ADOA–ASET
Arizona Strategic Enterprise Technology

Project Investment Justification

Version 01.01

A Statewide Standard Document for Information Technology Projects

---

Project Title:

Grant and Loan Information Management System

Agency Name:	**Water Infrastructure Finance Authority**
Date:	**09/29/14**
Agency Contact Name:	**Patricia Majlish**
Agency Contact Phone:	
Agency Contact Email:	

Hover for Instructions

I.   Management Summary*

The Water Infrastructure Finance Authority (WIFA) is an independent agency of the State of Arizona authorized to finance the construction, rehabilitation and/or improvement of drinking water, wastewater, wastewater reclamation, and other water quality facilities and/or projects. Generally, WIFA offers borrowers below market interest rates on loans.

WIFA proposes to develop a new primary application and platform to replace its Grant and Loan Management Information System. This new platform will more effectively automate and systematize its grant and loan management processes, regulatory requirements, reporting needs, and financial tracking tools.

II.   Project Investment Justification (PIJ) Type*

☐ **Yes**   ☒ **No**   Is this document being provided for a Pre-PIJ / Assessment phase?

If Yes,

Identify any cost to be incurred during the Assessment phase.	$0
Based on research done to date, provide a high-level estimate or range of development costs anticipated for the full PIJ.	$0

Explain:
6T

☐ **Yes**   ☒ **No**   Will a Request for Proposal (RFP) be issued as part of the Pre-PIJ or PIJ?

III.   Business Case

A.   Business Problem*

 As a "bond bank," WIFA is able to issue water quality bonds on behalf of communities for basic water infrastructure. Through active portfolio and financial management, WIFA provides significant savings due to lower interest rates and no closing costs. WIFA is able to lower a borrower's interest costs to between 70 and 95% of WIFA's tax-exempt cost of borrowing.

WIFA's principal tools for providing low interest financial assistance include the Clean Water Revolving Fund for publicly held wastewater treatment projects and the Drinking Water Revolving Fund for both publicly and privately held drinking water systems.

WIFA also manages a Planning and Design Technical Assistance Program. This program offers planning and design funding to eligible wastewater and drinking water systems. The purpose of the program is to help prepare water and wastewater facilities for future infrastructure project construction. Nationally, all of the States and the two Territories have similar programs, but based on their individual state statutes/rules, their business practices and organization, their programs are managed differently. Arizona and 15 other states manage their programs using a software application created by a contractor for the Environmental Protection Agency (EPA) called the Loans and Grants Tracking System (LGTS).

LGTS is a Microsoft Access based system developed over several years. Because this application is used by multiple states that have different practices, updates for one state are applied to all states even if they do not need that upgrade. The application itself is unique because it combines financial and

programmatic management, invoicing, project management, bond payments/sales, and a general ledger while incorporating the requirements of the Clean Water and Safe Drinking Water Act requirements, other federal requirements, and state requirements.

The WIFA Executive Director has been actively searching for a new application for several years. Loan tracking software has been looked at, but no single application which will meet all of WIFA's requirements was found. The WIFA Executive Director has also discussed the issue at National Meetings of (CIFA) and determined no application is known that works effectively in a web-based environment. WIFA has tested other states' applications and found them to usually be very good for one of WIFA's business components, but not all.

The current application does not conform to WIFA's actual workflow. Additionally, it is poorly documented, the interface is cumbersome and makes it difficult to train new personnel, customer support is very poor, and when errors are discovered, making corrections is extremely difficult.

In order to modernize and improve its operations, WIFA proposes to develop a new, efficient, primary application. WIFA plans to build a web-based application which will enable workflow, reduce data entry, improve accuracy, and provide for required reporting and regulatory reviewing needs. Other targeted enhancements include automated warning notifications and a complete set of documentation for both IT support and program operations staff to meet auditing requirements.

B.   Proposed Business Solution*

WIFA proposes to utilize a software development company to produce a web-based frontend and a cloud-based backend SQL database platform, which will meet all of WIFA's process needs as described above. This work will be performed by a State of Arizona approved vendor by means of Knowledge Services. This vendor will provide project management, application design and development, and business analysis resources and expertise for this project. An Agile methodology will be used in a two-phased approach. The vendor will work alongside members of the WIFA team to produce results and continuously improve delivery.

Feedback will be gathered from staff members who will use the new application and to establish standards for how these subcomponents will be built. New application subcomponents will be developed and tested. Focus will be on overall integration, and achievement of required system functionality.

The production and application development of each new subcomponent will involve an iterative process of design, creation, and feedback. WIFA IT and Program staff will work with the developer to assure integration and customization is achieved. User stories will be identified by the developer and WIFA team, with details fully explored. Some examples of interactions and components include:
- Receiving data through forms
- Functioning loan amortization program
- Generating reports and documents
- Cross functionality of disjointed data sets
- Auditing, general ledger, and baseline functionality
- Uploading documents
- Validating deployment and hosting solutions
- Validating interoperability with E-App and other existing technologies

C. Quantified Benefits*

X	Service enhancement
	Increased revenue
X	Cost reduction
	Problem avoidance
	Risk avoidance

Explain:

The new application will conform to WIFA's actual workflow. Additionally, new processes will be effectively documented. The new interface will be efficient and easy to train new personnel on its use. Customer support and issue resolution will be improved.

