



**FONDAZZJONI GHALL-
PATRIMONJU KULTURALI
TAL-ARĊIDJOĊESI TA' MALTA**

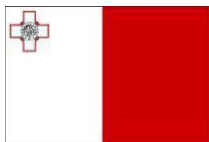
REFERENCE NUMBER: PA.5.0103/24

Tender for the restoration of the facades of the Chapel of Our Lady of Atocia in Hamrun.

Date Published: 14th May 2021

Deadline for Submission: 18th June 2021 at 09:30am CEST

Tender Opening: 22nd June 2021 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: 80% European Union; 20% National Funds

Bid Bond requirements for this tender: Not Applicable



Fondazzjoni ghall-Patrimonju Kulturali ta' l-Arcidiocesi ta' Malta

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## SECTION 1 - INSTRUCTIONS TO TENDERERS

### 1. General Instructions

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 Fondazzjoni għall-Patrimonju Kulturali ta' l-Arcidiocesi ta' Malta, Archbishop's Curia, St Calcedonius Square, Floriana FRN 1535 MALTA. Any references in the tender document or tender forms to uploading of tender documentation and forms is to be ignored. Tenderers must submit one original tender offer as well as a soft copy on a USB (soft copies of the tender offers submitted on CD are strictly not acceptable). Furthermore in the soft copy of the tender offer, Tenderers must submit the Bill of Quantities duly filled in, in excel format apart from a scanned copy of the filled in Bill of Quantities. It is important that the full tender bid package is provided in soft copy given that due to Covid 19 pandemic, utilisation of the soft copy will be highly required throughout the evaluation process. Tender reference number and tender title must be clearly indicated on the sealed bid. Prospective tenderers 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 and conservation of the front and side facades of the Chapel of Our Lady of Etoica in the area known as ta Samra in Hamrun.
- 1.3 The place of acceptance of the works shall be the Archdiocese of Malta, Pjazza Kalcidonju, Floriana, the time-limits for the execution of the entire contract shall be 26 weeks from the Order to Start Works, and the INCOTERM<sup>2010</sup> applicable shall be **Delivery Duty Paid (DDP)**.
- 1.4 The Estimated Procurement Value for this Call for Tenders has been based on comprehensive research including appropriate financial analysis. In the context of this procurement, the Estimated Procurement Value, based on market research, is that of €73,300 excluding VAT. This estimate includes the maintenance items listed in the Bill of Quantities.

The purpose of this value shall be the guidance of prospective bidders when submitting their offer and is not to be considered as a binding capping price.

Therefore, the published Estimated Procurement Value is not restrictive and final on the Contracting Authority. Economic Operators are free to submit financial offers above or below the Estimated Procurement Value. **However**, the Contracting Authority reserves the right to accept or reject Financial Offers exceeding the Estimated Procurement Value

- 1.5 This is a bill of quantities contract.

- 1.6 This call for tenders is being issued under an open procedure.
- 1.7 The beneficiary of this tender is **Fondazzjoni għall-Patrimonju Kulturali ta' l-Arcidiocesi ta' Malta**.
- 1.8 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><br/> <a href="mailto:fond.pkam@gmail.com">fond.pkam@gmail.com</a></p>                                                                                                                                           | 4 <sup>th</sup> June 2021  | 17.00 CEST |
| Last date on which additional information can be issued by the NGO                                                                                                                                                                                                                                                                                                   | 11 <sup>th</sup> June 2021 | 20.00 CEST |
| Deadline for submission of tenders<br>(unless otherwise modified in terms of Clause 10.1 of the General Rules Governing Tendering for NGOs)                                                                                                                                                                                                                          | 18 <sup>th</sup> June 2021 | 09.30 CEST |
| <p>Tender Opening</p> <p>Due to the Covid-19 Pandemic tender opening session will take place 22/06/2021 and general public will not be allowed to attend physically. Tenderers are to leave their email address when submitting the tender and a TEAMS invitation will be sent to the bidders to connect should they wish to witness the tender opening session.</p> | 22 <sup>nd</sup> June 2021 | 11.00 CEST |
| * 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, in accordance with the rules of *Operational Programme I - European Structural and Investment Funds 2014-2020* programme
- 5.2 The Contracting Authority of this tender is **Fondazzjoni għall-Patrimonju Kulturali ta' l-Arcidiocesi ta' Malta**.

## **6. Clarification Meeting/Site Visit/Workshop**

- 6.1 No clarification meeting will be held.

Meetings between economic operators and the NGO, other than that provided in this clause during the tendering period are not permitted.

## **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**

Economic Operators are to complete the Eligibility Section through the ESPD and the necessary documents as follows: (Note 2)

- (i) No Bid Bond is required.
- (ii) Declare agreement, conformity and compliance with the General Rules Governing Tenders for NGOs. <sup>(Note 2A)</sup>
- (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. <sup>(Note 2A)</sup>
- (iv) Power of Attorney (if applicable) <sup>(Note 2A)</sup>
- (v) Data on Joint Venture/Consortium (where applicable) <sup>(Note 2A)</sup>
- (vi) 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 2A)</sup> Not 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 <sup>(Note 2A)</sup>
- (ii) Declaration concerning *Selection Criteria* <sup>(Note 2A)</sup>

**(C) Technical Specifications**

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

**A. Key Experts Form** accompanied by CVs of Key experts, copies of qualifications' certifications including warrants, the Statement of Exclusivity and Availability Form, the Self-declaration form for Key Experts (relating to public employees - if applicable) and all other documentation as requested. <sup>(Note 2A)</sup>

The following Key Experts are required:

- a) Key Expert 1: Perit who will assume all the responsibility in terms of the legal obligations as arising under Maltese law (Warrant Nos to be provided) - MQF Level 7 in Design and Conservation;
- b) Key Expert 2: **A Warranted Conservator/Restorer - MQF Level 6** (Warrant Nos to be provided);
- c) Key Expert 3: **Restoration Technician (MQF level 4 qualification or equivalent in restoration works of a similar nature);**
- d) Key Expert 4: Licenced Stone Mason;
- e) Key Expert 5: Project Manager (MQF level 4 in related area of study) responsible for the works - to oversee and co-ordinate the works with the Supervisor in charge of the project. He or she shall act as a single point contact for the duration of works;
- f) Key Expert 6: Accredited Health & Safety Officer;

**B. Tenderer's Technical Offer** which shall consist of: <sup>(Note 3)</sup>

- g) Tender Technical Offer Declaration Form signed by the bidder <sup>(Note 3)</sup>. **(Note: Submission of an unsigned declaration form or a modified declaration form will automatically invalidate the tender bid).**
- h) A Detailed Method Statement including information on proposed works methodology, products and materials (such as 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. <sup>(Note 3)</sup>
- i) A 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 on each one of the two sites for the completion of the works in question. The plan may include drawings or sketches illustrating site dynamics and logistics. <sup>(Note 3)</sup>
- j) A 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. <sup>(Note 3)</sup>
- (ii) k) A Gantt Chart Programme of Works as outlined in the Works Tenderer Technical Questionnaire. The implementation period for this tender is 26 weeks from order to start works. <sup>(Note 3)</sup>

**Literature** as per Form marked 'Literature List' to be submitted with the Technical offer at tendering stage.

No changes to the information provided in the Literature submitted will be allowed. Literature submitted shall be rectifiable only in respect of any missing documents. (Note 2B)-  
Not Applicable for this tender.

- (iii) Samples as per section in Form marked 'Sample List' may be requested during the evaluation stage to supplement the technical offer submitted. If requested, the Samples must be submitted within 10 working days of being notified to do so. (Note 3) **Not applicable for this tender.**

#### (D) Financial Offer

- (i) The Tender Form and Tenderer's Declaration are to be completed and submitted with the offer; (Note 3)
- (ii) A financial offer is to be submitted by filling in the **Bill of Quantities**, and is to be calculated on the basis of **Delivered Duty Paid (DDP)<sup>2020</sup> (Grand Total)** for the **works** tendered. (Note 3)

#### 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 four circumstances: incorrect validity date, and/or incorrect value, and/or incorrect addressee and incorrect name of the bidder. Rectification in respect of the Tender Guarantee (Bid Bond) is free of charge.

