

Oakland County Department of Information Technology Project Scope and Approach

Project Name: LAMS Rewrite Program (MP2021-2022)

Project ID: D90182RP

Leadership Group: Land					
Department: Information Technology			Division: Application Services		
Project Sponsor: Tammi Shepherd		Date Requested: 10/15/2020		PM Customer No. 182	
Request Type:		<i><u>New Development</u></i>		<i>Enhancement</i>	
		<i>Planned System Maintenance or Upgrade</i>		<i>Customer Support</i>	
IT Team Name: Assessing and Taxation			IT Team No: 9		
Project Manager/Leader: Addie Hankins					
Account Number:	17020	Account Description:	Application Services	Customer Name:	Information Technology
Grant Funded? Yes <u>No</u>			Mandate? Yes <u>No</u>		
			Mandate Source:		

Project Goal

To re-write the front end of the Land Address Management System (LAMS) using current versal template, so that the maintenance and management of existing land and address data can be performed with increased efficiency.

Business Objective

To provide a consistent and accurate source of information to other applications. With this newer technology, the application will be easier to maintain, compartmentalize, increased performance and improved automated processes that are needed for Oakland County Departments and Local Municipalities. The project will consist of multiple development phases and a final implementation phase.

MP 2019-2020 (COMPLETED)

- Requirements and Design
- Server Migration and Phase 1 Development
 - Module 1 – Parcel Search
 - Module 2 – Parcel Maintenance
 - Module 3 – Security Administration
 - Module 7 – Lookup Screens

MP 2021-2022

- Phase 2
 - Module 4: Reports
 - Module 5: To Do List
 - Module 7: Look Up Screens (continuation from Phase 1)
- Phase 3
 - Module 6: Parcel Details
 - Module 8: Migrate LAMS Images to AWS S3 bucket
 - Module 9: Document Upload

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- Phase 4
 - Module 10: Address Exports
 - Module 11: Non-Participating Load Reports
 - Module 12: LAMS Non-Participating load and Key Updates SSIS
 - Module 13: Upgrade Webservices (LAMSWWS and Address Cleanse)
 - Module 14: LAMS BSA Patch Update
 - Module 15: LAMS Admin Tool Upgrade
- Phase 5 LAMS Integrations and Implementation
 - Integration with 9 applications
 - Land Gateway
 - GIS
 - BSA Assessing & Taxation
 - Property Gateway
 - PAWS
 - PayLocal
 - PayDelinquent
 - MBOR
 - DelTax
 - Build/Configure Production Environment in AWS
 - Implementation, Training, Documentation, and Post Implementation Support

Approach

- Develop Detailed Project Plan for each phase of the program
- Develop, Test, Remediate Modules listed above

Research & Analysis

Gartner Research Recommendation - Research Conducted – Nothing Found.

Benefits

See Return on Investment (ROI) Analysis Document

Impact

Number of Users >400

Divisions Treasurer, Equalization, Road Commission, Register of Deeds, Water Resource Center, Planning, CLEMIS & Local Municipalities

Leadership Groups Land

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Risk

Business Environment Medium - Project will require some changes to existing business processes.

Technical Environment Medium - Previously implemented technologies with new aspects and/or new requirements.

Assumptions

Staffing IT Staffing: resources will be available for the hours indicated per the project plan. Equalization Staffing: clerical and appraiser staff will be available as needed.

<u>Role:</u>	<u>Name</u>	<u>Hours per Day</u>
Project Sponsor:	Tammi Shepherd	As needed
Technical SME:	Manju Chikkanna	5 Hours per day

Facilities

- NA

Technical

- The rewrite will focus on the front-end, with changes to the back-end of the application only occurring when necessary for the front end changes.