IV.   Technology Approach

A. Proposed Technology Solution*

An existing in-house SQL Server 2008 Relational Database Management System (RDBMS) will be leveraged along with other internal resources for internal web-based hosting to create the web-based frontend and a cloud-based backend SQL database platform. Setup will be performed by existing WIFA IT staff in order to minimize Professional and Outside Services (P&OS) costs. WIFA may also incorporate an Amazon EC2 implementation at monthly cost of approximately $100, if deemed appropriate.

B. Technology Environment

The existing application is a Microsoft Access front end, tied to a Microsoft SQL Server backend database. The application is installed on in-house servers and infrastructure and deployed to desktop workstations. The current application provider pushes uncontrolled updates, patches, and revisions of the application, which occur with little or no advanced notice, causing repeated disruptions to operations.

The environment will be coded in Java Script using a Microsoft SQL server data base. The proposed new application will be deployed on cloud-hosted infrastructure using Infrastructure as a Service (IaaS) and Platform as a Service (PaaS) which include management of virtual servers inclusive of the operating system. Due to State information systems security policies and other requirements, a State-approved set of cloud-based services and platforms will need to be identified.

C. Selection Process

All components of the future solution will meet Arizona Strategic Enterprise Technology (ASET) requirements for security and data storage. A customized solution was chosen based on the varied requirements of WIFA's processes, along with the apparent unavailability of a commercial off-the-shelf (COTS) solution. The vendor selected to provide the proposed solution was chosen based upon past performance and positive working relationship with Hudson Technology Partners' CEO Edvardt Bedrosian, who will be managing the project.

V.   Project Approach

A. Project Schedule*

Project Start Date: 10/7/2014   **Project End Date**: 6/30/2015

B. Project Milestones

Major Milestones	Start Date	Finish Date
Setup Prototype Application Environments	10/07/14	10/09/14
Document Technologies Used	10/07/14	10/17/14
Develop App - User Story: PMs can enter Project Data	10/07/14	10/13/14
Develop App - User Story: Reconciliation Report	10/13/14	10/17/14
Develop App - User Story: PM can upload applications from E-Apps	10/17/14	10/31/14
Develop App - User Story: LPC can upload documents for a Project	10/31/14	11/11/14
Develop App - User Story: Controller can generate EOY loan confirmation	11/11/14	1/11/15
Additional Development Contingency (discovery, setup, unforeseen delays, testing, process and documentation development, etc.)	1/11/15	6/30/15

VI.   Roles and Responsibilities

A. Project Roles and Responsibilities

Agency Director: Sandra Sutton, WIFA Executive Director
Chief Information Officer: Chris Unnewehr, CIO / CISO
Chief Financial Officer: Trish (Patti) Incognito, CFO, Project Sponsor
Controller: Mike Clark, Financial Advisor and Tester
Fiscal Services Manager: Patricia Majlish, Business Lead
Database Administrator: James Manalac, Project IT Advisor
Project Manager: Edvardt Bedrosian, Hudson Technology Partners, PM

B. Project Manager Certification

- [ ] Project Management Professional (PMP) Certified
- [ ] State of Arizona Certified
- [X] Project Management Certification not required

C. Full-Time Employee (FTE) Project Hours

Total Full-Time Employee Hours	100
Total Full-Time Employee Cost	$

VII.   Risk Matrix, Areas of Impact, Itemized List, PIJ Financials

VIII. Project Approvals

A. Agency CIO Review*

Key Management Information	Yes	No
1. Is this project for a mission-critical application?	X	
2. Is this project referenced in your agency's Strategic IT Plan?		X
3. Is this project in compliance with all agency and State standards and policies for network, security, platform, software/application, and/or data/information as defined in http://aset.azdoa.gov/security/policies-standards-and-procedures, and applicable to this project? If **NO**, explain in detail in the "XI. Additional Information" section below.	X	
4. Will this project transmit, store, or process sensitive, confidential or Personally Identifiable Information (PII) data? If **YES,** in the "XI. Additional Information" section below, describe what security controls are being put in place to protect the data.	X	
5. Is this project in compliance with the Arizona Revised Statutes (A.R.S.) and GRRC rules?	X	
6. Is this project in compliance with the statewide policy regarding the accessibility to equipment and information technology for citizens with disabilities?	X	

B. Project Values*

The following table should be populated with summary information from other sections of the PIJ.

Description	Section	Number or Cost
Assessment Cost (if applicable for Pre-PIJ)	II. PIJ Type - Pre-PIJ Assessment Cost	$0
Total Development Cost	VII. PIJ Financials tab	$100,000
Total Project Cost	VII. PIJ Financials tab	$100,000
FTE Hours	VI. Roles and Responsibilities	100

C. Agency Approvals*

Contact	Printed Name	Signature	Email and Phone
Project Manager:	Ed Bedrosian		
Agency CISO / CIO:	Chris Unnewehr		
Agency Database Manager:	James Manalac		
Project Sponsor:	Trish Incognito		
Agency Director:	Sandra Sutton		

IX.   Optional Attachments

A.   Vendor Quotes

X.   Glossary

XI.   Additional Information

Links:

[ADOA-ASET Website](#)

[ADOA-ASET Project Investment Justification Information Templates and Contacts](#)

Email Addresses:

[Strategic Oversight](#)

[ADOA-ASET_Webmaster@azdoa.gov](#)