2. A) Tenderers will be requested to either clarify/rectify any incorrect and/or incomplete documentation, and/or submit any missing documents within five (5) working days from notification.

B) Tenderers will be requested to rectify/submit only missing documents within five (5) working days from notification. 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. All Rectifications are free of charge.

3. No rectification shall be allowed. Only clarifications on the submitted information may be requested.

Request for Clarification and /or rectifications concerning a previous request dealing with the same shortcoming shall not be entertained.

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

8. No tender guarantee (bid bond) is required.  
1

#### 9. Criteria for Award

9. 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.  
1

## 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 may be 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.

For the purposes of contracts issued by NGOs, the term 'approval from the Central Government Authority' shall be substituted by the term 'approval by the Head responsible for that NGO'; Furthermore, any references to the Contracting Authority throughout the General Conditions shall be deemed to be referring to the NGO responsible for that procurement.

### 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

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/financial bid (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

Further to the contents in the General Conditions, the communication details of the Contracting Authority are:

Fondazzjoni għall-Patrimonju Kulturali ta' l-Arcidiocesi ta' Malta  
The Archbishop's Curia, Saint Calcedonious Square, Floriana  
FRN 1535  
Tel: 2590 6400  
Email Address: fond.pkam@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**

- 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** 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.
- 9.5** 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**

- 11.9** As per article 15.4 of the Special Conditions
- 11.11** Further to what is stated in the General Conditions, the requirements for Contractor's submissions are detailed in Section 4 Technical Specifications of this Tender.
- 11.14** Any delay to commence or progress with works caused by the Contractor's failure to provide, develop and update any of these documents to the satisfaction of the Supervisor and approving Authorities shall be at the Contractor's risk.

- 11.17** The Contractor, including all the subcontractors, has to comply with all the legislation and regulations concerning employment in Malta, especially the posting of Workers in Malta Regulations; and must liaise with the Department of Industrial and Employment Relations, Malta - DIER and Employment & Training Corporation - ETC, to notify about such workers, fill in the appropriate forms and submit the required documentation; and must provide copies of such notification forms to the Contracting Authority.
- 11.20** The Contracting Authority and the Supervisor shall make available, where applicable, the tender drawings (and any subsequent revisions to such drawings) to the Contractor at the latter's request and well as any drawings required to carry out the works as the need arises. Any such drawings will remain the property of the Contracting Authority and the Contractor may not reproduce or communicate them to third parties except with the Contracting Authority's agreement.
- 11.21** 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.
- 11.22** Where applicable, the Contractor shall submit working and shop drawings, installation drawings, technical data, as-built drawings and other required information to the Supervisor when so requested and within the timeframes requested by the Supervisor. The Supervisor may liaise with the Consultant to approve or otherwise. In the case of technical information and data, the contractor shall allow a minimum of seven (7) days for the Supervisor to comment. The Supervisor may request any drawing and any other document submitted by the Contractor to be revised or replaced and the Contractor shall so revise or replace the document within the requested timeframe and at the Contractor's own expense.
- 11.23** The Contractor shall draw-up and submit all other documentation required as stipulated elsewhere in these Special Conditions, as specified in the Technical Specifications and as otherwise instructed by the Supervisor within the stipulated, specified or requested time frames.
- 11.24** 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.
- 11.25** 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.
- 11.26** 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)

- 11.27** 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.
- 11.28** 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
- 11.29** A suitable "housekeeping" programme shall be established before commencement of the project, and be continuously implemented on the Site.
- 11.30** The Contractor will be available to attend regular site, management and progress meetings.
- 11.31** The contractor binds himself to adhere to the conditions imposed in the Planning Permit, that is, the approved drawings, document and conditions imposed in Planning Permit PA Nos 0379/20 as approved by the Planning Authority. He also binds himself to follow all instructions given to him by the Superintendence of Cultural Heritage.

#### **Article 13: Performance Guarantee**

13.1 The Contractor shall, within 15 calendar days of receipt of the contract, sign and date the contract and return it together with an original copy of the Performance Guarantee to the Contracting Authority. The amount of the guarantee shall be 4% where the amount of the total contract value is between €10,000 and €500,000 exclusive of VAT. If the same Contractor has more than one contract with the Contracting Authority, then the Contractor will be allowed to submit a single bid bond in accordance with the schedule stipulated in the Tender Form.

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.a 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.

15.4 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 submit to the Supervisor for approval any drawings, documents, programme of works, technical literature, samples and /or models that the Supervisor may reasonably require for the performance of the contract within 5 working days from written request by the Supervisor or from date when meeting where minutes are taken.

#### **Article 18: Tender Prices**

18.2 The contractor will ascertain that all the respective rates have included double handling, carting away and dumping fees

18.3 The Contractor shall be deemed to have taken into account in his tender price all works, fees and costs that are necessary to complete the project and to fully hand over in operational condition.

#### **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**

22.3 The Contractor is responsible to obtain necessary permits that may be required if the works impact of traffic.

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

23.3 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 Demolition material unless indicated otherwise in the bills of quantities and by the supervisor in charge, shall become the property of the Contractor and the carting away and dumping charges are at the expense of the Contractor.

25.4 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 appropriate and 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. The contractor shall halt the works and follow all instructions given by the Supervisor to protect or to investigate further the discovery.

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

#### **Article 28: Soil Studies**

28.1 As per General Conditions of the Contract

#### **Article 30: Patents and Licences**

30.1 As per Article 30 of the General Conditions

#### **Article 31: Commencement Date**

31.1 The Commencement Date for this contract shall be 1 week from the Order to Start Works. The performance of the contract is to commence on 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.

No works however will be allowed to commence on site unless the Contractor has furnished the Contracting Authority with a certified true copy of the Insurance Policy together with all documentation related to Health and Safety as well as the performance guarantee.

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

32.1 The period of performance of this contract shall be 26 weeks from the Commencement indicated in the Order to Start Works.

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**

33.4 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**

34.1 Any delay in performance from the approved programme of works for this contract, will be charged 0.1% of the contract value per calendar day of delay up to a maximum of 20% of the contract value.

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. Such works would be resulting from close inspection of works accessible only upon erection of scaffolding or exposed during the course of the 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 and plastering interventions, the application of alternative treatment and utilization of other materials other than those envisaged in the tender specifications that may be required.

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 The Contractor shall maintain a Work Register (Work Diary) on the site, containing detailed daily reports in the template specified and/or approved by the Contractor's representative (either the Construction/Project Manager or the Site Manager) and approved by the Supervisor, including at least the following information:

- (a) weather conditions, interruptions of work owing to inclement weather, hours of work, number and type of workmen employed on the site, materials supplied, equipment in use, equipment not in working order, tests carried out in situ, samples dispatched, unforeseen circumstances, safety, health and welfare of persons and damage to property, progress of the Works, as well as progress of the Works orders given to the Contractor;
- (b) detailed statements of all the quantitative and qualitative elements of the work done and the supplies delivered and used, capable of being checked on the site and relevant in calculating payments to be made to the Contractor;
- (c) photographic records of the interventions as well as the state of the structures to be restored through this tender prior to the commencement of works. The photographs shall include records of any archaeological, historical, etc evidence discovered during the course of works; detailed mapping of all interventions carried out. The interventions shall be carefully mapped out in conformity to approved standards and conventions as agreed with and approved by the Supervisor in charge. This mapping shall be submitted to the Architect and Civil Engineer in charge/or Supervisor in digital format (Version ACAD 2009 or compliant) and 2 colour printed copies; copies of method statement reports, construction management plans and updated programmes of works as specified in this document and approved by the Supervisor.

This Work Register shall be made on daily basis and take the form of a bound document with an original and two copies for each day. The original shall be filled out by the Contractor, who shall sign it, then reviewed by the supervisor, who shall add his comments, if necessary, and countersign it. One copy shall be kept by the supervisor for its own record.

