



GOVERNMENT OF BERMUDA

Ministry of Public Works

Works and Engineering

Annex A – Scope of Work
Project No. 44-28-75
Feasibility Study, Preliminary Plans and Specifications for
the Replacement of Swing Bridge and Longbird Bridge

**Feasibility Study, Preliminary Plans and
Specifications for the Replacement
of Swing Bridge and Longbird Bridge**

Bermuda

**Annex A
Scope of Work**

Date: February 10, 2017

Project No. 44-28-75



Part 1 GENERAL

1.1 Objective

- .1 The Government of Bermuda wants to maintain safe and reliable infrastructure for the residents and visitors to the Island. Two existing bridges located in the Eastern End of the Island, Swing Bridge and Longbird Bridge will come to the end of their useful lives in the near future. To this end it is proposed to build two new movable bridges to replace these aging structures.
- .2 Swing Bridge provides access, both vehicle and marine traffic, to the historic town of St. George's, that is the oldest continuously-inhabited English town in the Americas. The current bridge was constructed in the early 1960's.
- .3 Longbird Bridge completes the western link from the Causeway to the L.F. Wade International Airport and it is known as the official entrance into Bermuda. The original bridge was built by the US military in the 1950's and it was replaced by two Mabey Compact 200 Panel bridges in 2007. These temporary bridges were located on an offset alignment to the original bridge and the Causeway. The new Longbird Bridge will be a movable bridge and it will be located on the original alignment.
- .4 The Government of Bermuda wants these new bridges to be architectural landmarks to Bermuda and constructed at a fair and competitive price.
- .5 The objective of Phase I of this request for proposal is to obtain a feasibility study to identify three options for each new bridge. These options will be vetted and a single preferred choice will be made for each bridge.
- .6 Phase II of this request for proposal will be to advance the preferred option through the conceptual designs phase to include structural, mechanical, electrical, and control designs, proposed construction methods, detailed schedules, Class C Indicative estimates for construction cost and yearly maintenance cost.
- .7 Phase III will further the design development to a 50% complete Construction level plans and specifications.
- .8 The project is to be carried out in three phases, as follows, with a final technical report to be issued at the completion of each phase;

Phase I: Presentation of three options for each bridge

Phase II: Feasibility study of the remaining option for each bridge.

Phase III: Preliminary Plans and Specification, up to the 50 % completion level, for both bridges

1.2 Scope of Work

.1 Phase I: Presentation of three options for each bridge

1. Review existing drawings, studies, and reports using the preliminary list in Annex C – Drawings and Reference Documents.



2. Site visit, technical meeting, basic design criteria, loads and architectural requirements.
3. Provide general geotechnical requirements needed for each option and a proposed site investigation.
4. Design life span : 75 years
5. Description of Mechanical, Electrical and Control components for each option of the movable bridge.
6. Description of the choice of material considering long term maintenance.
7. Wind related design.
8. Architectural drawings illustrating a minimum of four views for each option.
9. Review local Bermuda costing issues, i.e. materials, labour, bridge operating and maintenance costs.
10. Prepare and present a Class D Cost Estimate for each option.
11. Summarize findings in a draft report.
12. Review findings with Ministry.
13. Public presentations, allow four days.
14. Issue Phase I final report.

.2 Phase II: Feasibility study of the remaining option for both bridges

1. Provide conceptual design for both bridges.
2. Complete a mechanical/electrical/control conceptual design for both bridges.
3. Review conceptual construction methods.
4. Prepare a detailed schedule of construction.
5. Prepare a Class C Indicative estimate for construction costs and yearly maintenance costs.
6. Propose a wind model for bridges, as needed.
7. Prepare a risk assessment.



8. Summarize findings and recommendations in a draft report.
9. Review findings with Ministry.
10. Issue Phase II final report.

.3 **Phase III: Preliminary Plans and Specification, up to the 50 % complete Construction level, for both bridges**

1. Continue technical/costing development of the preferred option.
2. Provide construction drawings for bridge replacement up to 50 % completion.
3. Provide construction drawings of operational systems including mechanical, electrical and control systems.
4. Provide construction specifications up to 50 % completion.
5. Provide safety file including outline of method statements, risk assessments, material data sheets and environmental statement.
6. Develop conceptual construction and staging methods.
7. Further develop accuracy of costing details for repair, replacement items, and life cycle costing.
8. Provide details of how and why the bridge will be operationally reliable for 30 years.
9. Issue draft documents.
10. Review findings with Ministry.
11. Issue Phase III final report.



Part 2 Schedule

- .1 The Contract Award date will be determined after the proposals are evaluated and approved by the Government.
- .2 The Consultant shall issue the following documents, using his best efforts, according to the following schedule:

<u>Document</u>	<u>Date to be Issued</u>
Phase I, Draft Report	Contract Award date + 90 days
Phase I, Final Report	Contract Award date + 120 days
Phase II, Draft Report	Contract Award date + 180 days
Phase II, Final Report	Contract Award date + 210 days
Phase III, Draft Report	Contract Award date + 330 days
Phase III, Final Report	Contract Award date + 365 days

- .3 Provide a detailed schedule for the work and major deliverables that meets the above requirements.

Part 3 Schedule of Fees

- .1 Provide a detailed Fixed Fee Schedule, per Annex B, showing a cost breakdown for the deliverables.

END OF SCOPE OF WORK