**ITT SECTION TWO:**

**Background Information / Service Specification**

**The Provision of Structural Engineering Advice & Services for the Maintenance & Refurbishment of the Blackpool Tower Steel Structure – Ref DN234677**

**Background**

The Blackpool Tower first opened to the public on 14th May 1894 and is one of the major attractions for visitors to Blackpool. The Council acquired the Grade I listed Blackpool Tower in March 2010 and has undertaken substantial restoration and redevelopment works over the last six years. The maintenance of the structure is difficult due to the need to work at height and the inaccessible nature of the tower in addition to the exposure to the aggressive weather in a coastal environment.

Blackpool Council requires professional services to provide Structural inspections and advice & supervision for the continuing maintenance & refurbishment of the listed Tower steel structure. The Council is seeking a Structural Engineering Consultant that will be able to carry out structural inspections & surveys of the existing steel structure, provide guidance and deliver works in relation to the listed and historic fabric. These services will range from advisory and feasibility work through to a full design & supervisory service.

The contract of engagement will be the NEC3 professional services.

The successful Consultants will work as part of Blackpool Councils project team that will ensure that both the maintenance and any redevelopment is sympathetic to the heritage of the building whilst introducing innovative and modern solutions where appropriate.

The onus is on the Bidder to ensure that their offer is complete and meets Council requirements. Failure to satisfy any aspects may lead to the offer being rejected without further reason being given. It is therefore essential to ensure that you read the Tender documentation carefully and answer fully all questions asked.

The successful Consultant must be registered on the I. Struct. E. and ICE CARE register (conservation accreditation for engineers).

The consultant must note that access to the lifts up the Tower stick is restricted and dependant on the time of year, access requirements for paying visitors is paramount, it is therefore imperative that any inspections are coordinated with the managers of the Tower (Merlin Entertainments Ltd). This will mean that inspections will probably need to take place during daylight outside the normal hours of trading during the summer months this could be between 5am and 9.30am depending on when you looking to carry out the inspections. There are days during the year when the Tower is not open to the public and it is possible that you may be able to be accommodated on these days too.

Payments will be made on completion of the work and the submission of an invoice on completion of the work in accordance with the conditions of the contract.

**Scope of works**

In regards to the scope of works to be completed within the Maintenance contract, there are four main areas which need to be considered. These are as follows;

1. Site visits to inspect the full tower via various access points every 6 months
2. Yearly review of the Tower main legs using CCTV Cameras fed down the internal legs and via rope access
3. Supervision of the works that were omitted from the original Blackpool Tower Painting contract
4. Identification of Future work required.
5. **Structural surveys & inspections every 6 months to inspect the full structure**
6. It is proposed that inspections are completed on all of the Towers steel structure on an annual basis with follow up inspections at 6 monthly intervals where identified as necessary. The first full inspection must take place within the first two months of the Contract being signed.
7. The inspection from Level 85’ – Level 380’ can be undertaken from the top of a lift with a fully trained site operative that can manually operate the lift in safe mode. The successful Consultant must also provide proposals for the inspection of the outer areas of the structure.
8. The inspections must be completed from both the North and South lift. The surveys must be co-ordinated with Merlin Entertainment to ensure it does not impact on their trading. Consequently, yearly programmes will need to be provided which can be approved by the client, lift operatives and Merlin Entertainment. These programmes must offer flexibility due to the potential for adverse weather conditions which would prevent the survey being completed.
9. Those completing the survey must have suitable training for working at height and using personal fall protection equipment.
10. Inspection of the steel and paint above Level 380’, this can be undertaken via stairs up to the bird cage area (Level 473’).
11. After each inspection, a full report must to be provided within 4 weeks to the client detailing findings, recommendations and potential time scales to complete the works. Recommendation for any additional surveys and the condition of the existing paint must also be provided.
12. Please see Health and Safety file from the previous Contract.