Entries made in the work register as work progresses shall be signed by the Contractor and

countersigned by the Supervisor or his representative. When the Supervisor reviews each page, he shall add his comments if necessary, to draw attention to deficiencies in the Works or to give warning of difficulties that may arise from the Contractors method of working. He may also instruct in this Work Register that work shall stop in certain circumstances and the Contractor shall take appropriate action immediately. Such instructions shall be followed up by Administrative Orders. If the Contractor objects, he shall communicate his views to the Supervisor within 15 days following the date on which the entry or the statements objected to are recorded. Should he fail to countersign or to submit his views within the period allowed, the Contractor shall be deemed to agree with the notes shown in the register. The Supervisor may examine the work register at any time and may make or receive a copy of entries which he considers necessary for his own record.

#### **Article 38: Origin**

38.1 No derogation to the rules of origin is authorised.

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

39.2 All designs, components, materials, and restoration interventions/methodologies shall be submitted to the Supervisor for written preliminary technical approval, prior to their implementation or procurement. All requests and documentation must be submitted with 10 calendar days prior to execution of works on site.

#### **Article 40: Inspection and Testing**

40.2 As specified in the General Conditions.

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

42.2 All equipment, temporary works, plant and materials on site owned by the Contractor or by any company in which the Contractor has a controlling interest shall, for the duration of the execution of the works be:

- a) Vested in the Contracting Authority.

#### **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                                | 10% of contract value |
| Interim Payments      | As per measured works                                            | 85% of contract value |
| Retention Monies      | As per payment schedule in Clause 45.2 of the Special Conditions | 5% of contract value  |

43.3 As per General Conditions.

#### **Article 44: Pre-financing**

44.1 Pre-financing to the Contractor of 10% of the contract value, shall be obligatory.

44.2 Pre-financing amounting to 10% 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 10% 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 10% 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; and

- Deductions shall be made at the amortisation rate of 10% 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 25% of the pre-financing amount being amortised, the Contracting Authority shall authorize the relevant financial institution to release the equivalent 25% 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 as detailed in the Bill of Quantities, and as specified in the appropriate clauses in the Technical Specifications - Section 4. The appointed contractor shall satisfy the Supervisor that the materials are such as specified or equivalent.

#### **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 if 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**

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 2022.

#### **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**

57.6 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**

58.6 Further to the provisions of Article 58 of the General Conditions, the contractor shall guarantee that works carried out at the Chapel of Our Lady of Etoica in Hamrun 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.

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. 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**

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 The Supervisor will organise project management meetings (which may be held in person or on-line) and site meetings. The Contractor's representative must also attend these meetings in order to review the arrangements of future work. The Supervisor shall record the business of these meetings and supply copies of the record to those attending the meeting and Contracting Authority. In the record, responsibilities for actions to be taken shall be in accordance with the contract.

The Contractor's Key Experts must also attend these meetings when requested by the Supervisor and/or the Contracting Authority. The Supervisor shall notify the Contractor of the requirement of a particular Key Expert's attendance at least three (3) days prior to the meeting. The Contractor shall become liable to a penalty of €100 (one hundred euro) for each occurrence in which a Key Expert fails to attend meetings. Such penalties will be deducted from the next interim payment due.

70.2 Following the issue of an administrative order by the Supervisor, the Contractor shall execute the administrative order within the specified deadline. Without prejudice to other penalties which may be due in terms of the Contract, if the Contractor fails to respect the specified deadline for the respective administrative order, Contractor shall be liable to a penalty for mere delay in execution of the administrative order in the amount of €100 (one hundred euro) for each calendar day following the deadline until Supervisor certifies the completion of the administrative order, which penalty shall be deducted from the next interim payment.

70.3 The Contractor shall be liable to a penalty of €2,000 (two thousand euro) if he fails to abide with any of the conditions of permits for works issued by ERA [Environment and Resources Authority], the PA [Planning Authority] and the BRO [Building Regulation Office] or any other Malta Government Authority and related to or in connection with this contract. This penalty shall be applied for each occurrence where the result of the non-compliance is irreversible. In case the effects and results of the non-compliance are reversible the contractor shall be liable to a penalty of €1,000 per calendar day commencing from the deadline set by the Supervisor to complete the remedial works. The reversibility of the breach of permit conditions shall be determined by the Supervisor. The penalties in this Article shall apply without prejudice to the other penalties that may be issued by the Planning Authority and/or other Governmental Entities. Penalties will be deducted with the next interim payment due.

## **SECTION 4 -SPECIFICATIONS/TERMS OF REFERENCE** (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.

# **TECHNICAL SPECIFICATIONS FOR THE RESTORATION WORKS OF THE CHAPEL OF ATOCIA, HAMRUN**

## **SPECIFICATIONS FOR RESTORATION WORKS**

### **1.1 Main scope of works**

- a) The restoration of the church of *Tas-Samra* calls for a well-planned work methodology which will need to be discussed and agreed continually with the religious authorities utilising the building and the architect in charge of the contractor.
- b) It is to be noted that most of the work is to be carried out externally by means of specialised equipment and plant which can reach and give access to carry out all the necessary works.
- c) The contractor also has to submit a detailed work plan, works programme (Gantt Chart) and workshop drawings to the Project Architect which includes details on how the work will be sectioned and carried out.

### **1.2 Scaffolding/Shoring**

- a) All work shall be carried out in accordance with local Occupational Health and Safety Regulations and the statutory MSA EN regulations (in particular MSA EN 39, MSA EN 74, MSA EN 1139, MSA EN 12810 and MSA EN 12811) and BS 2482.
- b) Adequate precautions shall be taken to protect persons from injury by the fall of materials, tools or equipment being raised or lowered. Such precautions will include fencing, barriers and the like. Safety nets or sheets should be tied at every intersection of the scaffolding tubing and able to withstand rupture from the above mentioned loads; otherwise barriers (in the form of inclined overhangs) will be introduced at a distance of 4 to 6m above ground level followed by ones at 12m intervals. Fencing, barriers, or the appropriate utilization of lookout men.
- c) The contractor shall provide competent supervision to ensure that all scaffolds are used appropriately, and only for the purpose for which they are designed or erected. It shall be erected and maintained in accordance with the local Occupational Health and Safety Regulations and certified by a competent and recognised person. No personnel are to be allowed on the scaffolding until such certification has been deemed compliant by the architect and civil engineer in charge.
- d) Where work at the face of a building or other structure is done from a working platform, the space between such face and the working platform shall be as small as practicable,



provided that, where workmen sit at the edge of the platform to work, such space may be up to a maximum of 300mm.

- e) In transferring heavy loads on to a scaffold, a sudden shock cannot be transmitted to the scaffold. When hoisting loads on to scaffolds, the loads shall be controlled by a hand rope (tag line), so that they cannot strike against the scaffold. The load on the scaffold shall be evenly distributed, as far as practicable, and in any case shall be so distributed as to avoid disturbance of the stability of the scaffold. Scaffolds shall not be used for the storage of material except that required for immediate use.
- f) Workers shall not be employed on external scaffolds in weather conditions that threaten their safety.
- g) Guys, stays or supports shall be used where required to prevent danger; alternatively other effective precautions shall be taken to prevent the collapse of structures or parts of structures that are being erected, maintained, repaired, dismantled or demolished.
- h) No scaffold shall be partly dismantled and left so that it is capable of being used, unless it continues to be safe for use.
- i) Working platforms, gangways and stairways of the scaffolds shall be provided with overhead screens of adequate strength and dimensions to prevent danger from falling objects. Materials shall not be thrown from scaffolds; exceptions shall be made only where the landing area has been designated, protected, appropriate notices displayed and are under supervision of a person at landing level.
- j) In the case of prefabricated scaffold systems, the manufacturers' instructions shall be strictly adhered to. Prefabricated scaffolds shall have adequate arrangements for fixing bracing. Frames of different types shall not be intermingled in a single scaffold.
- k) In addition to the requirements for scaffolds in general as regards soundness, stability and protection against the risk of falls, suspended scaffolds shall have a safe cabin, with full protection from weather and adverse climatic conditions, and designed and constructed in accordance with ergonomic principles, a clear and unrestricted view of the area of operation; safe access to, and egress, from the cabin, including for situations where the operator is taken ill.
- l) The scaffolding shall be tied to the building at suitable vertical and horizontal distances without causing irreversible damage/ alterations to the fabric of the building being restored. Preferably, scaffolding shall be secured by utilising existing openings/ holes. If not possible, a predetermined minimum number of perforations for tying the scaffolding to the

historic structures will be allowed. The latter will make use of a bolting system inserted in the joints between the blocks for minimum damage possible to the masonry.

