sign fixing detail to be presented to the architect for approval before procurement and installation - 190x190</u></b>				
78	Escape and Exit signage with directional arrow	No	60	
79	Hose reel signage with direction arrow	No	10	
80	Hose reel and extinguisher signage with directional arrow	No	25	
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81	Hydrant, hose reel and extinguisher with directional arrow	No	6
82	Access and Direction of travel Signage	No	60
83	Extinguisher with directional arrow	No	20
84	Hydrant with directional arrow	No	20

**SPRINKLER SYSTEMS - LEVEL 2, 3, 4 Remedial Parking Area ONLY**

Note: All pipe fittings, supports, valves, flow switches, ICV assemblies have to be FM and UL approved

**Sprinkler mains supply and installation from main to building up to new sprinkler array, including all piping, hangers, fittings, painting and supports**

85	250mm Diameter mains from ICV chamber to sprinkler array	m	6
86	150mm Diameter mains	m	350
87	100mm Diameter mains	m	5

**Supply and install sprinkler bulb complete with branch piping from supply line, fittings, fixings, corrosion protection, paint specification suitable for systems working pressure. All pipes painted to Red as per SANS 10140. For installation on ceiling area.**

88	Roof sprinklers - 93 degree K-factor 16 standard response upright sprinkler heads (Allow for sprinkler guards)	No	50
89	Ceiling sprinklers - 68 degree K-factor 12 standard response Pendant sprinkler heads	No	50
90	Sprinklers - 68 degree K-factor 12 standard response upright sprinkler heads (Allow for sprinkler guards)	No	1 600

**FINAL DESIGN**

91	Shop drawings		Item
92	Hydraulic calculations		Item

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Bill No. 17  
 Fire Protection

Item No		Quantity	Rate	Amount
	<b><u>BILL NO. 18</u></b>			
	<b><u>PROVISIONAL SUMS</u></b>			
	<b><u>Community Liaison Officer</u></b>			
1	Provide the Amount of R 216,000.00 (Two Hundred and Sixteen Thousand Rand) for the CLO	Item		216 000.00
2	Profit	Item		
3	Allow for general attendance	Item		
	<b><u>Joinery Fittings</u></b>			
4	Allow Provisional Amount of R7,500 000.00 (Seven Million Five Hundred Rand Only) for the installation of joinery fittings complete as per the Architects requirements	Item		7 500 000.00
5	Profit	Item		
6	Attendance	Item		
	<b>Carried to Summary</b>			
	Bill No. 18 Provisional Sums		R	

Bill No	<u>FINAL SUMMARY</u>	Page No	Amount
1	Preliminaries	50	
2	Alterations (Provisional)	58	
3	Earthworks (Provisional)	63	
4	Concrete, Formwork and Reinforcement	75	
5	Waterproofing	78	
6	Ceilings, Partitions & Access Flooring	86	
7	Floor Coverings, Wall Linings, etc	90	
8	Ironmongery	94	
9	Metalwork	98	
10	Plastering	101	
11	Tiling	104	
12	Plumbing & Drainage (Provisional)	115	
13	Glazing	116	
14	Paintwork	120	
15	Electrical Work	135	
16	Mechanical Works (Provisional)	159	
17	Fire Protection	168	
18	Provisional Sums	169	
	Sub-total Excluding Vat		R
	<b>Carried Forward</b>		R

Bill No		Page No	Amount
	<b><u>FINAL SUMMARY</u></b>		
	<b>Brought Forward</b>		R
	<b><u>ADD CPAP</u></b>		
	Contract Price Adjustment Provision (CPAP) @ 6.5% (Six and a half percent)		R
	Sub-total Excluding Vat		R
	<b><u>ADD CONTINGENCIES</u></b>		
	Allow 10% (Ten percent) for contingencies which shall be applied to the work as directed by the Project Manager and deducted in whole or part if not required		R
	Sub-total Excluding Vat		R
	<b><u>CONTRACT SKILLS DEVELOPMENT GOAL (CSDG)</u></b>		
	Allow 0.5% (Zero point five percent) for skills development		R
	Sub-total Excluding Vat		R
	<b><u>CIDB BUILD Programme</u></b>		
	Allow 0.2% (Zero point Two percent)		R
	Sub-total Excluding Vat		R
	Add 15% Value Added Tax		R
	<b>Carried to Form of Tender</b>		R