Funding

- Information Technology

Other

- N/A

Priority

- 3

Constraints

- Resources will be available and able to perform project tasks as required

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Exclusions

- Adobe Flash End of Life (12/2020)
- DevOps Pipelines
- Module 16 User Provisioning and SCIM (OKTA)

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PROJECT PHASE AUTHORIZATION

Phase(s): Program Management, Phase 2, Phase 3, Phase 4, and Phase 5	
Total Estimated Application Services	Hours: 3044
Total Estimated CLEMIS	Hours: 70
Total Estimated Internal Services	Hours:
IT Application Services Division Manager Approval:	Date:
IT Technical Systems Division Manager Approval:	Date:
IT CLEMIS Division Manager Approval:	Date:
IT Internal Services Division Manager Approval:	Date:
IT Management Approval:	
Approved: Yes No	Date:
Reason:	
Project Sponsor Approval:	
Title:	Date:

PROJECT SUMMARY

Authorized Development (see above)	Hours: 3114
Previously Authorized Development (see above)	Hours:
Preliminary Estimated Development for Future Phases	Hours:
Grand Total Estimated Development	Hours: 3,114 Cost: \$513,810

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PROJECT COMPLETION AUTHORIZATION

Customer Acceptance of Product:	
Title:	Date:
Project Office Review:	Date:

Oakland County -- LAMS Rewrite Program

Return on Investment Analysis

Project Summary

Description	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Total
Benefits/Savings:							
Tangible Benefits Subtotal:	0	0	0	0	0	0	0
Cost Avoidance Subtotal:	13,200	13,464	13,733	14,008	14,288	14,574	83,267
Costs:							
Development Services Subtotal:	357,390	312,840	221,430	292,545	0	0	1,184,205
Hardware Subtotal:	0	0	0	0	0	0	0
Software Subtotal:	0	0	0	0	0	0	0
Infrastructure Subtotal:	0	0	0	0	0	0	0
Training Subtotal:	0	0	0	0	0	0	0
Other Subtotal:	0	0	0	0	0	0	0
Annual Statistics:							
Annual Total Savings	13,200	13,464	13,733	14,008	14,288	14,574	83,267
Annual Total Costs	357,390	312,840	221,430	292,545	0	0	1,184,205
Annual Return on Investment	(344,190)	(299,376)	(207,697)	(278,537)	14,288	14,574	(1,100,938)
Annual Costs/Savings Ratio	2707.50%	2323.53%	1612.36%	2088.42%	0.00%	0.00%	
Project Cumulative Statistics:							
Cumulative Total Savings	13,200	26,664	40,397	54,405	68,693	83,267	83,267
Cumulative Total Costs	357,390	670,230	891,660	1,184,205	1,184,205	1,184,205	1,184,205
Cumulative Return on Investment	(344,190)	(643,566)	(851,263)	(1,129,800)	(1,115,512)	(1,100,938)	(1,100,938)
Cumulative Cost/Savings Ratio	2707.50%	2513.61%	2207.23%	2176.64%	1723.90%	1422.17%	1422.17%
Year Positive Payback Achieved							NO PAYBACK
State or Federal Mandate?							
Signatures:							
Benefits Reviewed By Project Sponsor	_____			Date:	_____		
Costs (including IT Resources) Reviewed By Information Technology Project Manager	_____			Date:	_____		

Oakland County -- LAMS Rewrite Program
Return on Investment Analysis

Savings Detail

Benefit/Savings Description	Project Savings Category	Budget Category/Funding Source	Unit Desc	Units	Rate per Unit	Total Savings	Annual Multiplier
Savings on unplanned maintenance per year	Cost Avoidance		ANN	70	165	11,550	1.020
Savings for customer support per year (due to older technology)	Cost Avoidance		ANN	10	165	1,650	1.020
Updated technology would benefit other application projects requiring automation and workflow processes to eliminate manual effort and time savings.	Intangible Benefit					0	
Older technology nearing end of life and extensive use of the system requires updates; a rewrite would eliminate performance issues.	Intangible Benefit					0	
Updating the user store brings the LAMS application in line with other IT standards.	Intangible Benefit					0	
						0	
						0	
						0	
						0	
						0	
						0	

Oakland County -- LAMS Rewrite Program
Return on Investment Analysis

Savings Detail

Benefit/Savings Description	Project Savings Category	Affects Project ROI?						Potential Savings Extensions					
		Y1	Y2	Y3	Y4	Y5	Y6	Y1	Y2	Y3	Y4	Y5	Y6
Savings on unplanned maintenance per year	Cost Avoidance	x	x	x	x	x	x	11,550.00	11,781.00	12,016.62	12,256.95	12,502.09	12,752
Savings for customer support per year (due to older technology)	Cost Avoidance	x	x	x	x	x	x	1,650.00	1,683.00	1,716.66	1,750.99	1,786.01	1,822
Updated technology would benefit other application projects requiring automation and workflow processes to eliminate manual effort and time savings.	Intangible Benefit												
Older technology nearing end of life and extensive use of the system requires updates; a rewrite would eliminate performance issues.	Intangible Benefit												
Updating the user store brings the LAMS application in line with other IT standards.	Intangible Benefit												