- m) Any scaffolding, when the work is divided in phases, shall overlap by at least 5m with the previously concluded phase of the works. In all cases the scaffolding shall extend by at least 1m beyond the extent of area being intervened upon or beyond the corner/s.
- n) Prior to the dismantling of any scaffolding, the Contractor shall give the Contracting Authority's architect and civil engineer in charge sufficient time (at least 48 hours) to inspect the works.

### **1.3 Methodology: Lifting equipment**

- a) Any lifting gear or equipment intended for lifting shall not be loaded beyond its safe working load or loads as specified by the manufacturer. It shall be erected in accordance with the local Occupational Health and Safety Regulations and certified by a competent and recognised person. Regular inspections are to be carried out in accordance with the local regulations.
- b) No person shall be raised, lowered or carried by a lifting appliance unless it is constructed, installed and used for that purpose.

### **1.4 Removal of vegetation**

- a) Every effort shall be made to remove all parts of plant including roots and stubs. Where growth cannot be removed completely without disturbing the masonry, the contractor shall seek instructions from the Contracting Authority's architect and civil engineer in charge.
- b) Plants/weeds shall not be removed by cutting the plant at the base of the stem and then by the use of a biocide to kill off the remaining part of the plant unless explicitly told to do so by the Contracting Authority's architect and civil engineer in charge and if the contractor certifies that the herbicide/biocide being used is effective if applied in this manner.
- c) The product to be used should result in the desiccation of the plant after it has been absorbed. The dead parts will then be easily removed by hand, without risking re-growth.

### **1.5 Removal of higher forms of vegetation**

- a) The Contractor shall cut out a metre section of the main stem, around 300mm to 1m above ground level; care must be taken not to damage the adjacent masonry.

- b) After the removal of almost all aerial parts of bushes and trees, chemical spot spraying shall be carried out on cut ends of stems and branches for perennial woody plants and on new buds and leaves in deciduous trees.
- c) Systemic herbicides will be used with absorption through leaves or barks.
- d) A procedure combining mechanical and cleaning means will follow to remove the plants completely.

#### **1.6 Removal of metal inserts etc.**

- a) 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 and civil engineer in charge prior to commencement of works.
- b) Care shall be taken to remove all metallic inserts, (especially iron and steel fixings) from the stonework.
- c) Corroding metal fixings shall be carefully cut by coring around them using small diameter bits so as to cause the least possible disturbance to the surrounding masonry. The associated rust debris shall also be carefully removed.
- d) 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.

#### **1.7 Opening of joints**

- a) The existing 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 depth twice the width of the joint. Joints are to be opened to a minimum depth of 25mm and never to a depth less than their width.
- b) Impact tools shall not be used. Power tools such as rotary discs (chasers) will not be allowed. No chipping hammers shall be used.
- c) Care is to be taken to avoid damages to the adjacent stone surfaces. If the jointing material proves to be very hard to remove, then the contractor is to seek instructions from the Contracting Authority's architect and civil engineer in charge. Any change in the methodology employed shall be approved by the architect and civil engineer in charge.

- d) 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.
- e) Power tools may not be used for the removal of renders, mortars and opening of joints unless explicitly requested by the Contracting Authority's architect and civil engineer in charge.
- f) No filling/grouting/pointing shall be carried out before inspected by the Contracting Authority's architect and civil engineer in charge.

### **1.8 Removal of plasters and cement renders**

- a) Where identified by the Contracting Authority's architect and civil engineer in charge, concrete/cement renders shall be carefully removed by hand tools using manual methods so as to contain damages to the underlying masonry work. Cement pointing and facing shall be removed manually taking care not damage the surrounding weakened stone. Chipping hammers shall not be used unless explicitly permitted by the Contracting Authority's architect and civil engineer in charge.
- b) Old plasters and similar coatings should be removed by hand tools using manual methods and constant supervision so as not to damage the stone surface.
- c) 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 Contracting Authority's architect and civil engineer in charge.

### **1.9 Methodology for Cleaning: Monitoring**

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

#### **1.9.1 Methodology: Dry Brushing of surface**

- a) Prior to commencing any cleaning method, the contractor shall remove loosely adhered deposits and growths using suitable corrosion resistant brushes that do not damage the stone surface.
- b) The use of brushes with steel bristles shall not be permitted. Nylon brushes will be preferred.

#### **1.9.2 Methodology: Wet brushing of surface**

- a) General cleaning shall be carried out by means of low pressure washing (less than 2 bar) using water with a conductivity inferior to 60µS/cm and hand held mineral/nylon fibre brushes as directed and approved by the architect and civil engineer in charge. Garden type manual pump sprayers are to be used.
- b) The spray shall be atomised from fine nozzles situated at least 300mm away from the masonry.
- c) Stubborn deposits shall be removed first. Softened deposits shall be removed with suitable nylon brushes that do not damage the surface. Any debris shall be thoroughly rinsed.
- d) The flows shall be directed from the top downwards so that the trickling of water softens the lower areas of dirt build-up.
- e) In the process, care shall be taken to ensure no damage is caused to mortar joints and original plasters.
- f) The water spray technique shall not be allowed in severely deteriorated areas.

#### **1.9.3 Methodology: Water spray cleaning**

- a) Water spray cleaning with mounted nozzles shall be used in areas which require a prolonged period of wetting, as approved by the architect and civil engineer in charge. The wetting shall last for a period sufficient to produce the swelling of the layer of dirt, shall be used in combination with small brushes to cut down the saturation period and shall be attached to a length of pipe connected to the approved water supply. Chlorinated mains water and water having a conductivity of more than 60µS/cm will not be allowed.
- b) The spray shall be atomised from fine nozzles situated at least 300mm away from the masonry. Enough water pressure and small enough orifices shall be required to atomise the water.

- c) The equipment shall be of a type which allows the position and direction of nozzles to be readily adjusted relative to existent surfaces and profiles.
- d) For each surface, the nozzle positions and spraying cycles that enable deposits to be removed/softened whilst keeping the water running off the surface to a minimum shall be established.
- e) The flows will be directed from the top downwards so that the trickling of water softens the lower areas of the dirt build up.
- f) Regular monitoring and adjustment of the washing cycle and nozzle positions shall be ensured by the contractor as work proceeds. In addition, the water spray/mist shall be controlled by adequate sheeting which shall reduce the effect of draughts of air blowing away the water from the building, since the effectiveness depends on how successfully the mist can be contained.
- g) The heaviest deposits shall be removed first. Softened deposits shall be removed with suitable nylon brushes that do not abrade the surfaces. Any debris shall be thoroughly rinsed.
- h) The water spray technique shall not be allowed in severely damaged areas.

#### **1.9.4 Use of Mora Pack**

- a) The principle behind poultice treatment is that once soiling is dissolved, dirt is held in contact with the pack, rather than dissolved and permitted to fill the pores. The intimate and extended contact of the cleaning materials means that smaller quantities and lower concentrations of chemicals need be used.
- b) Unless otherwise instructed by the architect and civil engineer in charge, ammonia shall be used in the poultice to soften the crust.
- c) The AB57 (Mora Pack) with paper pulp/cellulose and/or sepiolite clay is to be used only where specifically requested.
- d) The Mora Pack is a mild chemical pack containing agents which facilitate the dissolution of calcium salts. The poultice shall be prepared by mixing into a consistent sticky paste the following:
  - e) 60g sodium bicarbonate;
  - f) 60g ammonium bicarbonate;
  - g) 25g ethylene diamine tetra acetic acid (EDTA);
  - h) 10g surfactant disinfectant (neutral);

- i) 60g sepiolite clay/ paper pulp/carboxymethylcellulose (CMC);
- j) De-ionised/distilled water as required (tap water or water containing salts will not be permitted);
- k) The above-mentioned ratios may be revised/adapted by the architect and civil engineer in charge as so deemed necessary. In such eventuality, the contractor may not demand any adjustment to the rates submitted for this tender document.
- l) The mix is then suitably ironed to a thickness of 4 to 5mm on the pre-wetted soiled surface, and covered with a polyethylene film to prevent the poultice from drying up. The poultice is left in place for a contact period as considered necessary by the Contracting Authority's architect and civil engineer in charge, after which it is gently removed and the treated area rinsed with de-ionised water and brushed with a suitable nylon brush.
- m) Given the nature of the crust, this process 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. For payment reasons, this exercise 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.

