



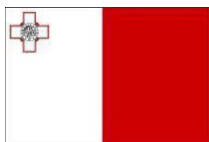
REFERENCE NUMBER: **PA5/0102/7**

**TENDER FOR THE RESTORATION OF
THE FACADE AND PARVIS OF
THE PARISH CHURCH OF
THE SACRED HEART OF JESUS, FONTANA, GOZO**

Date Published: **25th May 2018**

Deadline for Submission: **2nd July 2018** **at 10:30am CEST**

Tender Opening: **2nd July 2018** **At 11:00am CEST**



Operational Programme I – European Structural and Investment Funds
2014-2020 –

*“Fostering a competitive and sustainable economy to meet our
challenges”*

Project part-financed by the European Regional Development Fund
Co-financing rate: 76.61% European Union; 23.39% National Funds



Bid Bond requirements for this tender: *Not Applicable*

IMPORTANT

KURA Association

c/o Gozo Diocese
Bishop's Chancery Republic Str,
Victoria Gozo VCT 1000
Tel: 356 21551211
Email: kura.diocese.gozo@gmail.com

<http://gozodiocese.org/tenders/>

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## SECTION 1 - INSTRUCTIONS TO TENDERERS

### 1. General Instructions

- 1.1 In submitting a tender, the tenderer accepts in full and in its entirety, the content of this tender document, including subsequent Clarifications issued by the Non Governmental Organisation (NGO), whatever the economic operator's own corresponding conditions may be, which through the submission of the tender is waived. Tenderers are expected to examine carefully and comply with all instructions, forms, contract provisions and specifications contained in this tender document. These Instructions to Tenderers complement the General Rules Governing Tenders for NGOs Version 1.0.

No account can be taken of any reservation in the tender in respect of the procurement documents; any disagreement, contradiction, alteration or deviation shall lead to the tender offer not being considered any further.

Prospective tenderers must submit their offer by depositing it in the tender box, located at KURA Association, c/o Gozo Diocese, Bishop's Chancery, Republic Street, Victoria Gozo VCT 1000. Tenderers must submit one original tender offer as well as a soft copy on a USB or CD. Tender reference number and tender title must be clearly indicated on the sealed bid. Prospective tenders take full responsible to submit their offer by the set tender submission deadline.

**Note:**

Where in this tender document a standard is quoted, it is to be understood that the Contracting Authority will accept equivalent standards. However, it will be the responsibility of the respective bidders to prove that the standards they quoted are equivalent to the standards requested by the Contracting Authority.

- 1.2 The subject of this tender is the Restoration of the Exterior Facade and Parvis of the Parish Church of the Sacred Heart of Jesus, Fontana, Gozo
- 1.3 The place of acceptance of works shall be the Parish Church of the Sacred Heart of Jesus, Fontana, Gozo and the time-limits for the execution of the contract shall be a total of 26 weeks from the date of order to start works, and the INCOTERM<sup>2010</sup> applicable shall be **Delivery Duty Paid (DDP)**.
- 1.4 This is a unit price/bill of quantities contract.
- 1.5 This call for tenders is being issued under an open procedure.
- 1.6 The beneficiary of this tender is *KURA Association*.
- 1.7 This tender is not a reserved contract.

## 2. Timetable

2.

|                                                                                                                                                                 | DATE                       | TIME  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|-------|
| Clarification Meeting/Site Visit (Refer to Clause 6.1)                                                                                                          | N/A                        | N/A   |
| <p>Deadline for request for any additional information from the NGO</p> <p>Clarification requests should be addressed to: <i>NGOs e-mail address</i></p>        | 14 <sup>th</sup> June 2018 | 17.00 |
| Last date on which additional information can be issued by the NGO                                                                                              | 21 <sup>st</sup> June 2018 | 20.00 |
| Deadline for submission of tenders/Tender opening session (unless otherwise modified in terms of Clause 10.1 of the General Rules Governing Tendering for NGOs) | 2 <sup>nd</sup> July 2018  | 09.30 |
| * All times Central European Time (CET) / Central European Summer Time (CEST) as applicable                                                                     |                            |       |

## 3. Lots

- 3.1 This tender is not divided into lots, and tenders must be for the whole of quantities indicated. Tenders will not be accepted for incomplete quantities.

## 4. Variant Solutions

- 4.1 Variant solutions are not permissible.

## 5. Financing

- 5.1 The project is *co-financed* by the European Union/Government of Malta, in accordance with the rules of Operational Programme I, 2014-2020 programme.

## 6. Clarification Meeting/Site Visit/Workshop

6.1 No clarification meeting/site visit is planned.

## **7. Selection and Award Requirements**

In order to be considered eligible for the award of the contract, economic operators must provide evidence that they meet or exceed certain minimum criteria described hereunder.

### **(A) Eligibility Criteria**

- (i) No Bid Bond is required. <sup>(Note 1)</sup>
- (ii) Declare agreement, conformity and compliance with the provisions of the Statement on Conditions of Employment by completing and submitting the form with title Statement on Conditions of Employment.
- (iii) Declare agreement, conformity and compliance with the provisions of the Statement on Conditions of Employment by completing and submitting the form with title Statement on Conditions of Employment. Please also attach the minimum hourly workers' costs involving the provision of the employees' services. <sup>(Note 2)</sup>
- (iv) Power of Attorney (if applicable) <sup>(Note 2)</sup>
- (v) Submission of the declaration form that stipulates that following signature of contract, the successful bidder, will provide evidence in respect of the requirements stipulated regarding Energy Efficiency through the Energy Efficiency Form (if applicable) <sup>(Note 2)</sup>
- (vi) Information re Joint Venture/Consortium (if applicable)

(B) Exclusion (including Blacklisting) and Selection Criteria - information to be submitted through the completion of the following declaration forms:

- (i) Declaration concerning exclusion grounds
- (ii) Declaration concerning *Selection Criteria* (if any)

### **(C) Technical Specifications**

- (i) Tenderer's Technical Offer in response to specifications. <sup>(Note 3)</sup>

#### **Tenderer's Technical Offer (Organisation and Methodology)** <sup>(Note 3)</sup>

The technical offer and technical questionnaire shall constitute the following:

1. **Personnel:** The operator is to submit a list of the key personnel for the execution of the contract as per Key Expert Form. The Key experts required for this tender are:

- Warranted Architect;
- Project Manager with MQF Level 4 qualification in a related area of study;
- A Restoration Technician having at least an MQF level 4 qualification in a related area of study; and
- A Licensed Mason with a valid building licence.

2. **Documentation and services required from the contractor during works.**

3. **Method Statement and Programme of Works:** A detailed work plan which is to include the following sections:

a) Preliminary Method Statement: A detailed restoration method statement including information on all proposed products and materials (such as structural strengthening, cleaning solutions, preservatives, consolidants, etc.) which is to clearly illustrate how the tenderer expects to achieve the requirements set in the tender specifications and related bill of quantities.

b) Construction Management Plan: A site management plan clearly outlining hoarding and protection, site storage, the use of machinery and equipment, and the human resources that the tenderer envisages to deploy for the completion of the works in question. The plan may include drawings or sketches illustrating site dynamics and logistics.

c) Risk Assessment: A preliminary risk assessment and outline of the health and safety procedures that the tenderer intends to implement for the duration of the works. These documents shall act as a basis for more detailed reports prior to commencement of works by the winning bidder.

d) Gantt chart: A graphic works schedule (programme of works) illustrating detailed work phasing and interim milestones. This tool shall clearly show how the tenderer expects to complete the works within the timeframes set in this tender document.

4. Specifications of materials to be used during works

- (ii) **Literature** as per Form marked 'Literature List' to be submitted with the Technical offer at tendering stage. Alternatively, an Economic Operator can quote a reference number under which he/she has already supplied items so that there would be no need to submit literature.

**No changes to the information provided in the Literature submitted will be allowed. Literature submitted shall be rectifiable only in respect of any missing information.** (Note 2B)

*Tenderers are NOT requested to supply Samples at Publication Stage. Should the Tender Evaluation Committee deem that Samples are required to supplement the technical offer already submitted, such a request will be sought from the Tenderer during the Adjudication Stage.*

*Should the tenderer submit Samples at Publication Stage, such items shall NOT be taken into consideration, during Adjudication Stage.*

#### **(D) Financial Offer**

- (i) The Tender Form and Tenderer's Declaration are to be completed and submitted with the offer.; <sup>(Note 2)</sup>
- (ii) A financial offer is to be submitted by filling in **Bill of Quantities**, and is to be calculated on the basis of **Delivered Duty Paid (DDP)<sup>2010</sup> (Grand Total)** for the **works** tendered. <sup>(Note 2)</sup>

#### **Notes to Clause 7:**

1. *Tenderers will be requested to clarify/rectify, within five (5) working days from notification, the tender guarantee only in the following circumstances: either incorrect validity date, and/or incorrect value. Rectification is subject to a non-refundable administrative fee of €50.*
2. *Tenderers will be requested to either clarify/rectify any incorrect and/or incomplete documentation, and/or submit any missing documents within five working days from notification. Rectification is subject to a non-refundable administrative fee of €50.*
3. *No rectification shall be allowed. Only clarifications on the submitted information may be requested.*

#### **8. Tender Guarantee (Bid bond)**

- 8.1 No tender guarantee (bid bond) is required.

#### **9. Criteria for Award**

- 9.1 The sole award criterion will be the price. The contract will be awarded to the tenderer submitting the cheapest priced offer satisfying the administrative and technical criteria.

## **SECTION 2 - EXTRACTS FROM THE PUBLIC PROCUREMENT REGULATIONS**

### **Part X of the Public Procurement Regulations**

270. Any tenderer or candidate concerned, or any person, having or having had an interest or who has been harmed or risks being harmed by an alleged infringement or by any decision taken including a proposed award in obtaining a contract, a rejection of a tender or a cancellation of a call for tender after the lapse of the publication period, may file an appeal by means of an objection before the Review Board, which shall contain in a very clear manner the reasons for their complaints.

271. The objection shall be filed within ten calendar days following the date on which the NGO has by fax or other electronic means sent its proposed award decision or the rejection of a tender or the cancellation of the call for tenders after the lapse of the publication period.

272. The communication to each tenderer or candidate concerned of the proposed award or of the cancellation of the call for tenders shall be accompanied by a summary of the relevant reasons relating to the rejection of the tender as set out in regulation 242 or the reasons why the call for tenders is being cancelled after the lapse of the publication period, and by a precise statement of the exact standstill period.

273. The objection shall only be valid if accompanied by a deposit equivalent to 0.50 per cent of the estimated value set by the NGO of the whole tender or if the tender is divided into lots according to the estimated value of the tender set by the NGO for each lot submitted by the tenderer, provided that in no case shall the deposit be less than four hundred euro (€400) or more than fifty thousand euro (€50,000) which may be refunded as the Public Contracts Review Board may decide in its decision.

274. The Secretary of the Review Board shall immediately notify the Director and/or the NGO as the case maybe that an objection had been filed with his authority thereby immediately suspending the award procedure.

275. The NGO involved, as the case may be, shall be precluded from concluding the contract during the period of ten calendar days allowed for the submission of appeals. The award process shall be completely suspended if an appeal is eventually submitted.

