



JAMAICA FOUNDATIONS FOR COMPETITIVENESS AND GROWTH PROJECT

Loan No.:8408-JM – Component 1

Assignment Title: Assignment Title: Conduct Information Security Audit and Information Technology Review and Strategy Development for the National Land Agency

Reference No. (as per Procurement Plan): FCG/CON/068

TERMS OF REFERENCE

1.0 BACKGROUND

The Government of Jamaica (GOJ) has secured a US\$50 million loan from the World Bank to finance a project entitled Foundations for Competitiveness and Growth (FCG). The Project Executing Agency is the Planning Institute of Jamaica (PIOJ) with key Project Components to be implemented by JAMPRO and the Development Bank of Jamaica (DBJ) as the Lead Coordinating Agencies. The overall objective of the project is to strengthen the business environment in Jamaica for private sector investment by promoting broad-based private sector-led growth, improving the investment climate, modernizing infrastructure and logistics, as well as enhancing entrepreneurship and competitive industries. Component 1 of the project, which is coordinated by JAMPRO, seeks to enhance competition in the business environment, including through initiatives geared towards enhancing the registration of property process in Jamaica.

GOJ is currently exploring viable options that will improve the registration of property process in Jamaica, as a part of its overall efforts to enhance the experience of doing business in Jamaica and encouragement of new investors. Within the FCGP, the Implementation of Electronic Titles in Jamaica is envisioned as a critical component to Jamaica's achievement of long term goals. Land registration and management is viewed globally as a critical component of economic development and receives strong support from international organizations such as the UN, European Commission and World Bank. The World Bank has supported land and real estate reforms across a wide range of countries, and since 2015, it has included 'Registry of Property' as a key index in its annual Doing Business Report.

This reform of the land titling processes is in direct alignment with the Jamaica National Development Plan - *Vision 2030 Jamaica* which provides the framework for the transformation of the Jamaican society and economy by 2030. One of the National Goals within Vision 2030 – *Goal 3: Jamaica Will Be Prosperous*.

As part of the plan to achieve *Goal 3 of Vision 2030*, the enhancement of systems for land ownership, titling and transfer was identified under National Outcome 8 as follows:

National Outcome 8: *An Enabling Business Environment*

National Strategy: *Ensure a Facilitating Policy, Regulatory and Institutional Framework for Business Development*

Sector Strategy: *Improve processes related to land ownership, titling and transfer*

Land registration in Jamaica is governed by the Registration of Titles Act (1889). The Registration of Titles Act (“RTA”) provides the legislative framework for the operation of the Torrens system, the Jamaican land registration system. The National Land Agency (NLA) is the government agency with responsibility for maintenance of the Title Registry, as well as other functions pertaining to the management of government lands as well as maintenance of a national cadastre and valuation roll.

In 2017, the NLA was granted funding under FCGP to undertake an exercise - ‘*Project Scoping for The Implementation of Electronic Titles in Jamaica*’. Under this project a Consultant was engaged to carry out an assessment and to produce a number of outputs, including a Business Case to implement an Electronic Land Titling System.

Currently, the registration system is based on paper certificates of title which limits the capability to reduce processing time and thus adversely impacts on efficiency. The existence of duplicate Certificates of Title also increases the potential for fraud. Despite the introduction of security paper and electronic signatures, duplicate certificates of title are manipulated with the intention of defrauding an unsuspecting purchaser. Production costs relating to the procurement of security paper will be eliminated by the implementation of an electronic titling system.

Additionally, there is a substantial requirement for storage space owing to the existing statutory requirement to keep paper records. It is anticipated that challenges will arise with storage space, if the current issuance rate of titles continues.