Oakland County -- LAMS Rewrite Program

Return on Investment Analysis

Savings Summary

Benefit/Savings Description	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Total
Tangible Benefit:							
<i>Tangible Benefits Subtotal:</i>							
Cost Avoidance:							
Savings on unplanned maintenance per year	11,550	11,781	12,017	12,257	12,502	12,752	72,859
Savings for customer support per year (due to older technology)	1,650	1,683	1,717	1,751	1,786	1,822	10,408
<i>Cost Avoidance Subtotal:</i>	13,200	13,464	13,733	14,008	14,288	14,574	83,267
Intangible Benefit:							
Updated technology would benefit other application projects requiring automation and workflow processes to eliminate manual effort and time savings.							
Older technology nearing end of life and extensive use of the system requires updates; a rewrite would eliminate performance issues.							
Updating the user store brings the LAMS application in line with other IT standards.							
Savings Total:	13,200	13,464	13,733	14,008	14,288	14,574	83,267

Oakland County -- LAMS Rewrite Program
Return on Investment Analysis

Cost Detail

Cost Description	Project Cost Category	Budget Category/Funding Source	Unit Desc	Units	Rate per Unit	Total Cost	Annual Multiplier	Affects Project ROI?							
								Y1	Y2	Y3	Y4	Y5	Y6		
Server Rack Mount	Infrastructure				400	0									
Oracle Enterprise Per Processor - Includes Year 1 Maintenance	Infrastructure				21,372	0									
Oracle Enterprise Per Processor - Year 2 and Beyond	Infrastructure				3,432	0									
SQL Server Enterprise - Per Processor (4 cores) - Purchased Sept 2016-Aug 2017 - Includes Maintenance thru Aug 2019	Infrastructure				24,533	0									
SQL Server Enterprise - Per Processor (4 cores) - Purchased Sept 2017-Aug 2018 - Includes Maintenance thru Aug 2019	Infrastructure				20,759	0									
SQL Server Enterprise - Per Processor (4 cores) - Purchased Sept 2018-Aug 2019 - Includes Maintenance thru Aug 2019	Infrastructure				16,985	0									
SQL Server Enterprise - Maintenance, Per Processor (4 cores) - Sept 2019 and Beyond	Infrastructure				4,218	0									
SQL Server Standard - Per Processor (4 cores) - Purchased Sept 2016-Aug 2017 - Includes Maintenance thru Aug 2019	Infrastructure				6,398	0									
SQL Server Standard - Per Processor (4 cores) - Purchased Sept 2017-Aug 2018 - Includes Maintenance thru Aug 2019	Infrastructure				5,414	0									
SQL Server Standard - Per Processor (4 cores) - Purchased Sept 2018-Aug 2019 - Includes Maintenance thru Aug 2019	Infrastructure				4,429	0									
SQL Server - Standard Maintenance, Per Processor (4 cores) - Sept 2019 and Beyond	Infrastructure				1,100	0									

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Cost Detail

Cost Description	Project Cost Category	Budget Category/Funding Source	Unit Desc	Units	Rate per Unit	Total Cost	Annual Multiplier	Affects Project ROI?							
								Y1	Y2	Y3	Y4	Y5	Y6		
Websphere Basic Per Processor Single/Dual Core - Includes Year 1 Maintenance	Infrastructure				3,506	0									
Websphere Basic Per Processor Single/Dual Core - Year 2 and Beyond	Infrastructure				701	0									
Websphere ND Per Processor Single/Dual Core - Includes Year 1 Maintenance	Infrastructure				13,180	0									
Websphere ND Per Processor Single/Dual Core - Year 2 and Beyond	Infrastructure				2,635	0									
SSL Certificate	Infrastructure				845	0									
Internet Access	Infrastructure				180	0									
Imperva Web Application Firewall (External Web Applications Only)	Infrastructure		ANN		500	0									
App Code Directories on Consolidated IIS Server (Virtual)	Infrastructure		ANN		415	0									
Database (5 GB) on Consolidated SQL Instance Server	Infrastructure		ANN		930	0									
Database Instance (125 GB DB) on Consolidated SQL Server	Infrastructure		ANN		2,395	0									
Database SQL Maint Server	Infrastructure		ANN		834	0									
Database SQL Server Physical	Infrastructure		ANN		19,158	0									
DB Maintenance (Annual Cycle \$610)	Infrastructure		ANN		610	0									
DB Maintenance (Semi-Annual Cycle \$1220)	Infrastructure		ANN		1,220	0									
DB Maintenance (Semi-Annual Cycle \$2440)	Infrastructure		ANN		2,440	0									
Dedicated Virtual Server	Infrastructure		ANN		4,150	0									
DB Instance Setup	Infrastructure				976	0									
DBA MS SQL Database Creation on Existing Instance	Infrastructure				366	0									