#### **1.10 Methodology: Lime injection**

- a) Mortar injection of cracks shall be carried out with proprietary fluid lime based mortar as specified in this document.
- b) Prior to injection, all stone surfaces should be desalinated, adequately consolidated, cleaned from any accumulated dirt/dust and suitably wetted with de-ionised water. Cracks shall be first flushed using alcohol.
- c) Mortar shall be injected into the crevices using suitably sized syringes. Application should not be permitted in ambient temperatures exceeding 30oC.
- d) When injecting, care shall be taken to ensure pressure exerted on delaminated stone sections does not cause the shearing of the same material.
- e) In cases where the detached material is of considerate dimension, pins bridging the weaker layers with the stronger fabric, and grouted with the same fluid lime-based mortar shall be introduced. The stainless steel/carbon fibre/GRP rods shall be inserted such as to be least obtrusive. The inner ends of the rods shall be fixed using either a lime based.

#### **1.11 Materials: Biocide**

- a) The application of mild biocides that have a long-term inhibiting effect on re-colonisation shall follow the initial removal of organic growth.
- b) Products to be used shall be neutral products belonging to the chemical class of compounds methoxytriazine, acting by being absorbed both through the roots and the leaves and have a wide spectrum of action; other products include quaternary-ammonium compounds, or as approved by the Contracting Authority's architect and civil engineer in charge.

#### **1.11.1 Methodology: Application of biocide**

- a) Surface soiling by organic growth shall be initially removed by simple dry bristle brushes, surgical knife blades and spatulas, provided that the substrate is sound enough, without damaging or abrading the surface and as approved by the Contracting Authority's architect and civil engineer in charge. If the surface below the growth is delicate or liable to be marked or scoured in any way, this preparation will be limited/modified as approved by the architect and civil engineer in charge.
- b) The biocides shall be applied in strict accordance with the manufacturer's recommendations for the safety and protection of the workers and the environment.
- c) The general removal of organic growth such as fungi, lichens and the like will be limited to places where these are possibly causing harm and as indicated by the architect and civil engineer in charge.
- d) In an exceptionally dry period, and in areas where it is recommended to remove the organic growth, dormant dry lichens shall be revived with light water spraying prior to the application of the biocide. Application of biocidal treatments will not be undertaken during wet weather or when windy conditions lead to the excessive drift of spray.
- e) The contractor shall protect all surfaces that are excluded from chemical cleaning. All chemical agents shall be contained within each treatment area.
- f) Process shall be repeated until the growth has been removed or until instructed to stop by the Contracting Authority's architect and civil engineer in charge. For payment reasons, repeated applications to achieve this will be considered an intrinsic part of the exercise, and in no case will the contractor be allowed to make claims.

#### **1.12 Desalination by poulticing**



- a) Where salt desalinisation is considered necessary, paper pulp and/or sepiolite clay packs will need to be adopted.
- b) Both clay and paper pulps should be free from soluble salts and any staining additive.
- c) 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. Chlorinated mains water and water having a conductivity of more than 60 $\mu$ S/cm will not be allowed.
- d) The dried material is to be disposed of away from the structure being restored and shall not be reused.
- e) This process may have to be repeated for as many times as so deemed necessary, until the level of salts within the stone fabric has been brought down to an acceptable level. For payment reasons, this exercise 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.

#### **1.13 Materials: Repair and pointing mortar**

- a) Portland cement mixes will not be permitted, unless otherwise instructed by the Contracting Authority's architect and civil engineer in charge.
- b) All mixes shall be lime-based (the air or hydraulic lime being in conformity with these specifications) and 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.
- c) Lime mortars shall be free from cement and produced in conformity to standards set out in the statutory EN regulation and in particular MSA EN 998 and MSA EN 1015. Natural hydraulic lime mortars shall be in conformity with the relative section of these specifications.
- d) The density of the lime putty shall range between 1.3 and 1.4kg/l and shall not contain any salts (nitrates, chlorides, sulphates, etc.) which contribute towards the deterioration of the stone.
- e) Pozzolanic or similar additives shall be preferred alternatives to give strength and durability to a lime-based mix, unless instructed otherwise. Any pozzolanic additive shall be added to the mortar just before use.

- f) The properties of the mix shall be improved if hydraulic lime is used instead of both hydrated lime and pozzolana. In such cases, only aggregate shall be added. No cement or other pozzolanic additives shall be necessary, although additives to match the colour may be required as instructed by the architect and civil engineer in charge.
- g) Unless otherwise instructed the mix shall be 1:3 binder aggregate by volume with water just enough to achieve workability.
- h) The use of pozzolanic additives (such as brick dust, pozzolana etc.) to enable air limes to set hydraulically will be permitted. However care shall be taken to ensure that pozzolanic additives (natural or artificial) added are not toxic and do not contribute towards the deterioration of stone. The use of pozzolanic additives such as pulverised fuel ash or others which contain salts detrimental to the stone will not be allowed.
- i) The permeability of the mortar mix/es might be compared with that of the stone before their approval for application on the monument. The permeability of the mortar will be compared with that of the stone by placing samples in a dish with a few millimetres of water to compare the rate of water uptake.
- j) In all cases the minimum amount of water just enough to enable adequate workability shall be used in the mixes.

#### **1.14 Methodology: Pointing**

- a) The work shall commence at the top of the wall moving downwards.
- b) If joints exhibit biological soiling, a biocide should be applied prior to flushing out. Any vegetation shall be removed in accordance with these specifications.
- c) The contractor shall clean the joints. Dust and loose debris shall be removed. The joints shall then be dampened with clean de-ionised water as necessary to control suction.
- d) Lime mixes shall be used for the pointing. Mixes shall approximate a 1:3 binder to aggregate ratio, unless otherwise agreed with the Contracting Authority's architect and civil engineer in charge.
- e) Ready-mixed lime mortar shall only be used if approved by the architect and civil engineer in charge.
- f) All pointing shall be carried out in moist, warm conditions. 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 is permitted.

- g) 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 depth required for pointing.
- h) 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.
- i) Each layer shall be allowed to achieve an initial set prior to the application of subsequent coats. The fresh mortar shall be kept as humid as long as possible to slow down the setting rate and hence avoid cracking.
- j) 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.
- k) It shall be prevented from drying out too rapidly by dampening intermittently with clean water and covered immediately with damp hessian and plastic sheeting.
- l) The contractor shall provide adequate protection from adverse weather until the mortar repairs have fully set.
- m) The required finish shall be as per original surviving pointing and as approved by the Contracting Authority's architect and civil engineer in charge.
- n) If the stones have retained their sharp edges, the joints shall be filled flush unless the original joint face was profiled in some other way.
- o) 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. The mortar face shall be kept as far back as required to achieve the original joint width.

#### **1.15 Materials: Brick dust**

- a) Brick dust used shall be prepared from good quality red (terracotta) clay baked to a temperature between 850°C and 900°C. Clay baked at higher or lower temperatures shall not be used for the production of brick dust.
- b) The brick dust used shall be clean and free from deleterious substances etc. The baked clay shall be crushed and adequately graded for use as specified in this document.
- c) The use of glazed ware for the production of brick dust will not be permitted.