276. The procedure to be followed in submitting and determining appeals as well as the conditions under which such appeals may be filed shall be the following:

- (a) any decision by the General Contracts Committee or the Special Contracts Committee or by the NGO shall be made public by affixing it to the notice-board of the same NGO as the case may be or by uploading it on Government's e-procurement platform prior to the award of the contract if the call for tenders is administered by the NGO;
- (b) the appeal of the complainant shall also be affixed to the notice-board of the Review Board and shall be communicated by fax or by other electronic means to all participating tenderers;



- (c) the NGO and any interested party may, within ten calendar days from the day on which the appeal is affixed to the notice-board of the NGO and uploaded where applicable on the Government's e-procurement platform, file a written reply to the appeal. These replies shall also be affixed to the notice-board of the Review Board and where applicable it shall also be uploaded on the Government's e-procurement platform;
- (d) within three working days of the publication of the replies, the Secretary of the Review Board shall prepare a report (the Analysis Report) analysing the appeal and any reply to it. This report shall be circulated to the persons who file an appeal and to all parties who submitted a reply to the appeal;
- (e) after the preparatory process is duly completed, the Director or the Head of the NGO shall forward to the Chairman of the Review Board all documentation pertaining to the call for tenders in question including files, tenders submitted, copies of deposit receipts and any motivated letter;
- (f) The secretary of the board shall inform all the participants of the call for tenders, the NGO of the date or dates as the case maybe when the appeal will be heard;
- (g) When the oral hearing is concluded, the Public Contracts Review Board, if it does not deliver the decision on the same day, shall reserve decision for the earliest possible date to be fixed for the purpose, but not later than six weeks from the day of the oral hearing:  
Provided that for serious and justified reasons expressed in writing by means of an order notified to all the parties, the Public Contracts Review board may postpone the judgment for a later period.
- (h) The secretary of the board shall keep a record of the grounds of each adjournment and of everything done in each sitting;
- (i) After evaluating all the evidence and after considering all submissions put forward by the parties, the Review Board shall decide whether to accede or reject the appeal.

## SECTION 3 - SPECIAL CONDITIONS

These conditions amplify and supplement, if necessary, the General Conditions governing the contract. Unless the Special Conditions provide otherwise, those General Conditions remain fully applicable. The numbering of the Articles of the Special Conditions is not consecutive but follows the numbering of the Articles of the General Conditions. Other Special Conditions should be indicated afterwards.

### Article 2: Law and language of the Contract

- 2.1 The Laws of Malta shall apply in all matters not covered by the provisions of the contract.
- 2.2 The language used shall be English.

### Article 3: Order of Precedence of Contract Documents

- 3.1 The contract is made up of the following documents, in order of precedence:
  - (a) the Contract;
  - (b) the Special Conditions;
  - (c) the General Conditions;
  - (d) the Contracting Authority's technical specifications and design documentation;
  - (e) the Contractor's technical offer, and the design documentation (drawings);
  - (f) the bill of quantities (after arithmetical corrections)/breakdown;
  - (g) the tender declarations in the Tender Response Format;
  - (h) any other documents forming part of the contract.

Addenda have the order of precedence of the document they are modifying.

### Article 4: Communications

- 4.1 KURA Association  
c/o Gozo Diocese  
Bishop's Chancery Republic Str,  
Victoria Gozo VCT 1000  
Tel: 356 21551211  
Email: kura.diocese.gozo@gmail.com

Communications between the Contracting Authority and/or the Supervisor on one hand, and the Contractor on the other, shall be exclusively in writing and in the English language. Specific and standard procedures of communication (templates of request for information, contract submittal, site instructions, time of communication and for replies, frequency of meetings) shall be agreed among the Contracting Authority and the winning bidder within fifteen (15) days from the Commencement Date of the Contract, unless otherwise specified in these Special Conditions and in Section 4 - Technical Specifications.

### Article 5: Supervisor and Supervisor's Representative

The contractor shall inform the Contracting Authority & its appointed Supervisor about all stages of progress of the project. Any unauthorized halting of works will not be allowed and no extension in the implementation timeframe will be granted in such instances. The Contractor shall seek prior approval from the Supervisor to halt works on site.

- 5.6 The Contractor shall be responsible to provide all access necessary for verifying and

inspecting the works carried out and the items being provided.

#### Article 6: Assignment

Requests from the contractor for a change in assignment will not be allowed except in the case of force majeure which results in the Contractor being unable to carry out the tasks assigned in the contract.

#### Article 8: Supply of Documents

- 8.4 The contractor shall follow closely all instructions specified in the documents and drawings submitted with this tender and any other drawings provided to him by the Supervisor during the course of the works. Any documents and drawings prepared by the Contractor are to be submitted for approval to the Contracting Authority and the Supervisor, the procedure being agreed to between the parties as indicated in Clause 4 of the Special Conditions.

#### Article 9: Access to Site

- 9.1 In addition to sub clause 9.1 of the General Conditions, contractors may be required to suspend all or part of the works being carried out in order not to disturb any official function or activity held as indicated by the Contracting Authority. The contractor will be notified of such suspension of works at least 48 hours in advance and will not be eligible for compensation, apart from an extension of time.

The contractor is to note that access to the public/private buildings shall be maintained at all times and shall maintain pedestrian and vehicular access (where applicable) at all times. To this effect, the contractor and his employees shall be required to abide by the instructions issued from time to time by personnel responsible for the security of the underlying/adjoining properties and shall ensure that all works are carried out without jeopardizing the security of the place

#### Article 10: Assistance with Local Regulations

- 10.3 The contractor is responsible for complying with local regulations at his expense to ensure the project is compliant with all the relevant local regulations.

#### Article 11: The Contractor's Obligations

- 11.1 The Contractor shall be responsible for the adequacy, stability and safety of all Site operations and of all methods of construction. The Contractor shall be responsible for all Contractors' documents, Temporary Works, and such Design of each item of Plant and Materials as is required for the item to be in accordance with the Contract.

The Contractor shall whenever required by the Supervisor, submit details of the arrangements and methods that the Contractor proposes to adopt for the execution of the Works. No significant alteration to these arrangements and methods shall be made without this having previously been notified to the Supervisor.

The Contractor shall prepare detailed construction drawings required for the Permanent works. The Contractor shall;

- a) submit to the Supervisor the Contractor's Documents for this part in accordance with the procedures specified in the Contract;
- b) the Contractor shall be responsible for this part which shall, when the works are completed, be fit for such purposes for which the part is intended as specified in the Contract; and

- c) On completion, the Contractor shall submit to the Supervisor the “as built” documents and operation and maintenance manuals, in accordance with the Specification and in sufficient detail for the Supervisor to operate, maintain, dismantle, reassemble, adjust and repair this part of the works. Such part shall not be considered to be completed for the purposes of taking over until these documents and manuals have been submitted to the Supervisor.

The Contractor shall, as specified in the contract or as instructed by the Supervisor allow appropriate opportunities for carrying out work to:

- a) Employer’s Personnel,
- b) Any other sub-contractors employed by the employer and,
- c) The personnel of any legally constituted public authorities and,
- d) The personnel of service utility companies,

who may be employed in the execution on or near the Site of any work not included in the contract.

Any such instruction shall only constitute a variation if and to the extent that it causes the Contractor to incur **Unforeseeable Cost**. Services for these personnel and other contractors may include the Contractor’s Equipment, Temporary Works or access arrangements which are the responsibility of the Contractor.

The Contractor shall;

- a) Comply with all applicable safety regulations,
- b) Take care of the safety of all persons entitled to be on the Site,
- c) Use reasonable efforts to keep the Site and Works clear of unnecessary obstruction so as to avoid danger to these persons,
- d) Provide fencing, lighting, guarding, and watching of the Works until completion and taking over under the Employer’s Taking over, and
- e) Provide any Temporary Works (including roadways, footways, guards, and fences) which may be necessary, because of the execution of the Works for the use and protection of the public and of owners and occupiers of adjacent land.

11.20

Further to Article 11.2 in the General Conditions, the contractor shall deploy the necessary resources so as to maintain a good progress of work on the site and shall also, where necessary, undertake to perform works outside normal working hours, and on public holidays and weekends at no additional cost to the Contracting Authority, so as to ensure the completion of the Works within the required time-frame, in accordance with the Technical Requirements and with the Period of Execution.

Furthermore, the contractor shall be expected to be co-operative and allow the use of his scaffolding and/ or other facilities available on site for the efficient execution of the above-mentioned works. Same contractor will not be entitled to any compensation (financial or otherwise) for these services, etc

11.21

The Contractor shall be obliged to follow any and all instructions issued by the Supervisor in relation to the Works in so far as these fall within the overall scope of the Contract.

11.22

The Contractor shall be obliged to ensure avoidance of disruption and inconvenience to the day to day business on and around the site, including the co-ordination with other contractors that may be engaged on or in the vicinity of the site, the free movement of traffic and pedestrians, except where this is absolutely unavoidable. In particular, the Contractor shall take all such precautions as may become necessary so as to avoid causing any damage to adjacent buildings or property, including public spaces, during the execution of the Works.

11.23

The Contractor shall also, in addition to the above, take any necessary action to ensure and maintain the health and safety of his employees, together with those of the employees of any other contractor engaged on or in the vicinity of the site, together with the general public and shall follow any relevant instructions and /or recommendations of the contractor’s Health and Safety Offices and the Contracting Authority Project Supervisor to fulfil the obligations set out

in the Legal Notice 281/2004 (SL 424.29)

- 11.24** In addition to other obligations arising under the Contract pertinent to the execution of the Works, the Contractor shall, following completion of same, fulfill all obligations during the Defects Liability Period as outlined in Article 58.6 of these Special conditions.
- 11.25** The Contractor shall not dismantle the scaffolding prior to the approval of the Contracting Authority's architect and civil engineer in charge. The contractor shall give the Contracting Authority's architect and civil engineer in charge at least one week notice to allow for a final inspection and the measurement of works
- 11.26** All lifting equipment used on site shall be certified by a warranted Mechanical Engineer every six (6) months, in accordance with the regulations issued by the Occupational Health and Safety Authority.
- 11.27** Copies of the certificates shall be sent to the Contracting Authority's Architect and civil engineer in charge/Project Manager before commencement of work and as necessary should the six (6) month certification period elapse.
- 11.28** A suitable "housekeeping" programme shall be established before commencement of the project, and be continuously implemented on the Site.
- 11.29** The Contractor will be available to attend regular site, management and progress meetings.

#### Article 13: Performance Guarantee

- 13.1** The Contractor shall, within 15 days of receipt of the contract for signature, furnish the Contracting Authority with the original guarantee for the full and proper performance of the contract. It shall not exceed 4% where the amount of the total contract value is between €10,000 and €500,000 ex VAT.
- 13.3** The performance guarantee shall be in the format given in Section 5 and shall be provided in the form of a bank guarantee. It shall be issued by a bank in accordance with the eligibility criteria applicable for the award of the contract.
- Furthermore, the Contracting Authority will not affect any payment to the Contractor until the performance guarantee has been submitted.
- 13.8** The performance guarantee shall be released within 30 days of the signing of the Provisional Acceptance Certificate including any snag lists

#### Article 14: Insurance

- 14.1** Without any prejudice to Article 14.1 a, b, c of the General Conditions, the contractor is required to insure for the whole duration of the contract against risk of damage to the historic fabric of the building being restored through this contract for the amount of €235,000 per accident with the number of occurrences unlimited.
- 14.2** Without any prejudice to 14.1 a, b, c of the General Conditions, the contractor is required to insure for the whole duration of the contract for the amount of €1,500,000 per accident with the number of occurrences unlimited against each party's liability for any loss, damage, death or bodily harm, that may be caused to third parties, or to any person that is authorized to be on site at any given time, or any damages to property belonging to third parties, including loss of profits that may be sustained by third parties.
- 14.3** Amount per personal injury and unlimited occurrences as specified in Article 14.2 of the Special Conditions.

#### Article 15: Performance Programme (Timetable)

- 15.1 The Contractor shall provide a detailed Programme of Works.
- 15.2 The project shall be completed within 26 weeks from the letter of order to start works.
- 15.4 The Programme of Works shall be updated monthly or whenever required by the Supervisor, to be in line with the progress of the actual Works. The Programme of Works shall be accompanied by sufficient data and information together with all the necessary details of constructional plant, required labour force, etc. The Supervisor shall approve the Programme of Works within ten (10) working days from submission by the Contractor to the Supervisor. Should the Supervisor consider any alteration in or addition to the Programme of Works as submitted, the Contractor shall conform therewith without additional cost. Any changes to the Programme of Works shall be approved by the Contracting Authority.