A system of electronic titles will reduce the time and human resources required to facilitate the endorsement of transactions on original and duplicate Certificates of Title. This will result in an improvement in the efficiency of the land registration process, from the point of application (registration) through to the issuing of a legally binding proof of title. Other benefits include:

- Enhancement in collection of property transfer related taxes by improved validation of self-declared transfer values;
- Faster processing of transactions through improved integration of Ministries, Departments and Agencies (MDAs) involved in the processes;
- Improved capacity, speed and service levels for NLA Land Titles Division;
- Decentralization of processing, leading to increased access to services by the public;
- Reduction of fraud;
- Increased information sharing between MDAs;
- Increased accountability of service providers (attorneys and surveyors);
- Reduction of internal costs;
- Improved ability to recover from catastrophic events;
- Improved system stability, speed, reliability and availability

As part of the implementation of the electronic land titling system, the NLA has recognised that a robust Information Technology (IT) infrastructure and secure information environment are required. The NLA therefore intends to strengthen the internal operational policies and processes to enhance IT and to improve information security. The NLA also recognises that an IT strategic planning is necessary for the organisation to be able to align the business functions and technology with a strategic vision.

Against this background, the NLA wishes to conduct an information security audit, as well as an IT Review, that will lead to the elaboration of an IT Strategy and Technology Roadmap for the NLA.

The National Land Agency (NLA) has requested assistance under Component 1 of the FCG Project to engage the services of a consultant firm or consortium to undertake this exercise. This request is consistent with the FCG Project Appraisal Document (PAD) where provisions are made for technical assistance and implementation support to address critical business regulation and procedural issues that constrain firm entry, operation and expansion, competition, trade and logistics.

The following projects are also related to the purpose of this contract:

- Development of recommendations for legislative amendment to facilitate an e-land titling system and to identify the other Torrens based jurisdictions which have progressed to e-Titling.
- Data Migration and Digitisation of Land Titling records

2.0 OBJECTIVES OF THE ASSIGNMENT

The FCG Project Development Objective of which this contract will form a part is, *“To strengthen the business environment in Jamaica for private investment”*.

The purpose of this contract is to procure the services of a Consulting Firm or Consortium to perform an IT Review and to assess the information security systems, in order to improve the NLA internal operational policies and processes that supports the effectiveness and efficiency of the electronic land titling system being implemented.

The specific objectives of the assignment are as follows:

- To conduct an information security audit in accordance with the ISO/IEC 27001 standard for information security management

- To perform an IT Review of the NLA and make recommendations for improvements
- To prepare a five-year IT Strategy and Action Plan for the NLA that will serve as a guide to IT-related decision making, with a priority list of IT initiatives to be implemented.

The results to be achieved by the Consulting Firm or Consortium:

- Information Security Audit Report with recommendations
- Report on findings of the NLA IT Review and recommendations
- Five Year IT Strategy and Action Plan for the NLA
- Disaster Recovery and Business Continuity Plan

3.0 SCOPE OF SERVICES, TASKS (COMPONENTS) AND EXPECTED RESULTS

The Consulting Firm or Consortium will be required to provide the following services:

3.1 Convene a Project Kick-Off meeting with the NLA and other relevant stakeholders and prepare a meeting report.

Deliverable:

Project Kick-Off Meeting Report

3.2 Conduct an Information Security Audit in accordance with the checklist prescribed by the ISO/IEC 27001 standard for information security management which covers the following main aspects:

- Security Policy
- Organisation of Information Security
- Asset Management
- Human Resources Security
- Physical and Environment Security
- Communication and Operations Management
- Access Control
- Information Systems Acquisition, Development and Maintenance
- Information Security Incident Management
- Business Continuity Management
- Compliance

3.3 Conduct network penetration testing including use of social engineering techniques

3.4 Conduct Vulnerability Assessment of the computer and network infrastructure including servers, applications and databases.

- 3.5 Prioritize and score identified risks
- 3.6 Formulate Security Solutions for all identified risks
- 3.7 Submit Draft Information Security Audit Report to the NLA containing the vulnerability assessment report and penetration testing results.
- 3.8 Convene a meeting with the NLA and other relevant stakeholders to discuss the audit findings and proposed solutions
- 3.9 Submit Final Information Security Audit Report to the NLA with agreed recommendations and security solutions

Deliverables:

Draft Information Security Audit Report

Final Information Security Audit Report with recommendations and security solutions