#### **1.16 Materials: Globigerina Limestone**

- a) Unless otherwise specified by the Contracting Authority's architect and civil engineer in charge, limestone used in the works shall be of the globigerina limestone (franka) type supplied from an approved source. The Contractor shall submit the name, location and licence number of the supply quarry from where the stone is being cut. The quarry shall be approved by the architect and civil engineer in charge and cannot be changed without prior approval.
- b) Unless otherwise indicated stone to match the existing will be requested. The new stone work shall be worked carefully, and true to shape (ikkartabunat).
- c) All stone blocks (unless otherwise requested) shall be cut as smooth as possible before delivery to site. All arises shall be true and all surfaces plane and truly perpendicular to each other sand to a finished uniform height. The stone blocks shall be delivered to site on pallets, clearly marked as to the type. All stone blocks shall be unloaded carefully to prevent damage and wastage.
- d) Only best quality "franka" stone from approved sources, free from all defects, shall be used. The stone shall have good and consistent aesthetic qualities, good durability and uniformity in appearance. It shall not have excessive quantities of red stains or hard shell fragments, but shall be fine-grained and free from spits and clay material. Any stone showing 'soll' traces or blue markings (swaba) and/or any other defects on the exposed face, or whose edges or corners have been chipped, shall be rejected.
- e) Should any such stones be used, the Contracting Authority's architect and civil engineer in charge shall have the power to remove and replace such work 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 and civil engineer in charge.
- f) The limestone blocks shall be faced and trimmed in a way that no chipped edges are visible, unless the Contracting Authority's architect and civil engineer in charge has requested the use of recycled masonry originating from the original construction itself.
- g) The blocks shall be transported to site on pallets and handled in such a way as to minimise damage and waste.

#### **1.17 Materials: Lower Coralline Limestone**

- a) Unless otherwise specified by the architect and civil engineer in charge, any Lower Coralline limestone used shall be of first quality material without any blemishes and faults.

- b) The colour of the limestone shall be uniform and shall be as free as possible from defects. The limestone is to be of a compact nature and shall be free from defects and large pores throughout. The properties of the material shall be as follows depending on the type requested:

throughout. The properties of the material shall be requested:

|                                                        | Mara Member | Xlendi Member       |
|--------------------------------------------------------|-------------|---------------------|
| Colour                                                 | Pale cream  | Pale cream to brown |
| Water absorption at atmospheric pressure (Note 1) (%): | Max 6%      | Max 6%              |
| Apparent density (Note 2) (Kg/m <sup>3</sup> ):        | 2200 -2500  | 2200-2500           |
| Total porosity (Note 3) (%):                           | Max 30%     | Max 20%             |

Note 1: Testing in accordance with MSA EN 13755.

Note 2: Testing in accordance with MSA EN 1936.

Note 3: Testing in accordance with MSA EN 1926.

#### **1.18 Methodology: Plastic repairs**

- Plastic repairs as specified in this document shall be used in areas indicated by the architect and civil engineer in charge.
- The work shall commence at the top of the wall moving downwards.
- If the surfaces exhibit biological soiling, a biocide should be applied prior to flushing out. Any vegetation shall be removed in accordance with these specifications.
- 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.
- The top and vertical edges of the repair area shall be undercut to provide sufficient bonding and reduce the formation of visible shrinkage joints.

- f) All mortar repairs shall be varied out in moist, warm conditions. The contractor shall ensure that all repairs are built up in layers not exceeding 10mm in thickness or as recommended in cases where the use of ready-mixed lime mortars is permitted.
- g) Suitable non-ferrous reinforcement approved by the architect and civil engineer 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.
- h) 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 the stone of 60mm, and the architect and civil engineer 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.
- i) Adequately gauged stainless steel or nylon wire shall be used to form a mesh between the dowels. This mesh shall be secured to the resin dowels. This mesh shall be secured to the resin dowels by an approved epoxy resin.
- j) When preparing the reinforcement, allowances shall be made to ensure a minimum cover of 20mm.
- k) The plastic repair mortar shall be based on a lime binder with the addition of approved admixtures and micro fibre strands as specified in this document to enhance bonding and limit cracking.
- l) Aggregates used shall vary from coralline sand, to marble and globigerina limestone sand (xahx) and to pozzolanic additives, as agreed with the architect and civil engineer in charge.
- m) The contractor shall take all measures to prevent:
  - n) Ingress of water, cleaning agents, debris and dust into the building via windows, doors, vents and other openings.
  - o) Protection of ventilation grilles, airbricks, or other ventilation openings without sealing them.
  - p) 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.
  - q) Staining of surfaces from ferrous or other reactive metals.

- r) 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.
- s) The contractor shall seek approval from the Contracting Authority's architect and civil engineer in charge should it be necessary to take additional measures for cleaning.

### **1.19 Repairing/conserving/renovating Timber**

#### **1.19.1 General**

- a) The main aim of this intervention shall be to preserve as much as possible of the existing joinery and, where these are extensively damaged, to handcraft replacements which reflect the original design and workmanship of the existing joinery.
- b) All work shall be carried out according to the best workmanship practices and in accordance with the latest local and EU-approved codes of practice.

#### **1.19.2 Preliminary inspection for existing services**

- a) The contractor, subject to any instructions or contrary directions in accordance with the contract, shall inspect the site, take all actions necessary to establish and/or verify the presence or absence of existing services, pipes, drains, cabling and supplies and precisely identify and document such findings on detailed plans and cross-sectional drawings. These shall be presented to the architect and civil engineer in charge for review.

#### **1.19.3 Assessment of existing joinery**

- a) The assessment of the actual state of the joinery is a complex undertaking based on both subjective and objective decisions. The main aim of this assessment shall primarily be that of enabling the contractor, in agreement with the architect and civil engineer in charge to determine the best methodology to be employed to repair, wherever possible, and replace, in kind, where deterioration is such that maintenance as described in this document is not possible.
- b) Assessment shall be carried out aperture by aperture and the contractor may be required to fill in a schedule for the approval of the architect and civil engineer in charge.

#### **1.19.4 Inspection of paintwork**

- a) The paintwork shall be inspected to determine signs of deterioration in the form of cracking, peeling, blistering, etc. The inspection shall also determine the presence of any excessive build-up of paint layers and shall help the contractor, in agreement with the architect and civil engineer in charge to decide on the action to be followed.

#### 1.19.5 Inspection of timber apertures

- a) The timber apertures shall be inspected to determine operational soundness, dimensional changes due to seasonal temperature changes and water penetration, condition of joints, condition of ironmongery, soundness of timber, condition of glazing, and beading, etc. to help the contractor, in agreement with the architect and civil engineer in charge determine the course of action to be followed.

#### 1.19.6 Other considerations

- a) During the inspection procedure, the contractor shall examine the opening and ensure that the detailing of the masonry is such as to allow proper water runoff and no water is allowed to accumulate in contact with the timber apertures. Any poor design is to be brought to the attention of the architect and civil engineer in charge.

#### 1.19.7 Paint removal – Health hazards

- a) Old paints may contain lead or other harmful elements. To this effect care shall be taken to ensure that all personnel engaged in the cleaning of paint will wear the appropriate protective wear.

#### 1.19.8 Paint removal – General

- a) The contractor shall take all necessary precautions to ensure that the gentlest possible methodology for the removal of paint is employed. Particular care shall be taken to ensure that in the process no damage is caused to the timber fabric. Where technically possible care shall be taken to preserve as much as possible of the original paint layers.

#### 1.19.9 Paint removal – Mechanical methods

- a) Mechanical methods entailing the scraping or hand sanding of old paint layers shall be employed as specified and approved by the architect and civil engineer in charge.



- b) All precautions shall be taken to ensure that no wood sections and/or surfaces are damaged in the process. All sanding shall be performed along the grain of the timber to avoid damage by going of the wood surface.
- c) The timber surface may be prepared by sanding using sand paper of a suitable gauge. The sandpaper should be mounted on an off support such as timber be rubber blocks, to avoid formation of depressions of the wood surface.
- d) Mechanical means other than rotary sanding equipment may be used for the cleaning of flat surfaces so approved by the architect and civil engineer in charge.

1.19.10          Paint removal – Pressurised jet

- a) Cleaning systems employing the use of high-pressure water blasting will not be permitted.

1.19.11          Paint removal – Thermal methods

- a) Thermal methods may be employed where complete paint removal is required provided:
- b) Adequate care is taken to ensure that the timber fabric is not charred or burnt.
- c) Adequate care is taken to ensure that any glazing is not damaged.

1.19.12          Paint removal – Paint remover methods

- a) The use of paint removers will be permitted for the softening of the paint provided that the paint stripper used does not damage the timber or alter the surface pose structures of the wood.

1.19.13          Paint removal –Sand blasting

- a) Cleaning / removal of paint using wet and / or dry sand blasting techniques will not be permitted.

1.19.14          Preparations of timber elements

- a) Care shall be taken to ensure that all timber elements are adequately dry and free from fungus or other parasites which contribute towards the deterioration of the timber elements.