#### Article 17: Contractor's Drawings/Diagrams

- 17.1 The contractor shall prepare at his expense any drawings requested by the Contracting Authority according to the directions of the Supervisor. Such drawings shall be delivered by Contractor to Contracting Authority within 4 working days and approval shall be issued by Contracting Authority within 2 working days. Approval shall be issued in writing to Contractor by Supervisor.
- 17.7 Further to the provisions of Article 17.7 of the General Conditions, the Contractor must submit a full set of the final drawings upon completion of the project and must do so within 50 days from issuing of the Partial Provisional Acceptance Certificate. Failure to do so will result in a daily penalty of fifty (50) euro up to a maximum of 1% of the contract value.

#### Article 18: Tender Prices

The Contractor shall pay all taxes, duties, and fees required to be paid by him under the Contract, and the Contract Price shall not be adjusted for any of these costs except of changes in the Laws of the Malta or in the judicial or official government interpretation of such Laws made after the base date.

The tendered rates shall be fixed rates and no allowances will be made to allow for fluctuations in rates and process or for any increase or decrease in the costs of labour and/or materials. It must be distinctly understood that the whole specification is intended to be strictly enforced, and that no extra charge in respect of extra works will be allowed unless they are clearly outside the spirit of the specification.

The tendered rates shall be inclusive of all works specified as well as any other works which are of a contingent or indispensable nature for completing the work in its entirety and to the satisfaction of the Supervisor. The rates shall be inclusive of all necessary material including profits, payment of customs duty and landing charges on all imported goods and all other charges on services, hire of plant and machinery required and air transport of materials to the site of works and if necessary, watching duties required for the security of the site and works. The rates should also include all professional fees involved on behalf of the contractor. The rates shall also include all those works indicated in all the documents forming part of this tender. A financial offer is to be submitted by filling in Bill of Quantities, and is to be calculated on the basis of **Delivered Duty Paid (DDP)**<sup>2010</sup>, **(Grand Total)** for the works tendered

The quantities set out in the Bill of Quantities are estimated quantities and are not to be taken as the actual and correct quantities of the works which the contractor is required to execute.

#### **Article 19 Exceptional Risks**

- 19.5 Further to the provisions of Article 19.5 of the General Conditions, if the Contractor is granted an extension of time in the implementation of the works, the Contractor cannot make a request for financial compensation for extension of time.

#### **Article 20: Safety on Site**

- 20.2 Further to the provisions of the General Conditions, it is the obligation of contractors to carry out a suitable, sufficient and systematic assessment of all the occupational health and safety hazards which may be present at the place of work and the resultant risks involved concerning all aspects of the work activity.
- 20.3 Further to the provisions of the General Conditions, it is also the duty of a contractor to cooperate with other employers, contractors and, or self-employed persons who share a common work place, on the implementation of Health and Safety provisions. The contractor or his designate shall co-ordinate necessary actions in matters which concern protective and preventive measures, and shall inform all on site as well as the Health and Safety Project Supervisor regarding any potential risks.

#### **Article 21: Safeguarding Adjacent Properties**

- 21.1 Further to clause 21.1 of the General Conditions, the contractor shall liaise and co-operate with the appropriate Authorities and occupiers of adjoining land and buildings likely to be affected by the works, for all matters regarding access, monitoring, third party rights, and similar.

#### **Article 22: Interference With Traffic**

The roads surrounding the site shall remain open at all times. However, the Contractor is to liaise with the Contracting Authority with respect to any traffic arrangements while the works are being carried out. The Contractor is responsible to obtain necessary permits that may be required if the works impact of traffic.

#### **Article 23: Cables and Conduits**

The contractor shall be responsible for locating existing drains and services, and underground cables and pipes, for seeking instruction from the appropriate authorities as to how to deal with such services, and for carrying out any necessary work relating to deviations or protection, or any other works deemed necessary by the respective Utility or authority.

#### **Article 25: Demolished Materials**

- 25.1 The contractor must carefully dismantle, load, transport, unload, store and protect items that the Contracting Authority retains ownership to onsite stores.
- 25.2 Demolition material unless indicated otherwise in the bills of quantities and by the supervisor in charge, become the property of the Contractor and the carting away and dumping charges are at the expense of the Contractor.
- The Contracting Authority retains ownership of excavated agricultural soil which shall be stockpiled on site, sieved and reused during the project. The Contractor shall be responsible for the transport of all surplus excavated agricultural soil, not required for the completion of



the project, to a location as instructed by the Supervisor.

- 25.4** The Contractor shall stockpile and recycle masonry blocks and slabs for reuse by the Contracting Authority if so directed and use recycled material whenever possible. Further to article 25.4 of the General conditions, the contractor shall also take care to dispose of the waste material fully at his expenses and in an environmentally friendly manner.

#### Article 26: Discoveries

- 26.2** Further to provisions of Article 26.2 of the General Conditions, the Contractor shall observe the provisions set out in the Cultural Heritage Act 2002 (CAP 445) at all times

- 26.3** Further to the provisions of Article 26.3 of the General Conditions, any in filled fissures, caverns, reservoirs/cisterns, hollows, Quaternary deposits, or other features of geological, geomorphological, hydrological, palaeontological interest which are discovered must be reported immediately to the Superintendence of Cultural Heritage and to the Archaeological Monitor. The contractor shall halt the works and follow all instructions given by the Supervisor and Site Archaeologist to protect or to investigate further the discovery.

The Contractor shall co-ordinate and co-operate with the archaeologist appointed by the Contracting Authority with the Local Authorities at all times

#### Article 28: Soil Studies

- 28.1** Not applicable

#### Article 30: Patents and Licences

- 30.1** Not applicable

#### Article 31: Commencement Date

- 31.1** The Commencement Date for this contract shall be 1 week from the Order to Start Works. The order to start works will not be issued later than two (2) months from the last date of signature shown on contract. The performance of the contract is to commence on order to start works. The Contractor must furnish the Contracting Authority with a certified true copy of the Insurance Policy together with all documentation related to Health and Safety prior to commencing works.

#### Article 32: Period of Execution of Tasks

- 32.1** The period of execution of task for the projects covered by this contract shall be 26 weeks.

The contractor will be expected to commit sufficient resources to carry out works on more than one area at the same time, to guarantee the on time completion of all the Works as specified in this tender.

#### Article 33 Extension of the Period of Execution of Tasks

Further to the provisions of Article 33 of the General Conditions, should the Contractor be granted an extension of the period of execution of the tasks that are the subject of this contract, the Contractor cannot make a claim for financial compensation for such extension in the period of execution of the tasks of the contract.



#### Article 34: Delays in Execution

The Contractor shall be liable to a deduction of 0.1% of the contract price per day's delay up to a limit of 20% of the total contract price.

Upon reaching the maximum penalty, the Contracting Authority reserves the right to terminate the contract and seek the services of a third party for the completion of works.

#### Article 35: Modification to the Contract

35.8

The Contracting Authority has a right to increase or reduce works of a similar nature by a maximum of 15% of the contract value which have become necessary for the purpose of achieving the scope of the contract. These inter alia include the detection of unidentified works evident only once the interventions have commenced such as the repetition of cleaning interventions due to stubborn dirt, the repetition of the application of biocides and herbicides, the consolidation, pinning, repair, stone replacement and re-pointing of areas of the stone fabric, the repair of areas of the roof. Such works would be resulting from close inspection of works accessible only upon erection of scaffolding or exposed during the course of works.

The Supervisor shall make variation to the form, quality or quantity of the works or any part thereof that may, in his opinion, be necessary for that purpose, or if for any other reason shall, in his opinion, be appropriate, he shall have the authority to instruct the Contractor to do any of the following:

- a) Increase or decrease the quantity of any work included in the contract.
- b) Omit any such work.
- c) Change the character or quality or kind of any such work.
- d) Execute additional work of any kind necessary for the completion of the works.

No such variation shall in any way vary or invalidate the Contract. Provided that where the issue of an instruction to vary the works is necessitated by some default of or breach of Contract or for which he is responsible, any additional cost attributed to such default shall be borne by the Contractor.

The Contractor shall not make any such variation/s without the instruction/s of the Supervisor and/or the Contracting Authority.

The quantities shown in the bill of quantities are only indicative and may vary. The Supervisor and/or the Contracting Authority may order the described works in quantities which exceed or are less than those shown.

The Contracting authority WILL NOT be liable to pay any extra expenses incurred by the contractor in using more materials (such as extra thickness of materials) or in making extra works other than those stipulated, unless the Supervisor and the Contracting Authority have approved before or during the works the use of extra materials and the prices to be paid for these extra materials and expenses. The contractor must draw the attention of the Supervisor and/or the Contracting Authority to any extra works and materials which he may carry out BEFORE doing these works. Unless the contractor is given a clear order by the Supervisor or the Contracting Authority to carry out these works or use these extra material quantities he shall not be paid for these extra works.

35.9

The Contracting Authority will have the right to instruct additional works up to a maximum of 15% of the contract value which have become necessary for the purpose of achieving the scope of the contract. Such works would be resulting from close inspection of works accessible only upon erection of scaffolding or exposed during the course of works. These inter alia include

works evident only once the interventions have commenced such as the alternative cleaning interventions, the application of new roof systems, insertion of new reinforcing sections if necessary, changes in the consolidation, and even the possibility of encountering buried services which would need to be altered.

**35.11** The provisions provided for in Article 35.11 of the General Conditions shall not be applicable to this contract.

**35.12** The provisions provided for in Article 35.12 of the General Conditions shall not be applicable to this contract.

**35.13** The provisions provided for in Article 35.13 of the General Conditions shall not be applicable to this contract.

#### Article 37: Work Register

**37.1** A work register is to be kept giving daily information on the works carried out and the number of workmen present on site.

**37.2** Statements shall be prepared in the form of detailed measurements and quantities which correspond to the items specified in the financial offer bill of quantities.

**37.3** Statements shall be drawn up within one week of completion of the works.

#### Article 38: Origin

**38.1** There is no authorized derogation to the rules of origin.

#### Article 39: Quality of Works and Materials

**39.2** All designs, components, materials, and restoration interventions/methodologies shall be submitted to the Supervisor (Architect and/or Civil Engineer in charge) for written preliminary technical approval, prior to their implementation or procurement. All requests and documentation must be submitted with 15 calendar days prior to execution of works on site.

#### Article 40: Inspection and Testing

**40.2** The Contractor shall appoint at his own expense an independent Quality Assurance and Quality Control company which will be responsible for testing the materials used and ensuring that the work methods employed are according to the relevant European Standards and the rules of trade. The Contractor is obliged to provide a declaration by this company at tendering stage that it going to be in charge of this aspect of the contract.

#### Article 42: Ownership of Plants and Materials

**42.2** Any equipment, temporary structures and plant provided by the Contractor on the site shall remain the property of the Contractor. The same applies to any materials and equipment until they are incorporated in the permanent works and subject to provisional acceptance.

#### Article 43: Payments: General Principles

43.1 Payments will be made in Euro.

Payments shall be authorized by the Contracting Authority, and paid by the Treasury Department.

| Payment Schedule      |                                                                  |                       |
|-----------------------|------------------------------------------------------------------|-----------------------|
|                       |                                                                  |                       |
| Pre-financing Payment | As per 44.1 of Special Conditions                                | 20% of contract value |
| Interim Payments      | As per measured works                                            | 75% of contract value |
| Retention Monies      | As per payment schedule in Clause 45.2 of the Special Conditions | 5% of contract value  |

Following certification by Supervisor as in 43.1 above, the Contracting Authority will process the relative payment order. Sums due shall be paid within no more than 60 calendar days from the date on which an admissible payment request is registered by the Contracting Authority. The date of payment shall be the date on which the institution's account is debited. The payment request shall not be admissible if one or more essential requirements are not met.