*(NB Previously these surveys have taken approximately a week to complete).*

1. **Yearly CCTV Surveys and inspection of the internal legs**
2. It has been proposed that a CCTV survey is completed every 12 months on the internal elements of the box sections that form the base of the Tower. However the Council is prepared to be advised by the successful Consultant on the nature and frequency of this survey.
3. The CCTV survey equipment would need to be inserted at the top of the legs at Level 372’ and lowered to record all the enclosed areas. This needs to be completed on each of the 16 legs.
4. The advice from previous Structural Engineers is that the CCTV survey equipment is inserted into the central legs on each major lattice (Level 288’, 263’, 235’, 203’, 168’ and 128’.) Please refer to Appendix C for the location of the central legs.
5. Many areas of the legs are accessible which allows some access for a visual inspection. It is the responsibility of the Consultant to propose their own safe method of inspecting these areas.
6. During the on-going works from the last 8 years, some of the internal legs appeared in a condition which may deteriorate over the next 6 years. The previous Structural Engineers have highlighted these as key areas to survey at each of the yearly inspections; this information can be found in the Appendix B & C.
7. **Omitted works from the Previous Painting Contract**
8. To meet the required deadlines associated with the original Blackpool Tower Painting Contract, areas of work have been omitted from the previous contract. Consequently, the work which needs to be completed and which the Consultant must specify and supervise within the first year of the maintenance contract are as follows;

* Painting of Section 30
* Painting of Section 45
* 30% painting remaining on Section 60
* Undertaking of the steel repairs associated with Sections 30, 45 and 60. For the locations of the sections mentioned above, refer to Appendix A & B.

1. The previous Structural Engineers completed an inspection of the steelwork associated with these sections (which are referred to as the lift shaft from Level 85’ - Level 203’) from the top of the lifts on the 10th June 2014. Refer to Appendix B for the document they provided to the client indicating the steel repairs which need to be completed.
2. As stated in the documentations, these steel repairs were observed from the top of the lift and undertaken two years ago. Consequently, the list is not exhaustive and the appointed engineer must satisfy themselves with the extent of repairs that need to be undertaken.
3. Pre-Contract

* To carry out an inspection of the Tower structure
* To produce detailed prioritised schedules of work required to maintain the integrity of the structure including drawings at each level identifying the size and location of the members where work is required
* To produce tender documentation including drawings, specifications and quantities
* To assist with preparation of contract documents
* Produce a pre-contract health and safety plan for inclusion in the tender documents
* To assist in the procurement of Contactors to carry out works and prepare a comparison of the tender documents with recommendations

1. Contract Supervision and Engineering Services during on-site works

* Ensure that all work is carried out in accordance with the specification & contract documents
* Inspect areas exposed for treatment and instruct the contractor in respect of repairs and replacement members as work proceeds
* Produce a monthly report on progress and identify any problems or issues during the project
* To carry out monthly valuation reports of the works carried out for the contract administrator.
* Attend monthly site progress meetings

1. Health & Safety CDMC

* Prepare and issue an F10 notification to the Health and Safety Executive
* Produce a pre-contract Health and Safety Plan
* Inspect the Contractors Construction Phase Plan and confirm its adequacy work
* Undertake a site inspection in respect of health and safety issues and report accordingly at site meetings
* Liaise with the Contractor and prepare a Health and Safety File at the completion of the project

1. **Identification of Future work**
2. Pre-Contract

* To carry out an inspection of the tower Structure
* To produce detailed and prioritised schedule of work required to maintain the integrity of the structure including drawings at each level identifying the size and location of the members where work is required
* To produce tender documentation including drawings, specifications and quantities
* To assist with preparation of contract documents
* Produce a pre-contract health and safety plan for inclusion in the tender documents
* To assist in the procurement of Contactors to carry out works and prepare a comparison of the tender documents with recommendations

1. Contract Supervision and Engineering Services during on-site works

* Ensure that all work is carried out in accordance with the specification & contract documents
* Inspect areas exposed for treatment and instruct the contractor in respect of repairs and replacement members as work proceeds
* Produce a monthly report on progress and identify any problems or issues during the project
* To carry out monthly valuation reports of the works carried out for the contract administrator.
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