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Cost Detail

Cost Description	Project Cost Category	Budget Category/Funding Source	Unit Desc	Units	Rate per Unit	Total Cost	Annual Multiplier	Affects Project ROI?							
								Y1	Y2	Y3	Y4	Y5	Y6		
Extra Small - 2 Core 8GB RAM, 500GB Drive, 10 GB NIC - Cloud/Virtual = \$601 On Premise Physical Server = N/A	Infrastructure		ANN			0									
Small - 4 Core 16GB RAM, 500GB Drive, 10 GB NIC - Cloud/Virtual = \$951 On Premise Physical Server = \$9,288	Infrastructure		ANN			0									
Medium - 8 Core 32GB RAM, 500GB Drive, 10 GB NIC - Cloud/Virtual = \$1,702 On Premise Physical Server = \$9,751	Infrastructure		ANN			0									
Large - 16 Core 64GB RAM, 500GB Drive, 10 GB NIC - Cloud/Virtual = \$3,167 On Premise Physical Server = \$10,446	Infrastructure		ANN			0									
Extra Large - 40 Core 160GB RAM, 500GB Drive, 10 GB NIC - Cloud/Virtual = \$7,564 On Premise Physical Server = \$12,906	Infrastructure		ANN			0									

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Cost Detail

Cost Description	Project Cost Category	Potential Cost Extensions					
		Y1	Y2	Y3	Y4	Y5	Y6
IT Hours - New Development (Remaining)	Development Svcs				292,545.00		
IT Hours - Requirements and Design	Development Svcs	44,550.00					
IT Hours - Phase 1	Development Svcs	312,840.00	312,840.00				
IT Hours - Phase 2	Development Svcs			221,430.00			
IT Hours - Phase 3	Development Svcs						
IT Hours - System Maintenance	Development Svcs						
IT Hours - Customer Support	Development Svcs						
IT Hours - Planned Maintenance	Development Svcs						
User Hours - New Development	Development Svcs						
User Hours - PTNE/OT	Development Svcs						
Contractor Professional Services	Development Svcs						
PC System - Acquisition	Hardware						
PC System - Maintenance	Hardware						
Notebook - Acquisition	Hardware						
Notebook - Maintenance	Hardware						
Tablet Notebook - Acquisition	Hardware						
Tablet Notebook - Maintenance	Hardware						
Laserprinter - Acquisition	Hardware						
Laserprinter - Maintenance	Hardware						
Image Workstations - Acquisition	Hardware						
Image Workstations - Maintenance	Hardware						
PC Maintenance User Owned	Hardware						
Printer Maintenance User Owned	Hardware						
File Space (100GB)	Hardware						
Internet Bandwidth per MB	Hardware						
Package Software - Acquisition	Software						
Package Software - Maintenance	Software						
Business Objects Access	Software						
Term Emulation SFTW-Acquisition	Software						
Term Emulation SFTW-Maintenance	Software						
Server - Acquisition/Upgrade	Infrastructure						
Server - Maintenance	Infrastructure						
Server Sftwre - Acquisition/Upgrade	Infrastructure						
Server Sftwre - Maintenance	Infrastructure						