The 60-day period may be suspended by notifying the Contractor that the payment request cannot be fulfilled because the sum is not due, because appropriate substantiating documents have not been provided or because there is evidence that the expenditure might not be eligible. In the latter case, an inspection may be carried out on the spot for the purpose of further checks. The Contractor shall provide clarifications, modifications or further information within 30 days of being asked to do so. The payment period shall continue to run from the date on which a properly drawn-up payment request is registered.

43.3 As per General Conditions.

#### Article 44: Pre-financing

44.1 Pre-financing to the Contractor of 20% of the contract value shall be obligatory.

44.2 Pre-financing amounting to 20% of the contract value shall be granted to the Contractor against the provision of a bank guarantee by Contractor in favour of the Contracting Authority of the equivalent amount.

44.3 Further to Article 44.3 of the General Conditions, the Contractor shall present to the Contracting Authority, within forty five (45) days of the signing of the contract, a bank guarantee of the amount equivalent to 20% of the contract value for the Contracting Authority to release the pre-financing payment of the same amount.

44.8 The pre-financing payment shall be repaid through percentage deductions in payment certificates as follows:

(a) Advance payment equivalent to 20% of the contract value:

□ Deductions shall commence in the payment Certificate in which the total of all certified interim payments (excluding the advance payment and deductions and repayments of retention) exceeds 10% of the Accepted Contract Amount less Provisional Sums; and

□ Deductions shall be made at the amortisation rate of 20% of the cumulative

amount of each payment certificate (excluding advance payment and deductions and repayments for retention) in the currency and proportions of the advance payment, until such time as the advance payment has been repaid in full; and

□ With every 50% of the pre-financing amount being amortised, the Contracting Authority shall authorize the relevant financial institution to release the equivalent 50% from the pre-financing guarantee granted in terms of Article 44.3 of these Special Conditions. Thus, the pre-financing guarantee shall decrease proportionately throughout execution of the contract.

#### Article 45: Retention Monies

- 45.2 The sum of money retained from the interim payments shall be of 5%. This sum shall be paid upon submission of an equivalent retention bank guarantee (issued in the form provided in this tender document) by the Contractor to the Contracting Authority when issuing the Provisional Acceptance Certificate as specified in Article 57. The bank guarantee will be released upon issuing of the final acceptance of the works as per Article 58. The said retention guarantee shall be released only after the conditions requested under Art 58 are satisfied. The retention guarantee will be released within 45 days from when the Final Acceptance Certificate is issued.

#### Article 46: Price Revision

- 46.1 Tender prices are fixed and not subject to revision with the exception of that resulting from causes listed under Article 46.3 of the General Conditions.
- 46.3 As per General Conditions

#### Article 47: Measurement

- 47.2 The works shall be measured by the Supervisor appointed by the Contracting Authority. The contractor will be notified and is to be present during the measurement of the works. However, if the contractor is notified and he is not present, measurement of the works by the Supervisor will still be carried out. The works shall be measured according to the rules of trade used by architects and civil engineers and quantity surveyors for the measurement of works. If the contractor appoints his own quantity surveyor for the measurement of the works, the expenses of this surveyor will be borne fully by the contractor and the resulting measurements by the contractor's representative are not in any way binding on the contracting authority. In this aspect, the Contracting Authority is represented by the Supervisor.

#### Article 48: Interim Payments

- 48.1 Interim Payments of sums due for the executed and provisionally accepted works shall be authorized by the Contracting Authority and payment will be issued by the Treasury Department within the Ministry of Finance paid against a valid invoice after works in accordance to quality and progress of works. The retention shall be released in accordance to Clause 45.2 of these special conditions. The Contractor shall submit his claim for progress payments to the Contracting Authority in writing. Such claims are to be supported by evaluation of the works executed and materials installed on site and show the value of the permanent works executed by him up to the end of the month. All claims shall be evaluated by the Contracting Authority in relation to the Bills of Quantities and Contract Rates and documentation produced by the Contractor and on the basis that such works have been executed in accordance with the Contract Documents and to the satisfaction of the

Contracting Authority. Provided the Contracting Authority agrees with the statement, the relevant Payment Certificate will be issued.

#### Article 50: Delayed Payments

- 50.1** The Contracting Authority shall pay the contractor sums due within 60 days of the date on which an admissible payment is registered, in accordance with Article 43 of these Special Conditions. This period shall begin to run from the approval of these documents by the competent department referred to in Article 43.1 of these Special Conditions. These documents shall be approved either expressly or tacitly, in the absence of any written reaction in the 30 days following their receipt accompanied by the requisite documents.
- 50.2** Once the deadline laid down in Article 50.1 has expired, the Contractor may, within two months of late payment, claim late-payment interest:
- at the rediscount rate applied by the issuing institution of the country of the Contracting Authority;
- on the first day of the month in which the deadline expired, plus two percentage points (2%). The late-payment interest shall apply to the time which elapses between the date of the payment deadline (exclusive) and the date on which the Contracting Authority's account is debited (inclusive).

#### Article 53: End Date

- 53.1** The contract will be co-financed through the European Regional Development Fund 2014-2020, therefore the payment obligations of this contract will be concluded by end December 2020.

#### Article 56: Partial Acceptance

- 56.2** The supervisor will issue partial provisional acceptance upon completion of full works on the structure envisioned within the contract and not upon completion of works on parts of the structure envisioned within the contract.
- 56.3** The maintenance period shall run from the date of the Provisional Acceptance Certificate issued as per Article 57.

#### Article 57: Provisional Acceptance

Further to the provisions of Article 57 of the General Conditions, the Provisional Acceptance Certificate can only be issued once all pending snags included in the relevant snag list are appropriately addressed by the Contractor and to the satisfaction of the Supervisor.

#### Article 58: Maintenance Obligations

Further to the provisions of Article 58 of the General Conditions, the contractor shall guarantee that works carried out on the outbuildings through works specified in this tender document are adequately maintained for a period of 24 months from issuing of the Provisional Acceptance Certificate. The Contractor shall be responsible for remedying, at his expense, defects and damages during this period as specified in the General Conditions. In particular,

the Contractor shall guarantee that:

- a) Any water pipes, culverts, canals, etc and all other structures intended for the passage of rain and/or surface water are kept clean and functional at all times.
- b) No rain and/or other surface water finds its way into, or otherwise percolate, the structure.
- c) Mortar joints do not fail, that is, they do not loosen, crack, become detached, fall, or are otherwise damaged.
- d) No vegetation grows from/on any part of the restored structure.
- e) No black crust or other deleterious superficial deposits form on the restored building.
- f) Plastic repair works show no signs of damage, particularly in the form of 18 detachment from the masonry fabric or cracking and are not otherwise damaged.
- g) Any lime renders applied show no signs of damage in the form of detachment from the underlying masonry fabric, staining, powdering or otherwise.
- h) Timber works and paint/varnish finishes show no signs of damage particularly in the form of warping or flaking, blistering, cracking or yellowing of the paint/varnish finish.

Any remedial works performed during the guarantee period (until 24 months after completion of ALL works described in this contract) shall be carried out as specified in this document and approved by the Supervisor (Architect and Civil Engineer in charge). The contractor shall be responsible for providing all suitable means, for obtaining all permissions, and making all the necessary arrangements with all authorities concerned to carry out all the remedial works at any height levels at no extra cost to the Contracting Authority.

#### Article 66: Dispute Settlement by Litigation

- 66.1 If no settlement is reached within 120 days of the start of the amicable dispute-settlement procedure, each Party may seek:
- a) either a ruling from a national court, or
  - b) an arbitration ruling, in the case where the parties, i.e. the Contracting Authority and the Contractor, by agreement decide to refer the matter to arbitration.

#### Article 70: Further Additional Clauses

- 70.1 Tenderers are advised to inspect and examine the site and clarify the extent of the works or any other matter relating to these works with the Contracting Authority or its representatives prior to tendering as no claims relating to such matters will be entertained after the award of the contract.
- 70.2 The contractor is completely responsible for providing for the execution of the works all electrical power and water necessary for the completion of the works.
- 70.3 The successful contractor will be responsible to ensure that works are to be carried out in such a manner as to cause no damage by vibration and no unnecessary noise as little inconvenience as possible to the public and, in particular to the residents of the access roads. The contractor will be held responsible for any claims which arise from the disregard of this clause. He is hence responsible for providing all equipment, materials and extra labour necessary for ensuring that the dust, noise and related inconveniences generated from the works do not create inconveniences to the residents and the general public.
- 70.4 The contractor is responsible for any damage he may cause to third party property and to services passing through the street including water, drainage, electricity, cable television and other services. This damage shall be made good according to the directions of the architect in charge or any other third party which has suffered the damage.
- 70.5 The site surroundings are to be left clean and tidy at all times, and any materials must be cleared daily if so instructed. The removal of all materials at the end of the works from the site itself is imperative. Within the site, no unnecessary materials should be left.



- 70.6 Under no circumstances will the contractor be allowed to use any possible hoarding or any part of the building for advertising purposes, but he will be allowed to exhibit the usual name boards to the approval of the architect in charge. The contractor must provide "work identification signs" approved by the Contracting Authority which his employees will use during the work. The contractor is also obliged to provide the Contracting Authority with a list of the employees who will be working on site as soon as he receives the letter of order to start works.
- 70.7 Materials arising from the works must not be stacked or allowed accumulate on existing structures in such a way as to endanger their stability. The contractor will be held entirely responsible for any damage arising from this cause.
- 70.8 The Contractor shall take all necessary precautions not to cause any damage to any part of the work, equipment, material and goods stored on site and to prevent any damage to properties of third parties and injuries to persons whether or not in his employment.
- 70.9 The Contractor shall take all the necessary safety measures to protect his employees. The contractor is exclusively and solely responsible for seeking the advice of the Health and Safety Department and for following completely their instructions in this regard and for following the relevant legislation in this regard. He is also completely responsible for taking all extra measures necessary for ensuring that the way the project is executed does not present any danger to his employees and to the general public nor during the execution of the works and neither when the works have been completed.
- 70.10 The contractor is completely responsible for contacting all concerned Government Departments, Corporations, Authorities and related bodies for information regarding the layout and exact position of services passing from within the street and pavements in question. The contractor is fully responsible for damage he may occur to such services and for any injury which his employees or the general public may suffer due to his negligence or due to his lack of co-operation with the Government Departments and Corporations concerned. He is also completely responsible for all expenses incurred in compiling this material, including police permit fees.
- 70.11 The contractor or his representative shall be on site of works during all working hours. The representative shall be empowered to receive and act on the instructions given by the officer in charge and any such instructions, directives, or explanations shall be held to have been given to the contractor in person.
- 70.12 The Supervisor or any persons authorised by him as well as the Employer or his representative shall have, at all times, access to the Site and to all workshops or other places where work or material for this contract is being manufactured, fabricated or prepared. The Contractor shall afford every facility for, and every assistance in, obtaining the right to such access.
- 70.13 The contractor is completely responsible for all setting out of the works he is being obliged to carry out through this contract and during the progress of the works he shall amend, at his own cost, any errors arising from inaccurate setting out.
- 70.14 The Supervisor or his representative shall, during the progress of works, have the power to order the removal, within such reasonable time or times as may be specified in the order, of any material which in his opinion are not in accordance with the specifications, and order the substitution of same with proper materials. The Supervisor or his representative shall also have the power to order the removal and subsequent re-execution of any work carried out with materials or workmanship not in accordance with the specifications or instructions, and the contractor shall forthwith carry out such order at his own expense.
- 70.15 Where the Supervisor the employer certifies that in any particular case the

contractor has failed to perform the service in accordance with the contract documents the Contracting Authority is entitled to instruct in writing the contractor to remedy the failure in order to comply fully therewith within such reasonable period as the Contracting Authority or its architect may determine. If the contractor fails to comply with the instructions of the Contracting Authority or its architect within such time as may have been required by the Contracting Authority, the latter shall be entitled either to have such work carried out by other persons and to recover from contractor the cost incurred by the Contracting Authority and to determine the contract under the provision of other relevant clauses of this tender, or to record in writing and deliver a written notice of default to the contractor followed by a deduction in the payments at an amount to be determined by the Contracting Authority.