- 3.10 Perform a current state analysis of all the IT systems, processes, investments, compared to current and future business requirements and identify gaps. This analysis should include but not limited to the following:
 - Assessment and gap analysis of Hardware Inventory, Software Inventory, Licensing Review, Network Identification, Network Components, Network Map
 - What-If Scenarios
 - SWOT Analysis
 - Human resources
 - Forecast of business requirements
 - NLA Strategic Plans
 - Recommendations to improve the NLA IT systems
 - Recommendations to develop a Disaster Recovery and Business Continuity Plan
- 3.11 Submit a comprehensive report on the current state analysis of the IT systems with proposed recommendations to the NLA
- 3.12 Facilitate a two-day IT strategic planning workshop with NLA senior leadership and other relevant internal and external stakeholders to produce the following:
 - New IT Mission Statement
 - Long-range business and technology outlook for the organization
 - Organisation IT Goals and Objectives
 - Five (5) Year Technology Road Map with prioritised IT initiatives, budget and investment plan
 - Performance measurement framework including monthly reporting metrics, annual outputs and performance targets
 - Development of the Disaster Recovery and Business Continuity Plan

- 3.13 Prepare and submit a Draft IT Strategy and Action Plan inclusive of a performance measurement framework, and Draft Disaster Recovery and Business Continuity Plan documents to the NLA for review and comment.
- 3.14 Incorporate feedback and submit a Final IT Strategy and Action Plan document inclusive of a performance measurement framework, and a Final Disaster Recovery and Business Continuity Plan to the NLA.

Deliverables:

IT Review and Assessment Report

Draft IT Strategic Plan

Final IT Strategy and Action Plan

Draft Disaster Recovery and Business Continuity Plan

Final Disaster Recovery and Business Continuity Plan

4.0 TEAM COMPOSITION & QUALIFICATION REQUIREMENTS FOR THE KEY EXPERTS

The following key experts are required on the team:

Key Expert 1: Information Management Specialist/Team Leader

The Information Management Specialist should satisfy the following requirements:

- Post-graduate Degree in Management Information Systems (MIS), Computer Information Systems (CIS), Project Management or any other related discipline
- Eight (8) years of relevant experience in IT infrastructure design and planning, as well as leading and facilitating IT strategic plan and technology road map development
- Demonstrated experience in developing Disaster Recovery and Business Continuity Plans
- Demonstrated experience with public sector organisations
- Demonstrated experience in managing information systems projects involving sensitive and confidential public records

Key Expert 2: Enterprise Architect

The Enterprise Architect should satisfy the following requirements:

- Bachelor's Degree in Information Communication Technology (ICT), Business Management, or any other related discipline
- Certification in two or more of the following areas: MCSE, MCSA, MCTS, CCNA, Java, Linux, Oracle; Federated Enterprise Architecture Certification would be an asset
- Competency in Business Analysis, IT Security Management and System Architecture
- At least five (5) years' experience in assessing IT policies, processes and procedures and creating business architecture models to suit organisations goals.

Key Expert 3: Information Security Auditor

The Information Security Auditor should satisfy the following requirements:

- Bachelor's Degree in Business Management, Accounting, Computer Science, Information Technology or any other related field.
- Certified Information Systems Auditor (CISA) credential or CISSP certification for information security
- At least five (5) years' experience working in IT Security projects and implementing and supporting security technology in organisations
- At least two (2) years' experience conducting information security audits
- Working knowledge of the ISO/IEC 17799 or 27001 standards

The Firm must select and hire other experts as required according to the profiles identified in the Organization & Methodology and/or these Terms of Reference. All experts must be independent and free from conflicts of interest in the responsibilities.

The Firm will provide support facilities to their team of experts (back-stopping) during the implementation of the contract. The Consultant must ensure that experts are adequately supported and equipped. In particular, the Consultant must ensure that there is sufficient administrative, secretarial and interpreting provision to enable experts to concentrate on their primary responsibilities.

5.0 REPORTING REQUIREMENTS AND TIME SCHEDULE FOR DELIVERABLES

The Planning Institute of Jamaica is the Contracting Authority and is responsible for final approval of any contractual amendments and payments.