1.19.15          Joinery repairs

- a) All effort shall be made to preserve as much as is technically possible of the original joinery work. Nonetheless extensively deteriorated timber sections shall be replaced. The replacements or new additions must retain character of the original joinery item.
- b) When carrying out a replica of the original joinery replacement, the following criteria should be respected:
  - i. The size and characteristics of the opening leaves.
  - ii. Proportions of the timber members used for the frame and leaf.
  - iii. Configuration of the timber assembly.
  - iv. Wood species.
  - v. Detailing and decorative features of the original joinery item.
  - vi. Paint colour.
  - vii. Ironmongery.
  - viii. Surface finish
- c) All timber work will be painted with an oil-based paint system as directed and approved by the architect and civil engineer in charge. Cleaned timber shall be primed with an aluminium-based paint. The paint system shall also include the application of oil-based undercoat/s and topcoat/s.

#### 1.19.16 Nails and screws

- a) The appearance of the nails and screws used in the repair of the joinery items is of great importance. To this effect where applicable all visible nails, screws etc. used shall be hand-forged to match the originals in all respects.

#### 1.19.17 Ironmongery

- a) The contractor shall ensure that all effort is taken to preserve the original wrought ironmongery. The restoration of existing ironmongery shall be carried out as outlined in E.02 clauses 6, 9 and 16 of this document.

### 1.20 Timber Works

- a) Prior to the commencement of works, the building shall be inspected by the contractor together with the Contracting Authority's architect and civil engineer in charge to confirm the extent of work and the methodology to be employed.
- b) Missing and unserviceable apertures will be replaced with "new" elements/apertures, designed and produced to replicate the original in (unless otherwise requested by Architect in Charge) :
  - i. size and characteristics of the opening leaves
  - ii. proportions of the timber members used for the frame and leaf
  - iii. configuration of the timber assembly
  - iv. wood species
  - v. detailing and decorative features of the original joinery item
  - vi. paint colour
  - vii. ironmongery

#### 1.20.1 Materials: Timber Generally

- a) Timber is to be straight, sound, bright, of matured growth, well-conditioned, properly seasoned, clean sawn, square edged, free from rot, dote and incipient decay. Shakes, splits, warp, wanes, large, loose or dead knots, soft spots, stained or bright sapwood and other defects and blemishes will not be allowed.

#### 1.20.2 Materials: Sizes and Allowances

- a) For joinery, other than that provided by the relevant standard, an allowance from the sizes indicated not exceeding 3mm for softwood and hardwood will be permitted for each wrought surface, unless the dimensions are indicated as 'finished sizes'.
- b) Any spacing, overall dimensions, etc. specified on the Bill of Quantities are only indicative and the Contractor is responsible for taking physical measurements on site prior to the start of manufacture of the doors or windows.
- c) The Contractor is responsible for taking all physical measurements to ensure that the work is carried out in the most workmanlike manner.

#### 1.20.3 Materials: Softwoods

- a) Softwood is to be the best quality available with due regard to the particular purpose for which it is required. It is to be cut square and free from large loose or dead knots, shakes, or other defects, and is to be approved for use by the architect and civil engineer in charge. Softwood for joinery unless otherwise indicated is to be of the quality known locally as **Red Deal**.

#### 1.20.4 Materials: Hardwoods

- a) Hardwood is to be of the best quality available with due regard to the particular purpose for which it is required, free from all defects and is to be approved for use by the Contracting Authority's Engineer. All exposed surfaces are to be wrought and finished off by hand with glass paper.
- b) Unless a particular hardwood is otherwise indicated any of those listed hereafter may be used according to the purpose for which it is required. The standard names quoted are those contained in MSA EN 13556.

#### 1.20.5 Methodology: Workmanship

- a) All work is to be executed in accordance with the schedules indicated in this tender document or any other details or schedules which may from time to time be given to the contractor. Joinery may be inspected in the Contractor's shops during preparation, and again before being primed if so required by the Contracting Authority's Engineer.
- b) All framed work is to be put together immediately as the general work is commenced, but not glued or wedged up until the joinery is prepared for fixing. All framing is to be put together with well fitted mortice and tenon joints.
- c) Running glued joints are to be cross-tongued and where the face of the joint is over 38mm thick they are to be double cross-tongued.
- d) All work is to be framed and jointed with an approved type of synthetic resin glue.
- e) All exposed surfaces are to be wrought machine sandpapered at works and the arrises blunted and all joinery not required to be painted, polished, or otherwise decorated is to be left clean on completion.
- f) All work delivered to site is to be stored immediately after delivery and protected from the weather.
- g) Where laminate is specified this shall mean the rigid sheet type. Thin factory applied type of finish will not be acceptable.

#### 1.20.6 Methodology: Defects

- a) Should any work shrink, warp, wind, expand or show other defects before the end of the maintenance period, the work is to be taken down and new work fixed in its place, together with any other work which may be affected. This is to be carried out at the Contractor's sole expense.

#### 1.20.7 Methodology: Fixing

- a) All work, so far as practicable, is to be securely fixed. Where the joiner's work is to be plugged, the plugs are to be hardwood cut on twist or approved proprietary brand plugs. When gluing, the adhesive is to be applied evenly over the entire surface of the facing boards and not on the core alone.

#### 1.20.8 Methodology: Stain/varnish/paint to woodwork

- a) Samples of stain/varnish/paint for testing may be taken by the Engineer from the sealed containers, spray gun containers or from the workmen's kettles on the works. Any work coated with unsatisfactory materials is to be cleaned off and re-executed. Likewise any work on which the stain/varnish/paint is found to be unduly thin is to be prepared again and re-applied all to the satisfaction of the architect and civil engineer in charge.
- b) Stains/paints are to be to the colours directed by the Contracting Authority's architect and civil engineer in charge. Where more than one coat is specified, each coat shall be in a different shade.
- c) All stain/varnish/paints are to be thoroughly mixed and stirred before use.
- d) The priming coat, undercoats and finishing coat of paint in any one paint system are all to be obtained from the same manufacturer. No paint is to be used beyond a period of 18 months from the date of manufacture or date of certificate of re-test. Woodwork shall be cleaned to remove dirt, grease, etc., before the primer is applied. Before applying the paint, all cracks, nail holes, open joints and other imperfections shall be made good with suitable filler, and knotting shall be applied to any knots. The primer shall be inspected to ascertain that it is of suitable type, firmly adhering, and in good condition before the appropriate finish is applied. If the primer is not satisfactory, the surfaces shall be completely stripped and treated again.

- e) Thinning of the paint will not be allowed without the permission of the architect and civil engineer in charge. If found necessary, this shall be carried out with the type of thinner and proportions recommended by the manufacturer of the paint.
- f) All woodwork shall be primed with a reputable brand of wood primer formulated to present an effective barrier to moisture penetration and a sound foundation for subsequent coats.
- g) Priming coats are to be adequate and uniform and are to be worked into the surface and into joints, angles and other places where moisture is likely to collect. The surfaces of all priming coats and undercoats are to be properly rubbed down and dusted off between coats as required to provide a smooth matt opaque film to which the next coat will firmly adhere. Undercoats and finishing coats are to be applied to the surface so that every part, including joints, angles, etc., is adequately covered, but care is to be taken to avoid excessive or uneven thickness of paint film, particularly at edges and in angles etc.
- h) Paint is to be applied so that the surface of the finishing coat is free from brush marks including brush marks showing through from preceding coats
- i) One or more coats of undercoat are to be applied after priming and before the finishing coat to produce a smooth surface of even finish and similar colour to the finishing coat.
- j) Finish coat may have a matt, eggshell, semi or full gloss finish of selected colour as indicated by the architect and civil engineer in charge. Alkyd resin paints are to be used.
- k) Cellulose finishes, where indicated, shall be used with the correct primers, fillers and where appropriate the correct wood stain for the specific surface using an application procedure as laid down by the manufacturer.
- l) All woodwork shall be cleaned from dirt, grease, etc and sand-papered lightly before each coat.
- m) All stains and varnishes in any one system are all to be obtained from the same manufacturer. No product is to be used beyond a period of 18 months from the date of manufacture or date of certificate of re-test. Before applying each layer, all cracks, nail holes, open joints and other imperfections shall be made good with suitable filler, and knotting shall be applied to any knots. Each application shall be inspected to ascertain that it is of suitable type, firmly adhering, and in good condition before the appropriate finish is applied. If it is not satisfactory, the surfaces shall be completely stripped and treated again.
- n) The contractor shall take adequate precautions to prevent any defects arising out of the misapplication of the material used. This includes the supply and use of suitable brushes.