70.16 This clause shall in no way mitigate any of the responsibilities borne by the contractor in charge as explained further up.

70.17 The contractor shall replace at his own expense any work which is proven to be defective even after completion. Samples of the materials used in the project will be tested at the expense of the contractor both for quality and for quantity.

70.18 Save insofar as the Contract may prescribe:

- a. the extent of portions of the Site of which the Contractor is to be given possession from time to time,
- b. the order in which such portions shall be made available to the Contractor, and, subject to any requirement in the Contract as to the Order in which the Works shall be executed, the Contracting Authority will, with the Architect's notice to commence the Works, give to the Contractor possession of
- c. so much of the Site, and
- d. such access as, in accordance with the Contract, is to be provided by the Contracting Authority as may be required to enable the Contractor to commence and proceed with the execution of the Works in accordance with the time completion period, and otherwise in accordance with such reasonable proposals as the Contractor shall by notice to the Supervisor with a copy to the Contracting Authority, make. The Contracting Authority will, from time to time as the Works proceed, give the Contractor possession of such further portions of the Site as may be required to enable the Contractor to proceed with the execution of the Works with due dispatch in accordance with such programme or proposals, as the case may be.

70.19 The Supervisor shall be at liberty to object to and require the Contractor to remove forthwith from the works any person provided by the contractor who, in the opinion of the Supervisor, misconducts himself, or is incompetent or negligent in the proper performance of his duties, or whose presence on site is otherwise considered by the Supervisor to be undesirable, and such person shall not be again allowed upon the works without the consent of the Supervisor. Any person so removed from the works shall be replaced immediately.

70.20 The procurement of all the construction materials necessary to complete the works, shall be the sole responsibility of the contractor.

70.21 Should the selected contractor encounter technical problems in the works ordered by the Contracting Authority or its Supervisor, he is responsible for contacting the Supervisor and following his advice. If the contractor does not seek or follow the advice of the Supervisor, he shall be held responsible by the Contracting Authority for any damages or inadequacies caused in the completion of the commissioned work.

70.22 By submitting this tender the successful tenderer is automatically giving a guarantee of quality for all these works. Any damage which occurs and which result from negligence of the contractor or from poor quality of the materials used or any other



responsibility of the contractor, including subsidence of the street surface or pavement must be made good immediately by the contractor himself.

70.23 The works/services contracts are subject to the approval of the project by the relevant competent authorities.

70.24 It will be the sole responsibility of the contractor to make good for any loss of funding or any fine which the Contracting Authority may incur at the contractor's fault.

## SECTION 4 -TECHNICAL SPECIFICATIONS (Note 3)

**Note:**

Where in this tender document a standard is quoted, it is to be understood that the Contracting Authority will accept equivalent standards. However, it will be the responsibility of the respective bidders to prove that the standards they quoted are equivalent to the standards requested by the Contracting Authority.

### SPECIFICATIONS FOR RESTORATION WORKS

#### A.1 Scope of Works

- i) ***Erection of suitable scaffolding*** - Prior to the initiation of the works a suitable scaffolding must be erected so as to allow a more detailed examination together with the Architect in Charge, on a stone-to-stone basis, of the physical characteristics of each stone and the deterioration mechanisms affecting the monument. The scaffolding shall be retained for the whole duration of the works. It shall be adequately lined with a suitable tarpaulin and/ or netting to limit as much as possible the dispersion of dust and assist in screening all mortar works during the necessary curing phase. In view of the narrowness of the streets, such scaffolding should preferably be erected in a way which does not obstruct pedestrian flow.
- ii) ***Removal of superfluous metal fixtures*** - Using methods approved by the Architect in Charge, manually remove all vegetation, superfluous metal fixtures and fittings, such as redundant nails and hooks, dead cables, pipes etc. using only small hand held drills and/ or tools. The resulting holes shall be filled in with a lime-based mortar. Necessary metal fixtures and fittings, to be identified by the Supervisor and/ or the Architect in Charge shall on the other hand be replaced with stainless steel equivalents. The existing asbestos down pipes shall be replaced with terracotta equivalents. The responsibility of taking all safety precautions necessary for the handling of the asbestos down pipes shall rest entirely upon the Contractor. The Contractor shall ensure that the removal of these down pipes and their disposal are carried out in the safest manner in total respect of current health and safety *regulations governing the handling and disposal* of asbestos elements/ components.
- iii) ***Temporary pointing*** - Prior to the initiation of the restoration works on the stone fabric point, using a lime-rich mortar, open mortar joints along the exposed faces of the monument, leaving mortar shy from the stone surface. Temporary pointing is to be such as to ensure that no water, cleaning agents etc. ingress the structure.
- iv) ***Superficial cleaning*** - Using methods approved by the Architect in Charge carefully dry brush, one section at a time, the stone surface of the monument, using stiff bristle or nylon brushes so as to remove superficial dirt, bird droppings etc. from the stonework. No wire brushes or power tools shall be used unless specifically requested by the Architect in Charge. If so deemed necessary by the Architect in Charge dry brushing shall be followed by wet brushing to ensure an adequate level of cleaning. During the wet brushing exercise stiff bristle/ nylon brush and clean soft water free from salts having a conductivity inferior to 60µS shall be used. Care shall be taken to ensure that no damage is caused to friable, delaminated stonework. If so deemed necessary by the Architect in Charge temporary pointing of open mortar joints as per methodology given in these technical specifications, shall be carried out prior to the cleaning exercise so as to inhibit any water used during the cleaning process from lodging into the structure. Moreover if so deemed necessary by the Architect in charge friable delaminated sections shall be pre-consolidated prior to the cleaning exercise adopting procedures outlined in this document
- v) ***Cleaning of biological soiling*** - Carefully apply biocides, as specified in this document and approved beforehand by the Architect in Charge and in concentrations suggested by the manufacturer, to areas of the monument affected by biological soiling. Unless otherwise agreed upon with the Architect in Charge, the biocides shall be applied by brush. Treated areas shall be

brushed with a suitable nylon brush as recommended by the architect in charge or the manufacturer, following the application of the biocide to remove the dead growth. Procedure shall be repeated to affected areas until biological growth has been removed. Where so deemed necessary, thick layers of biological growth shall be carefully removed using delicate manual methods and hand tools, primarily surgical blades, prior to the application of specified biocide. Final controlled washing down, as per methodology for wet brushing outlined in these technical specifications, shall be done so as to remove any chemical residues shall also be executed.

- vi) ***Removal of black encrustations and other dirt deposits*** - Carefully, and using only delicate manual methods and appropriate hand tools, primarily surgical blades, remove as much as is technically possible, any layers of black crust and other well adhered dirt deposits from stone surfaces on the monument, particularly mouldings, sculptural elements, aperture surrounds etc. Care is to be taken to ensure that no damage is caused to friable, delaminated stonework. If so deemed necessary, such areas shall be pre-consolidated adopting procedures outlined in these technical specifications. Should such manual methods fail, following prior approval to be sought from the Architect in Charge, the Contractor shall adopt other approved cleaning methods such as controlled nebulous pulsating water spray, poulticing, microblasting, micro-scalpels or approved chemical cleaning as per methodologies outlined in these technical specifications. Clean potable soft water free from salts and having a conductivity inferior to 60µS shall be used for the controlled pulsating nebulous spray; poulticing shall be applied as per methodologies outlined in these technical specifications listed in this document; and the proposed micro-blasting or micro-scalpel techniques shall be approved by the Architect in charge. The cleaning procedure shall be repeated for as many times as so deemed necessary until the black crust formation has been removed, and a satisfactory level of cleaning is obtained without altering the original patina of the stonework. For payment reasons, manual cleaning using surgical blades, the nebulous spray, poulticing, micro blasting and micro-scalpel techniques and chemical cleaning techniques will all be considered an intrinsic part of the cleaning exercise, and in no case will the contractor be allowed to make claims for extra costs in relation to workmanship, and/ or material.
- vii) ***Removal of cement based rendering*** - Using methods approved by the Architect in Charge and taking care not to damage the underlying stone substrate and the surrounding stone fabric carefully remove using small hand held tools all cement based rendering and pointing or concrete accretions to be found on the church façade, flanks and bell towers. On removal of the cement rendering each of the uncovered individual stone blocks shall be carefully examined together with the Architect in Charge so as to determine the need or otherwise for its replacement, consolidation etc.
- viii) ***Replacement of highly deteriorated stone blocks*** - Using methods and materials approved by the Architect in Charge number existing unstable, damaged or deteriorated ashlar stone blocks, moulded stonework and balustrades, etc. requiring replacement. Extents of masonry work to be dismantled shall be determined together with the Architect in Charge and no stone replacement is to be executed prior to having obtained consent for such work from the Architect in Charge. The numbering methodology to be employed shall be determined by the architect in charge. Copies of drawings and photographic records documenting all stonework to be replaced shall be handed to architect in charge as part of the building file to be compiled by the contractor for this project as detailed in this document. Tackling one area at a time, carefully dismantle or chisel away, to a depth as specified in this document or as directed by the Architect in charge, identified, individual deteriorated ashlar stone blocks, moulded stonework and balustrades, etc. requiring replacement paying particular attention not to damage surrounding sound stone in the process. Care is also to be taken to adequately prop surrounding stonework. Unserviceable stonework and resulting debris is to be loaded and carted away to an approved dumpsite. Throughout the stone replacement exercise, best quality stone having the same dimensions and configuration as the stone it is replacing is to be used. All replaced stonework shall match with the existing course height and it is envisaged that most of the replaced stonework shall be special sized stone.

Full size templates, showing the exact configuration and, if applicable, all details of stereotomy, of the each individual stone necessitating replacement shall be prepared prior to dismantling. All exposed surfaces shall be finished by traditional mason's hand tools; no machine finish will be allowed. A lime-based mortar shall be used both during the laying of the individual stone blocks and their subsequent pointing. All re-instated stone shall be of varying thickness and in no case less than 230mm in thickness or as directed by architect in charge, such as to ensure a good interlocking effect with the adjacent area of wall.

If deemed necessary or so instructed by the Architect in Charge tie/ anchor new or old stone blocks together by forming joints as instructed by the Architect in Charge.

It is envisaged that the worst case scenario will be presented by the condition of the stone fabric of certain niches, a considerable extent of which lies today partially concealed beneath the cement rendering. The extent of visible damage suggests that partial temporary dismantling of the said niches might at some point be necessary to allow the replacement of extensively damaged stone blocks located mainly along the bell towers' supporting pilasters. Should this need be confirmed during the progress of the works and following the removal of all the cement based rendering, any necessary temporary dismantling works are to be preceded by a thorough documentation exercise - all sound stone blocks to be temporarily dismantled are first to be numbered and referenced to photogrammetric drawings and/ or photographic documentation as instructed by the Architect in Charge. Dismantled sections are then to be temporarily stored in such a way as to ensure that the qualities of the sound stonework, and in particular its superficial patina, are respected at all times. Expanded polystyrene sheets or any similar material approved by the Architect in Charge shall be used to pack dismantled stonework on timber pallets for future use. Following the replacement of the extensively damaged stone blocks, as per methodology given above, all the previously dismantled sound stone blocks, stonework etc. are to be re-instated in their original position as previously referenced. Such dismantling exercise shall be carried out under the responsibility, direction and supervision of the Contractor's Architect and following liaising with the Architect in Charge with regards to the methodology to be employed. It is to be clearly understood that for payment reasons the partial dismantling of the masonry fabric, if so deemed necessary during the progress of works, shall be considered an intrinsic part of the stone replacement exercise, and in no case will the contractor be entitled to extra payment or be allowed to make claims for extra works and costs in relation to such dismantling works.