The Firm will report to the National Land Agency, the Supervising Entity. The Supervising Entity shall be responsible for general oversight of the project, the approval of deliverables and payment requests. The designated representative of the Supervising Entity is the Registrar of Titles/ Director Land Titles Division. Final approval of the deliverables resides with the Chief Executive Officer of the National Land Agency.

The intended start date is September 2019 and the period of implementation of the contract will be five (5) months from this date.

The firm will be required to provide the following outputs:

Name of Report	Content	Timeline for Submission	Review Period	Payment Percentage
1. Project Kick-Off Meeting Report	<ul style="list-style-type: none"> Summary report of project team and NLA kick-off meeting including limitations and factors that may impact on the assignment 	Within (1) week after contract signing	1 week	10%
2. Draft Information Security Audit Report	<ul style="list-style-type: none"> Results of audit findings against the checklist items Prioritised list of gaps and identified risks Recommendations and security solutions 	Within four (4) weeks after contract signing	2 weeks	–
3. Final Information Security Audit Report	<ul style="list-style-type: none"> Results of audit findings against the checklist items Prioritised list of gaps and identified risks Recommendations and security solutions 	Within eight (8) weeks after contract signing	2 weeks	30%
4. Report on Review and Current State Analysis of the NLA IT Systems	<p>Comprehensive report outlining the methodology of the IT Review and the findings of the assessment to include but not limited to the following areas:</p> <ul style="list-style-type: none"> Baseline assessment of IT systems and organisation What-If Scenarios SWOT Analysis Human resources Forecast of business requirements Assessment of technology effectiveness Risk profile Alignment of IT service delivery to business requirements Operational inefficiencies Recommendations to improve IT and operational performance 	Within four (4) weeks after contract signing	4 weeks	20%

Name of Report	Content	Timeline for Submission	Review Period	Payment Percentage
	<ul style="list-style-type: none"> Recommendations to compile and implement the Disaster Recovery and Business Continuity Plan. 			
5. Draft IT Strategy and Action Plan for the NLA	<p>NLA IT Strategy and Action Plan document that outlines the following:</p> <ul style="list-style-type: none"> IT Mission Statement Long-range business and technology outlook for the organization IT Goals and Objectives Five (5) Year Technology Road Map with prioritised IT initiatives, budget and investment plan Performance measurement framework including annual outputs and performance targets 	Within ten (10) weeks after contract signing	4 weeks	20%
6. Draft IT Disaster Recovery and Business Continuity Plan	<p>Document outlining the following aspects:</p> <ul style="list-style-type: none"> Inventory of hardware and software Priorities for IT recovery according to business functions Recovery strategies for Information technology (IT) systems, applications and data. Internal and Vendor Supported Recovery Strategies Data Back-Up Plan 	Within ten (10) weeks after contract signing	4 weeks	10%
7. Final IT Strategy and Action Plan for the NLA	<p>NLA IT Strategy and Action Plan document that outlines the following:</p> <ul style="list-style-type: none"> IT Mission Statement Long-range business and technology outlook for the organization IT Goals and Objectives Five (5) Year Technology Road Map with prioritised IT 	Within sixteen (16) weeks contract signing	2 weeks	10%

Name of Report	Content	Timeline for Submission	Review Period	Payment Percentage
	initiatives, budget and investment plan <ul style="list-style-type: none"> • Performance measurement framework including annual outputs and performance targets 			
8. Final IT Disaster Recovery and Business Continuity Plan	Document outlining the following aspects: <ul style="list-style-type: none"> • Inventory of hardware and software • Priorities for IT recovery according to business functions • Recovery strategies for Information technology (IT) systems, applications and data. • Internal and Vendor Supported Recovery Strategies • Data Back-Up Plan 			

6.0 CLIENT’S INPUT AND COUNTERPART PERSONNEL

All day to day operations and communication regarding the implementation of activities under the contract will be handled by the Supervising Entity – National Land Agency (NLA).

The Consulting Firm will be home based and will only be accommodated at the NLA as needed.

Services, facilities, reports and property to be made available to the Firm by the NLA:

- a) Office space, internet, telephone, fax.
- b) Professional and technical support personnel to be assigned by the NLA as focal point