- o) All brushes, spraying equipment etc. used in carrying out the work are to be clean and free from foreign matter and are to be thoroughly cleaned out before being used for a different type or class of material. All products are to be prepared and applied strictly in accordance with the manufacturer's printed directions.
- p) All surfaces are to be thoroughly dry before the next coat is applied. No stain/varnish/paint is to be applied externally during inclement weather.
- q) Spray painting will be allowed with approved machines except where soiling of adjacent surfaces is likely to occur and in the case of paints containing lead. The compressor is to be of adequate capacity for the number of guns in use. The pressure at containers and nozzles, the size and type of nozzles and the adjustment and operation of the guns are to be such that the resultant coating is even, adequate (but not excessive) and of the correct composition throughout. Surfaces adjoining those being sprayed are to be carefully and closely masked and care is to be taken to avoid uneven or indeterminate boundaries through paint being forced under the masks. The finished surface is to be free from orange peel appearance, runs, sags, curtaining and other defects.

#### 1.20.9 Paints from one manufacturer

- a) The priming coat, undercoats and finishing coat of paint in any one system are all to be obtained from the same manufacturer. No paint is to be used beyond a period of eighteen (18) months from the date of manufacture or date of certificate of re-test.
- i. Bidders must declare that the following materials/substances will not be used in the building:
- ii. Products which contain sulphur hexafluoride (SF<sub>6</sub>)
- iii. Indoor paints and varnishes with a content of solvents (volatile organic compounds (VOCs) with a boiling point of 250°C maximum) higher than:
- iv. For wall paints (according to EN13300): 30g/l (minus water)
- v. For other paints with a spreading rate of at least 15m<sup>2</sup>/l at a hiding power of 98% opacity: 250g/l (minus water)
- vi. For all other products (including paints that are not wall paints and that have a spreading rate of less than 15m<sup>2</sup>/l, varnishes, wood stains, floor coatings and floor paints and related products): 180g/l (minus water).

NB: Bidders must declare that these products/substances will not be used in the building.

#### 1.20.10 Methodology: Handling and Storage

- a) All units shall be individually wrapped or crated to avoid contact during transportation. All units shall be stored above ground in a dry area.

#### 1.20.11 Methodology: Installation

- a) Set units plumb, level and true to line, without wrap or rack of frame. Anchor frames solidly to surrounding construction to prevent distortion or misalignment. Apply protective coating on concealed surfaces in contact with a different type of material.

### 1.21 Metal Works

#### 1.21.1 Extent of works

- a) Prior to the commencement of works, the building shall be inspected by the contractor together with the architect and civil engineer in charge to confirm the extent of work and the methodology to be employed.

#### 1.21.2 Materials: General

- a) Unless otherwise indicated, the metal to be used shall be grade 43 steel.
- b) All materials shall be the best of their respective kinds, free from defects, and to be obtained from approved manufacturers.
- c) All work shall be carried out in a workmanlike manner and strictly as directed by the architect and civil engineer.
- d) The materials, in all stages of transportation, handling and storage, shall be kept clean, free from injury and breaking, bending and distortion.
- e) All smiths' work is to be forged clean, all screwed work is to have full internal and external threads.
- f) Frames, etc., are to be well framed together, rigidly fixed, and all connections properly fitted, shouldered, drilled tapped and screwed together with set screws countersunk flush with the surface where indicated.
- g) Welded joints are to be neatly made, filed smooth and left clean and adequate means shall be employed for temporarily fastening the parts to be welded together until the joints are welded.
- h) When requested by the Contracting Authority's architect and civil engineer, shop drawings are to be provided by the Contractor for approval prior to manufacture.



### 1.21.3 Protective treatment

- a) Steel shall be protected against corrosion by hot dip galvanising complying with MSA EN ISO 1461 or as directed by the Contracting Authority's architect and civil engineer.
- b) All rust, loose scale, oil and dirt shall be removed from all surfaces before treatment.
- c) Small areas of hot dip galvanised coating damaged by welding, cutting or by excessive rough treatment during transit and erection shall be renovated either by the use of low melting point zinc alloy repair rods or powders made specifically for this purpose, or by the use of at least two coats of good quality zinc-rich paint to BS 4652. Sufficient material shall be applied to provide a zinc coating at least equal in thickness to the original layer.
- d) On all galvanised metal works, painting is to consist of one coat red oxide or calcium plumbate on hot dip galvanising and one undercoat and one enamel finishing coat. A sufficient period is to be allowed for the galvanising coat to set/dry out prior to the application of the finishing coat.
- e) Painting is to be in the colour directed by the architect and civil engineer in charge.
- f) Bidders must declare that the following materials/substances will not be used in the building:
- g) Products which contain sulphur hexafluoride (SF<sub>6</sub>)
- h) Indoor paints and varnishes with a content of solvents (volatile organic compounds (VOCs) with a boiling point of 250°C maximum) higher than:
  - i) For wall paints (according to EN13300): 30g/l (minus water)
  - j) For other paints with a spreading rate of at least 15m<sup>2</sup>/l at a hiding power of 98% opacity: 250g/l (minus water).
- k) For all other products (including paints that are not wall paints and that have a spreading rate of less than 15m<sup>2</sup>/l, varnishes, wood stains, floor coatings and floor paints and related products): 180g/l (minus water).
- l) NB: Bidders must declare that these products/substances will not be used in the building.

## 1.22 Documentation

### 1.22.1 Methodology: Documentation (drawings)

- a) The contractor shall, on completion of works on each section, and prior to the certification of works, submit to the architect and civil engineer in charge a drawing accurately

indicating all interventions carried out. This documentation shall form part of the building file to be submitted to the architect and civil engineer in charge on completion of works.

- b) A digital copy of the photogrammetric survey as per tender drawings will be provided by the architect and civil engineer in charge in AUTOCAD 2008 compatible versions as indicated in the bill of quantities.
- c) The contractor shall be responsible to map every intervention carried out so as to provide a detailed record of works for posterity. Distinct interventions (stone replacement, consolidation, desalination, etc) shall be mapped on a separate layer allowing the user to view each intervention separately. The mapping shall be carried on a stone-by-stone basis and the exact demarcation of each intervention shall be denoted by a closed polygon and hatched as detailed by the architect and civil engineer in charge.
- d) Prior to the certification of works the contractor shall submit to the Contracting Authority's architect civil engineer in charge two printed copies (in colour) in scale 1:100 or as requested by the architect and civil engineer in charge and a digital copy (AUTOCAD 2008 compatible). The drawings and mapping indicated shall be certified by a warranted architect and civil engineer as exactly representing the works (type and extent) carried out.

#### 1.22.2 Methodology: Documentation (photographic record)

- a) The contractor shall, on completion of works on each section, and prior to certification of works, submit to the architect and civil engineer in charge a set of photographs indicating all interventions carried out. This documentation shall form part of the building file to be submitted to the Contracting Authority's architect and civil engineer in charge on completion of works.
- b) The photographs shall clearly illustrate the interventions carried out as well as the state of the structures to be restored through this tender prior to the commencement of works. Any archaeological, historical or similar evidence such as masons marks, particular construction details, etc discovered on site during the progress of works shall also be documented.
- c) The photographs shall be submitted to the Contracting Authority's architect and civil engineer in charge prior to the certification of works. The photographs shall be submitted in digital format saved on a CD (Compact Disk) or DVD as directed and approved by the architect and civil engineer in charge.

- d) The photographs shall be taken with a high resolution colour digital camera, saved in .jpg format and not less than 3.2Mb in size.
- e) All photographs shall be taken with adequate lighting (flash light should as far as practicable be avoided) and should be of a good quality free from blurs and colour bleeding.

## **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***

The full set of General Conditions for Works Contracts is included in the tender package.

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.