- ix) *Plastic repair of masonry exhibiting limited deterioration* - Using methods and materials as specified in this document or as directed by the Architect in Charge carry out plastic repair to sections of deteriorated/ damaged masonry work located on any part of the church facade, flanks and belfries. Extents of masonry work to be repaired plastically shall be determined together with the Architect in Charge and no plastic repair works are to be executed prior to having obtained consent for such work from the Architect in Charge. The mix to be adopted shall be determined on the basis of previously carried out trial samples so as to achieve a mortar which is as visually compatible as possible with the weathered stonework. The final mix is to be approved by the Architect in Charge. In the case of stone blocks or stone work exhibiting mild alveolar deterioration which, if so identified by the architect in charge are to be retained, plastic repair is to be carried out in such a way as to fill the alveoli of affected stone blocks, and care shall be taken to ensure that each alveolus is filled in individually, taking care to keep the surface of the masonry clean and free from any mortar. The extent of filling of the alveoli shall be determined on site by the Architect in charge and shall vary to reflect the physiognomy of the deteriorated masonry fabric.
- x) *Superficial consolidation of stone blocks:* Using appropriate consolidants as specified in this tender document, and approved by the architect in charge, consolidate sections of deteriorated masonry exhibiting a limited amount of superficial powdering. Extents of masonry work to be consolidated shall be determined together with the Architect in Charge and no consolidation works are to be executed prior to having obtained consent for such work from the Architect in Charge. If so deemed necessary by the Architect in Charge prior poulticing of the stone to lower its salt content shall be carried out prior to the application of the consolidant. Consolidants shall be as specified in this document and approved by the architect in charge, and shall be applied in such a way as to guarantee an acceptable penetration, exceeding 30mm. The consolidant shall be applied generously and uniformly to the stone surface, until the stone surface is saturated. If so considered necessary, the architect in charge may request that this exercise be repeated for as many times as so deemed necessary. For payment reasons the use of different consolidants and the application of various cycles of consolidation will be considered as an intrinsic part of the consolidation exercise, and in no case will the contractor be allowed to make claims for extra costs in relation to workmanship, and/ or material.
- xi) *Re-pointing works* - As directed by Architect in charge, remove loose pointing and/ or cement based pointing using small hand held tools. Subsequently using a lime-rich mortar as directed and approved by the Architect in Charge and as detailed in this document, point all open joints on the

monument. The mix to be adopted shall be determined on the basis of previously carried out trial samples so as to achieve a mortar which is as visually compatible as possible with any remaining original pointing and with the weathered stonework. The final mix is to be approved by the Architect in Charge. Deep crevices and joints shall be filled up in layers, permitting full setting and adequate curing of each individual layer before the application of the next layer. All pointing shall be carried out as neat as possible. The width of the pointing, should, as far as possible, be kept to the minimum possible. Unless otherwise indicated by the architect in charge, all pointing shall be carried out flush with the surface of the masonry, to prevent water ingress into the structure. All pointing shall be adequately cured to prevent the formation of shrinkage cracks.

## **A.2 Quantities**

It is to be understood that the quantities for the above mentioned works set out in the bill of quantities shall be estimated quantities and shall not be taken as the actual and correct quantities of the works to be executed by the Contractor. Actual quantities shall be verified on site following the erection of the scaffolding and during the progress of work; changes in the stated quantities shall in no way invalidate the contract or entitle the Contractor to a change in quoted rates.

## **A.3 Maintenance of Restored Works and Remedying of defects therein.**

Following the completion of works, the contractor shall ensure that the monument is adequately maintained in its restored state and monitored for a period of 5 years from date of completion (or till September 2018 whichever is the latest) of consolidation and restoration works. In particular, he shall guarantee that he carries out periodic checks on the building in not more than eight week intervals and in particular ensure that:

- i. No rain and/ or other surface water is allowed to find its way into the monument
- ii. Mortar joints do not fail. All open joints which appear on any part of the restored structure are pointed as specified in this document.
- iii. No vegetation or biological soiling grows on any part of the restored structure. Any vegetation which grows on any part of the restored structure is treated and removed as specified in this document and any resulting open joints pointed as specified in this document.
- iv. No black crust or other superficial deposits and/ or staining form on the structures. Any superficial layers which resurface and/or are naturally, deposited, applied, or otherwise onto the structure, are to be carefully removed as per specifications and methodologies outlined in this document and approved by the architect in charge.
- v. Plastic repair works show no signs of damage, particularly in the form of detachment from the masonry fabric or cracking and are not otherwise damaged. Any plastic repaired sections which have become detached, and/ or are otherwise showing signs of damage, shall be carefully removed and reinstated as per methodology outlined in this document and approved by the architect in charge. Likewise, any sections of plastic repair which are showing signs of powdering or other forms of deterioration shall be carefully brushed by hand, any unsound plastic repair carefully removed by hand and all damaged/ missing plastic repair re-instated to the same level/ profile/ state to that achieved during the restoration intervention. All works shall be carried out as directed and approved by the architect in charge.
- vi. Any lime renders and/ or pointing applied show no signs of damage in the form of cracking, detachment from the underlying masonry fabric, staining, powdering or otherwise. Any lime renders which have become detached, are powdering or are otherwise damaged through natural action, and/ or water penetration from areas restored through this tender shall be carefully removed and new limewash applied. All remedial works shall be carried out as per methodology outlined in this document and approved by the architect in charge.

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- vii. No signs of damage in the form of cracks or movements or settlement of elements, parts or areas occur. Any de-stabilised masonry skins are to be reinstated and/ or consolidated as specified in this document.
- viii. New stonework and/ or replaced stonework show no signs of deterioration and/ or weathering. Any masonry work which is damaged as a result of natural and/ or man-made causes is to be replaced and or otherwise restored as specified in this document and approved by the architect in charge.

### A.4 Extent of Works

1. Prior to the commencement of works, the building shall be inspected by the contractor together with the Architect in charge to confirm the extent of work and the restoration methodology to be employed.
2. The masonry areas earmarked for replacement, plastic repair, consolidation etc, shall be clearly marked with a mason's pencil for the prior approval of the Architect in charge. Marking by spray or other indelible markers will not be permitted.

### A.5 Power Tools

Power tools may not be used for the removal of renders, mortars and opening of joints unless explicitly requested in writing by the Architect in charge.

### A.6 Masonry Work

1. The Contractor is to ensure that all the necessary measures are taken to ensure that masonry elements are not damaged, chipped, soiled stained or contaminated by salts and/ or other deleterious substances.
2. Any dismantled masonry units shall be stored clear of the ground, separated by suitable spacers and in a way such as to protect edges and surfaces. The units shall be protected from adverse weather and stored in dry conditions.

### A.7 Structural Stability

1. The Contractor shall ensure that the stability of the masonry structure is maintained throughout the work.
2. Any defects, including signs of movement that develop or become apparent during the course of works shall be immediately reported to the Architect in charge.

### A.8 Preservation of Original Masonry

1. The Contractor shall ensure that original masonry work that shall be retained will be protected and left undisturbed during the course of works.
2. The Contractor shall seek the approval of the Architect in charge whenever existing masonry to be preserved will need to be cut or modified to accommodate new or re-used units.
3. The Contractor shall ensure that structure to be retained is adequately propped to prevent damage caused by movement or any other means as a result of the works.
4. The Contractor shall ensure that retained masonry in the vicinity of repair works is disturbed as little as possible.

#### **A.9 Adverse Weather**

1. The Contractor shall protect works against damage by rain.
2. Necessary precautions shall be taken by the Contractor to prevent the masonry bedding, pointing mortar, renders etc. from drying out too rapidly in hot conditions and in drying winds.

#### **A.10 Stone**

Unless otherwise specified by the Architect in charge, limestone used in the works shall be best quality stone of the globigerina limestone (*franka*) type supplied from an approved source. The new stone work shall be worked carefully, true to shape (*ikkartabunat*) and free from defects such as cracks, splits, blade marks, chipped edges or any other blemishes. The Architect in Charge reserves the right to refuse and order the replacement of any new stonework if such stone is not deemed acceptable.

#### **A.11 Defective work and materials**

All rejected work shall be removed and replaced using new materials at the Contractor's expense. The Contractor shall also be bound to replace any defective materials in all or parts of the existing Works by proper materials and/or workmanship as directed by the Architect in charge.

#### **A.12 Recording Profiles**

In the case of stonework requiring replacement:

1. The Contractor shall take measurements from existing masonry units, identified by the Architect in charge, to allow replacements to be matched accurately.
2. Profile gauges shall ideally be used to record existing profiles on site. Alternatively the contractor may opt to record profiles on site by tracing the existing profile on cardboard or any other suitable material. Where inserts are required to record profiles in-situ, but there are no suitable joints, the Contractor shall seek instructions from the Architect on the method to carry out such operation.
3. The Contractor shall prepare accurate drawings and templates as necessary, clearly and indelibly marked to identify the use and location.
4. The Contractor is to ensure that all completed units are carefully inspected and checked by the manufacturer/supplier against the approved sample/s and compliance with drawings and the specification before dispatch to site. The Contractor shall inform the Architect in charge at appropriate stages in production to allow, if so requested by the Architect in Charge, inspection of masonry units prior to delivery on site.

#### **A.13 Inspection by Architect in Charge**

Prior to the commencement of works, following the completion of the erection of the scaffolding and its certification as per requirements of this tender dossier, the Contractor shall give the Architect in charge sufficient time, and in no case less than 48 hours to inspect the site.

#### **A.14 Globigerina Limestone Blocks (Franka)**

1. The stone shall be fine-grained, free from all defects, including spots, stains, clayey material (*soll/ hadra*), or hard shell fragments. Any stone showing clay markings (*swaba*), patches of 'soll', nodules, internal fissures (*brama*) or chipped edges or corners shall be discarded.

2. The blocks shall be free from vents, cracks, fissures, discoloration, or other defects, which may adversely affect strength, durability or appearance; the blocks need to be thoroughly seasoned, dressed and worked in accordance with shop drawings/ profiles/ templates (*mollijiet*) prepared by the Contractor to the approval of the Architect in charge.
3. The limestone blocks shall be faced and trimmed in a way that no chipped edges are visible, unless recycled masonry originating from the original construction itself, or from another source approved by the Architect in Charge, is used.
4. The blocks shall be transported to site on pallets and handled in such a way as to minimise damage and waste.

#### **A.15 Production of Stone**

Replacement units shall be cut and dressed:

1. To specified minimum bed depths and agreed face lines with the Architect in charge. The Contractor shall ensure that suitable allowances are made for any final finishing carried out in-situ.
2. To sizes and profiles matching existing masonry, and with existing joint widths maintained.
3. With sinkings for fixings and joggles accurately aligned and positioned in relation to existing masonry.
4. With each block/dressing clearly marked on a concealed face to indicate the natural bed and position in the finished work.

#### **A.16 Natural Stone Bedding**

The stone shall be cut and dressed so that the natural bed is always horizontal in plain walling, vertical at right angles to wall face in projecting stones and copings, and at right angles to line of thrust in arches.

#### **A.17 Templates**

The Architect in charge shall have the right to request and obtain copies of templates produced by the Contractor.

#### **A.18 Removals of Additions/Accretions**

1. The Contractor shall ensure the careful removal of redundant cables and wires, light fixtures, and other accretions from the facades of the building. The methodology employed for this removal shall be approved by the Architect in charge prior to commencement of works.
2. Care shall be taken to remove all redundant metallic inserts, (especially iron and steel fixings) from the stonework. Small, hand held drills shall be used for such removal by drilling small holes around the metal inserts. Necessary metal fixtures and fittings, to be identified by the Supervisor and/ or the Architect in Charge shall on the other hand be replaced with stainless steel equivalents.
3. Corroding metal fittings shall be carefully cut so as to cause the least possible disturbance to the surrounding masonry; the associated rust debris shall also be carefully and completely removed using methods to be approved by the Architect in Charge.
4. Resulting holes shall be filled-in using a suitable lime-based mortar when the break is small or by piecing-in stone, if the gap is large, as per specifications.



#### **A.19 Removal of Cement Renders**

1. Where identified by the Architect in charge, concrete / cement renders shall be carefully removed by hand tools using manual methods so as to limit as much as possible damages to the underlying masonry work.
2. Electrical tools as well as tipped metallic instruments with sharp edges or corners, power tools (such as rotating disk cleaners) and sand blasting (dry or wet) shall not be permitted, unless instructed otherwise by the Architect in Charge.

#### **A.20 Dismantling of Masonry Structures**

1. All dismantling of masonry sections for subsequent reconstruction shall be carried out carefully by experienced personnel, care shall be taken to ensure that during the dismantling procedure each stone block is numbered and referenced to a drawing, specified image, photograph etc as directed by the Architect in charge in such a way as to ensure its eventual reinstatement in its original position.
2. The masonry blocks/sections shall be removed in their entirety. Each unit shall be identified clearly and indelibly on concealed faces. The methodology to be employed shall be discussed with and approved by the Architect in charge prior to the commencement of works.
3. All masonry units shall be cleaned from old mortar, soil etc and stored in a manner such as not to cause any damage.

#### **A.21 Reconstruction of previously Dismantled Structures**

1. Reconstruction shall be carried out by experienced personnel who shall ensure that the original face and joint lines, joint widths etc are respected to ensure that the final work matches the original in all respects. Care shall be taken to ensure adequate bonding at junctions with the retained original structure.
2. The bedding surfaces of the masonry blocks shall be dampened with deionised water having conductivity inferior to 50  $\mu$ S to control suction. The masonry blocks shall be laid on an evenly buttered bed of mortar prepared from a mixture of suitably slaked air lime, and stone dust. Hydraulic lime may be used to substitute the air lime if so agreed upon with the Architect in Charge. Care shall be taken to ensure that the exposed surfaces of the masonry blocks are kept clean.
3. The Architect in charge shall indicate and approve which of the original masonry units shall be replaced.

#### **A.22 Replacement of Deteriorated Masonry**

1. Every effort shall be made to retain as much as possible of the original masonry structure. To this effect no stone shall be replaced without the prior approval of the Architect in charge.
2. All new stone work used shall be similar in material, colour, size and configuration to the original and shall match with the existing course height.
3. Methodology employed for the cutting away of the deteriorated masonry sections may vary depending on the particularities of every individual case. Nonetheless, care shall be taken to ensure that only hand held tools and small power tools (jiggers) which do not cause damage to the structure and/or immediate stone blocks are used. The methodology employed shall be discussed with and approved by the Architect in charge prior to the commencement of works.

4. The cutting of perimeter joints may be carried out with a masonry saw. If stone is to be retained, the cut shall be made by a purpose-made fine saw blade or with a plugging chisel in the case of a wide joint. Where stone is to be replaced, the stone shall be chiselled away starting from the centre and moving towards the edges.
5. The extent of replacement shall be established with the Architect in charge.

#### **A.23 Replaced Stonework**

1. Only new stonework, machine cut to a true shape (*ikkartabunat*) and hand finished shall be used unless otherwise directed by the Architect in charge.
2. Care shall be taken to ensure that new stonework is not chipped or otherwise damaged.
3. The Contractor shall ensure to provide, erect and maintain for as long as necessary all scaffolding, winches etc. required during dismantling works and all struts, timber planks etc, required for the support of all new and old masonry.
4. The Contractor shall be responsible to prepare all necessary form work required for the replacement (in section or in whole), or reconstruction of arched element such as arches etc. The formwork/ shuttering shall be faithful to the original profile or that specified by the Architect in charge.
5. All newly replaced stonework shall have a minimum thickness of 230mm unless otherwise specified by the Architect in charge.
6. A non-hydraulic mortar bed shall be used unless otherwise specified by the Architect in charge. The mortar bed shall not be less than 12mm thick.

#### **A.24 Laying of Replacement Masonry**

1. Joint surfaces shall be dampened to avoid risk of de-watering mortar. The units shall be laid on a full bed of mortar and all joints filled. Care shall be taken to ensure that no mortar/grout encroaches upon exposed faces.
2. The new stone shall be dampened to avoid risk of de-watering mortar.
3. All faces, angles and features shall be carefully aligned and set out to ensure satisfactory joint widths and relative positioning with existing masonry. The exposed faces of new material shall be kept to the face lines as agreed with the Architect in charge.

#### **A.25 Grouting Joints**

1. Unless otherwise instructed by the Architect in charge the grout mix shall be based on lime, fine coralline and globigerina limestone sand (*xahx*). The Architect in Charge may request the Contractor to gauge the mix with an approved quantity of white cement and/ or to alter the filler materials eg. through the introduction of coloured marble or terracotta dust and/ or chippings so as to achieve the desired mix characteristics. For payment purposes, gauging with white cement and/ or the use of coloured marble and/ or terracotta chippings shall be deemed to be included in the tendered rates and shall not entitle the Contractor to extra claims.
2. Joints around replacement masonry units shall be thoroughly grouted wherever joints cannot be fully filled with bedding mortar.
4. The grout shall be kept back from the exposed face to allow for the depth of pointing specified; this shall be achieved using an approved temporary sealing material. The Contractor will ensure that the grout does not stain the exposed face.

5. The Contractor shall not point replacement masonry until all the work has settled-in. The pointing of the outer 25mm (as a minimum) shall be left until all bedding work has settled.

#### **A.26 Jointing of Masonry Works**

If specifically requested by the Architect in Charge part replacement of deteriorated stone blocks may be carried out. Such replacement/ jointing shall be carried out as follows:

1. Replacement stone shall be cut and shaped in such a manner as to ensure the minimum loss of the original material, yet provide a firm seating for the replacement.
2. The new stone work shall be left proud of the original to ensure adequate finishing on site.
3. All existing joint widths shall be respected and bridging of joints will not be permitted.
4. The pockets to receive inserts shall be accurately cut with small, sharp chisels and small saw blades to a neat, square profile. The sides of pockets shall be undercut, where necessary, to provide space for specified bonding material.
5. Where so directed by the Architect in charge, the contractor shall dovetail the new insert with the original to ensure adequate bonding.
6. New shoulders shall be formed to receive any replacement cramps.
7. The pocket shall be cleaned out thoroughly and the inserts installed accurately and securely. The Contractor shall ensure that no bonding material encroaches upon the exposed faces.
8. Piecing-in may also be carried out in larger areas, in which a piece of stone is added to fill in a missing area or replace a part of a deteriorated stone by the insertion of an appropriately cut stone piece, attached using structural adhesives (e.g. epoxy or polyester adhesives), as approved by the Architect in charge.

#### **A.27 Plastic Repair**

1. Plastic repair as specified in this document shall only be used in areas indicated by the Architect in charge.
2. Any deteriorated, flaking, powdering etc masonry shall be carefully removed to expose a sound background. In the process care shall be taken not to weaken the structure or damage the adjacent masonry.
3. The top and vertical edges of the repair area shall be undercut to provide sufficient bonding and reduce the formation of visible shrinkage joints.
4. Suitable non-ferrous reinforcement approved by the Architect in charge shall be used for all plastic repair interventions which have a projection of more than 40mm from the stone surface or an area which exceeds 50mm by 50mm.
5. Pre-fabricated glass reinforced polyester, or epoxy rods having a diameter of not less than 6mm shall be used. Holes shall be drilled with the background to form a grid of dowels fixed not more than 40mm apart. Dowels shall have a minimum anchorage in stone of 60mm, and the Architect in charge may request that this bedding depth be increased. All dowels shall be adequately bonded to the masonry fabric with an approved epoxy resin.
6. Adequately gauged stainless steel wire shall be used to form a mesh between the dowels. This mesh shall be secured to the resin dowels by an approved epoxy resin.

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7. When preparing the reinforcement, allowances shall be made to ensure a minimum cover of 20mm.
8. The plastic repair mortar shall be based on a lime binder.
9. Aggregates used shall vary from coralline sand, to marble and globigerina limestone sand (*xahx*) to pozzolanic additives, as agreed with the Architect in charge.
10. The mixes shall approximate a 1:2½ binder to aggregate ratio, unless otherwise agreed with the Architect in charge.
11. In the mortar preparation, the Contractor shall ensure that the grains of sand and stone dust are adequately coated with the binder paste.
12. Slaked lime shall be used as a binder, with the putty mixed wet with the aggregate and stored in an airtight container as far in advance as possible.
13. In demanding exposure conditions, hydraulic additives (such as hydraulic lime, terracotta dust) may be added to the coarse stuff immediately before use.
14. Hydraulic lime may be used to substitute completely the slaked lime, as per Architect's instructions.
15. Cement gauged mixes shall only be used if directed by the Architect in charge.
16. The mortar shall be built up in layers where necessary, each layer not exceeding 12mm.
17. The finishing coat shall match the existing surfaces and approved sample/s in colour, texture etc.
18. The Contractor shall ensure that repair mortar is not stronger than the adjacent fabric.

### A.28 Mortars in General

1. Ready-mixed lime mortar shall only be used if approved by the Architect in charge.
2. The Contractor shall ensure that all pointing is built up in layers not exceeding 10mm in thickness or as recommended by the manufacturer in cases where the use of ready-mixed lime mortars are permitted.
3. The background shall be thoroughly cleaned to remove all dust and debris; the areas of application shall be dampened to control suction.
4. The mortar shall be built up and firmly applied in layers until the specified thickness is reached; the Contractor shall ensure good adhesion with no voids. A mechanical key shall be formed to the undercoat/s by combing or scratching so as to produce evenly spaced lines.
5. Each layer shall be allowed to achieve an initial set prior to the application of subsequent coats, and prevented from drying out too rapidly by covering immediately with plastic sheeting and/or dampening through sponging intermittently with clean water.
6. The finishing mortar joint shall be formed accurately to the required planes/profiles and flush with adjacent masonry, as per Architect in charge instructions.
7. The Contractor shall provide adequate protection from adverse weather until the mortar repairs have fully set.

### A.29 Pointing

1. Portland cement mixes will not be permitted, unless otherwise instructed by the Architect in charge.

2. All mixes shall be lime-based, and be compatible with the stonework in colour, strength and permeability; they will also be as close as possible in colour, composition and properties to the original mortars.
3. The mixes shall approximate a 1:2½ binder to aggregate ratio, unless otherwise agreed with the Architect in charge. Unless otherwise agreed upon with the Architect in Charge, the binder shall be hydraulic lime and the aggregate/ filler shall be made up of well graded sand and stone dust in the proportions to be agreed upon with the Architect in charge. The Architect in Charge may request the gauging of the pointing mortar with an approved quantity of white cement and the replacement of part of the aggregate with coloured marble and/ or terracotta dust and/ or chippings to achieve desirable mix characteristics. For payment purposes, gauging with white cement and/ or the use of coloured marble and/ or terracotta chippings shall be deemed to be included in the tendered rates and shall not entitle the Contractor to extra claims. Wherever requested cement shall be white cement of approved manufacturing complying with current MSA-EN and/ or British Standards.
4. Prior to pointing/re-pointing, all open joints shall be cleaned from dust and loose materials, and the surrounding stones adequately wetted by deionised water. All pointing shall be carried out in moist, warm conditions and in layers not exceeding 10mm thickness.
5. Fresh pointing shall be allowed to dry slowly and be adequately protected from excessive heat and direct sunshine by a tarpaulin, and should be adequately cured by wetting with a damp cellulose sponge and nebulous spray using small hand held bottle sprayers to avoid cracking.
6. In the case of deep joints, a reasonable amount of time as agreed upon with the architect in charge shall be permitted between the applications of each layer of pointing so as to ensure adequate curing and complete setting of each individual layer.
7. When laying new stonework, all vertical and horizontal joints shall be adequately buttered with mortar.

### **A.30 Hydraulic Lime**

The hydraulic lime should be natural, free from any additions such as Portland cement, etc., or any other material, which contains any quantity of deleterious salts such as sulphates, chlorides, nitrates, etc. The hydraulic lime offered should be that defined by standard norms as eminently hydraulic lime C3/ XHN60, though natural cements, class D/ XHN 100 (roman cements), may be used subject to the approval of the architect in charge. The hydraulic lime offered shall have an initial putty setting time in water of 2-4 days, acquiring a stone-like consistency following 12months curing in water. Composition of CaO and MgO shall be over 50%, while SiO<sub>2</sub>, Al<sub>2</sub>O<sub>3</sub>, and Fe<sub>2</sub>O<sub>3</sub> shall amount to approximately 12%-25% of active clays. Crushing strength at 28 days of a mixture of 1:3 lime: sand, shall be in the region of 6.00N/mm<sup>2</sup>. For natural cements, class D, crushing strength at 28 days of a mixture of 1:1 lime: sand, shall be in the region of 10N/mm<sup>2</sup>. Hydraulic lime used shall have a stone colour, and shall be certified to have been produced at a temperature inferior to 1100oC. It shall be ground to a fine powder having a specific area of 8000cm<sup>2</sup>/g.

### **A.31 Sand for lime mortars**

Unless specified otherwise, sharp, well graded sand, conforming to the methods of sampling and testing and quality requirements of statutory EN regulations and in particular EN 1097, shall be used.

### **A.32 Preparation of Masonry Structure for Pointing**

1. The existing damaged and/ or inadequate mortar shall be carefully removed without damaging the adjacent masonry or widening the joints using a bent spike or small hand-held chisels to a minimum depth of 25mm and never to a depth less than the joint width. Impact tools shall not be used. Power tools such as rotary discs (chasers) will not be allowed.

2. If mortar has failed to such an extent that the joints are largely empty, then the joints will be deep tamped and, if necessary, hand grouted to fill the voids up to the distance required for pointing.
3. The Contractor shall clean and dampen the joints.
4. Pointing works and related preparatory work shall always commence at the top of the structure moving downwards.
5. If joints exhibit biological soiling, a biocide should be applied prior to flushing out.
6. Dust and loose debris shall be removed, the joints shall then be dampened with clean de-ionised water to control suction as necessary.

#### **A.33 Pointing Methodology**

1. The Contractor shall clean and dampen the joints with clean de-ionised water.
2. The mortar face shall be kept as far back as required to achieve the original joint width.
3. If the stones have retained sharp edges, joints shall be filled flush unless the original joint face was profiled in some other way. In the case of weathered edges, or where the stone has spalled off, the face of the new mortar shall be kept back such that the apparent joint width does not increase.
4. The required finish shall be as per original surviving pointing and/ or as approved by the Architect in Charge.
5. When using lime mortars, the fresh mortar shall be kept as humid as long as possible to slow down setting rate and hence avoid shrinkage cracking. Curing using cellulose sponges and nebulous spray from hand held bottle sprayers shall be carried out as per instructions given by the Architect in Charge.
6. After the initial set has taken place, the Contractor shall stipple the joints with a stiff brush to remove laitance/excess fines and achieve a coarse texture.
7. The Architect in Charge shall have the right to order the removal and re-execution of pointing which exhibits cracking or which in his/ her opinion has not been satisfactorily carried out. The Contractor shall replace such defective pointing at his own cost and shall not be entitled to extra claims in this regard.

#### **A.34 Desalination by Poultice Treatment**

1. Where salt desalinisation may be considered necessary, paper pulp and/ or clay packs will need to be adopted. The clay poultice shall have a sepiolite clay base.
2. Both clay and paper pulps should be free from soluble salts, and any staining additive.
3. The poultice shall be worked with de-ionised/ distilled water into a thick, sticky cream, and carefully ironed onto the surface with suitable spatulas, and permitted to dry slowly, attracting salts away from the stone fabric.
4. The dried material is to be disposed of away from the structure being restored and shall not be reused.
5. This process may have to be repeated for as many times as so deemed necessary, to lower the level of salts within the stone fabric. For payment reasons, the repetition of the desalination process will be considered as an intrinsic part of the poulticing exercise, and in no case will the contractor be allowed to make claims for extra costs in relation to workmanship, and/ or material.

### **A.35 Sepiolite Clay**

The sepiolite clay used shall be natural having a water absorption superior to 148% and an apparent density of around 555g/l. The sepiolite clay used shall be asbestos free with a specific surface area of 218 to 222 sq.m./g. pH value shall be 8.0 +/- 0.5.

### **A.36 Paper Pulp**

The paper pulp used in the work shall be chemically stable, having a cellulose content of 99 +/- 1% and a calcium content of 0.025 +/- .005%. Average fibre diameter should be 20 microns, while the average fibre length shall be of 300 microns.

### **A.37 Cleaning: General Considerations**

1. Adopted cleaning methods should, as far as possible;
  - a. Be effective in removing the deleterious substances from the stone surface.
  - b. Not produce any substances which will encourage any future deterioration of the stone.
  - c. Be slow enough such as to allow good control by the operator.
  - d. Not cause any micro-fractures or any other discontinuities of the stone surface, as these may initiate or encourage new deterioration processes.
2. Abrasives, or high pressure water jetting will not be permitted. Chemical cleaning using neutral approved soaps can only be resorted to if specifically requested by the Architect in charge; in that case soaps to be used must be approved beforehand by the architect in charge. A controlled nebulous pulsating water spray system will be allowed. The process must however ensure that no over saturation and softening of the stone occurs. In those areas where this system is not sufficient to reach the required level of cleanliness, controlled micro-blasting on plain, nondecorative areas may be considered. Systems adopting sand, gravel, or water blasting techniques will not be considered.
3. Micro blasting systems used shall be such as to function effectively at low pressure, and use low quantities of water. The abrasive material used shall be calcium carbonate having size and configuration which will not damage the surface texture of the stone fabric.
4. It is important that any water used throughout the cleaning operation be free from salts. No chemical agents will be permitted. The use of tap water will NOT be permitted.
5. The aim of the cleaning exercise should primarily be that of cleaning the face of the stone and removing all accumulation of carbon, sulphurous compounds, and other contaminants, but should retain the patina of time. On completion of works, the stone is to be brought to its natural patina, texture and profile. All discoloration is to be removed from the face of the stone. No original carved relief arises or surface textures are to be damaged or altered.
6. Contractor shall ensure that all electrical supplies serving external equipment have been disconnected and that, unless specified otherwise, fittings and associated cable have been removed. The Contractor shall take all measures to prevent:
  - a. Ingress of water, cleaning agents, debris and dust into the building via windows, doors, vents and other openings.
  - b. Protection of ventilation grilles, airbricks, or other ventilation openings without sealing them.
  - c. Damage to all components and finishes that can reasonably be protected during cleaning procedures, including lightning conductors, roof coverings, flashings, rainwater goods, glass, metal works, services equipment, signage and paving.
  - d. Staining of surfaces from ferrous or other reactive metals.
7. The Contractor shall use approved protective boards, sheeting, films, sealants and sealing tapes that do not stain protected materials and that can be readily removed after cleaning without damaging or staining the protected material.

### **A.38 Trial Cleaning**

## Version 1.0 NGO e-procurement document

1. The Contractor is to prepare trial samples for all cleaning methods in locations agreed with the Architect in charge.
2. The Contractor shall inform the Architect in charge before carrying out each trial cleaning method to enable the Architect in charge to approve of selected testing area and be present during the preparation and execution of trial samples; the period of notice shall be agreed with the Architect in charge.
3. The time, date, location, details of the all products and procedures for each sample shall be submitted in writing to the Architect in charge.
4. The contractor shall provide the Architect in charge with a copy of trial sample records.

### A.39 Monitoring

1. The Contractor shall regularly monitor effects of each cleaning procedure against the degree of cleaning established by approved trial sample/s.
2. The Contractor shall seek instructions immediately wherever:
  - a. Disruption to the surface occurs.
  - b. Discoloration or stains are revealed by cleaning.
  - c. Anticipated level of surface cleaning is not being achieved.

### A.40 Brushing by Hand

1. Prior to commencing any cleaning method, the Contractor shall remove loosely adhered deposits and growths using suitable corrosion resistant brushes and micro scalpels that do not damage the stone surface.
2. The use of brushes with steel bristles shall not be permitted. Stiff bristle or nylon brushes will be used.
3. If the required level of cleaning is not achieved through dry brushing wet brushing shall be resorted to. Chlorinated mains water, and water having a conductivity of more than 60  $\mu\text{S}$  will not be allowed.

### A.41 Water cleaning by Hand held Systems

1. General cleaning shall be carried out by means of low pressure washing (less than 2 bar) using water with a conductivity inferior to 60  $\mu\text{S}$  and hand held mineral/nylon fibre brushes as directed and approved by the Architect in charge.
2. Chlorinated mains water shall not be used.
3. In the process, care shall be taken to ensure no damage is caused to mortar joints.

## B. SPECIFICATIONS FOR TRAVERTINE PAVING

### B.1 The Material



The material will be first quality naturally extracted travertine of uniform consistency. No blemishes or faults will be accepted.

The slabs shall be supplied in three types: yellow (very light brown/beige), brown (darker brown/beige) and red coloured travertine of 250mm width and 500mm length and red coloured travertine of 250mm width and 500mm length, or nearest available rectangular dimensions. All slabs have to be supplied in the same length and width.

Tolerances of +/- 1mm variations in width and length will be tolerated. Tolerance in thickness shall be +/- 3mm. Paving slabs shall be perfectly right angle in all their four corners.

Colour shall be of the same colour tone so that the paving slabs will have a uniform colour.

The travertine shall be compact, tightly grained, hard, durable and free from a large amount of interconnected pores, defects and horizontal or vertical fissures. It shall be crystalline and shall not have a mudstone texture.

The travertine paving slabs shall be machine cut and tumbled and brushed and shall be uniform, natural looking and slip-resistant.

## **B.2 Quality**

The travertine shall have the following technical characteristics:

|                      |                                                                                                                                         |
|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| Density              | greater than 2300 kg/cub.mt.                                                                                                            |
| Flexural resistance  | min. 10 MPa (UNI EN 12372)                                                                                                              |
| Slip resistance      | min 62 SRV (UNI EN 1341)                                                                                                                |
| Water absorption     | less than 3%                                                                                                                            |
| Compressive Strength | greater than 60MPa                                                                                                                      |
| Abrasion resistance  | max. 25mm (UNI EN 14157)                                                                                                                |
| Thickness            | minimum 50mm - The contractor is responsible for ensuring that the thickness is sufficient to withstand occasional heavy vehicular load |
| Finish               | non-slip, tumbled and brushed                                                                                                           |
| Colour               | yellow, red and brown as per boq and above                                                                                              |

### C. SPECIFICATIONS FOR LAVA PAVING SLABS

The proposed lava paving slabs are to meet the following minimum material requirement

|                      |                                                                                                                                         |
|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| Density              | minimum 2700kg/m <sup>3</sup>                                                                                                           |
| Compressive Strength | minimum 150 MPa                                                                                                                         |
| Flexural strength    | minimum 13 MPa                                                                                                                          |
| Water absorption     | maximum 1.5%                                                                                                                            |
| Abrasion resistance  | maximum 5mm                                                                                                                             |
| Thickness            | minimum 50mm - The contractor is responsible for ensuring that the thickness is sufficient to withstand occasional heavy vehicular load |
| Finish               | Machine-cut, and flamed-finish or bush-hammered surface                                                                                 |

## **SECTION 5 - SUPPLEMENTARY DOCUMENTATION**

### ***5.1 - Draft Contract Form***

### ***5.2 - Glossary***

### ***5.3 - Specimen Performance Guarantee***

### ***5.4 - Specimen Pre-financing Guarantee***

### ***5.5 - Specimen Retention Guarantee***

### ***5.6 - General Conditions of Contract***

It is hereby construed that the tenderers have availed themselves of these general conditions, and have read and accepted in full and without reservation the conditions outlined therein, and are therefore waiving any standard terms and conditions which they may have.

These general conditions will form an integral part of the contract that will be signed with the successful tenderer/s.