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Cost Detail

Cost Description	Project Cost Category	Potential Cost Extensions					
		Y1	Y2	Y3	Y4	Y5	Y6
Server Rack Mount	Infrastructure						
Oracle Enterprise Per Processor - Includes Year 1 Maintenance	Infrastructure						
Oracle Enterprise Per Processor - Year 2 and Beyond	Infrastructure						
SQL Server Enterprise - Per Processor (4 cores) - Purchased Sept 2016-Aug 2017 - Includes Maintenance thru Aug 2019	Infrastructure						
SQL Server Enterprise - Per Processor (4 cores) - Purchased Sept 2017-Aug 2018 - Includes Maintenance thru Aug 2019	Infrastructure						
SQL Server Enterprise - Per Processor (4 cores) - Purchased Sept 2018-Aug 2019 - Includes Maintenance thru Aug 2019	Infrastructure						
SQL Server Enterprise - Maintenance, Per Processor (4 cores) - Sept 2019 and Beyond	Infrastructure						
SQL Server Standard - Per Processor (4 cores) - Purchased Sept 2016-Aug 2017 - Includes Maintenance thru Aug 2019	Infrastructure						
SQL Server Standard - Per Processor (4 cores) - Purchased Sept 2017-Aug 2018 - Includes Maintenance thru Aug 2019	Infrastructure						
SQL Server Standard - Per Processor (4 cores) - Purchased Sept 2018-Aug 2019 - Includes Maintenance thru Aug 2019	Infrastructure						
SQL Server - Standard Maintenance, Per Processor (4 cores) - Sept 2019 and Beyond	Infrastructure						

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Cost Detail

Cost Description	Project Cost Category	Potential Cost Extensions					
		Y1	Y2	Y3	Y4	Y5	Y6
Websphere Basic Per Processor Single/Dual Core - Includes Year 1 Maintenance	Infrastructure						
Websphere Basic Per Processor Single/Dual Core - Year 2 and Beyond	Infrastructure						
Websphere ND Per Processor Single/Dual Core - Includes Year 1 Maintenance	Infrastructure						
Websphere ND Per Processor Single/Dual Core - Year 2 and Beyond	Infrastructure						
SSL Certificate	Infrastructure						
Internet Access	Infrastructure						
Imperva Web Application Firewall (External Web Applications Only)	Infrastructure						
App Code Directories on Consolidated IIS Server (Virtual)	Infrastructure						
Database (5 GB) on Consolidated SQL Instance Server	Infrastructure						
Database Instance (125 GB DB) on Consolidated SQL Server	Infrastructure						
Database SQL Maint Server	Infrastructure						
Database SQL Server Physical	Infrastructure						
DB Maintenance (Annual Cycle \$610)	Infrastructure						
DB Maintenance (Semi-Annual Cycle \$1220)	Infrastructure						
DB Maintenance (Semi-Annual Cycle \$2440)	Infrastructure						
Dedicated Virtual Server	Infrastructure						
DB Instance Setup	Infrastructure						
DBA MS SQL Database Creation on Existing Instance	Infrastructure						

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Cost Detail

Cost Description	Project Cost Category	Potential Cost Extensions					
		Y1	Y2	Y3	Y4	Y5	Y6
Extra Small - 2 Core 8GB RAM, 500GB Drive, 10 GB NIC - Cloud/Virtual = \$601 On Premise Physical Server = N/A	Infrastructure						
Small - 4 Core 16GB RAM, 500GB Drive, 10 GB NIC - Cloud/Virtual = \$951 On Premise Physical Server = \$9,288	Infrastructure						
Medium - 8 Core 32GB RAM, 500GB Drive, 10 GB NIC - Cloud/Virtual = \$1,702 On Premise Physical Server = \$9,751	Infrastructure						
Large - 16 Core 64GB RAM, 500GB Drive, 10 GB NIC - Cloud/Virtual = \$3,167 On Premise Physical Server = \$10,446	Infrastructure						
Extra Large - 40 Core 160GB RAM, 500GB Drive, 10 GB NIC - Cloud/Virtual = \$7,564 On Premise Physical Server = \$12,906	Infrastructure						

Oakland County -- LAMS Rewrite Program
Return on Investment Analysis

Cost Summary

Cost Description	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Total
Development Services:							
IT Hours - New Development (Remaining)				292,545			292,545
IT Hours - Requirements and Design	44,550						
IT Hours - Phase 1	312,840	312,840					
IT Hours - Phase 2			221,430				
IT Hours - System Maintenance							
IT Hours - Customer Support							
IT Hours - Planned Maintenance							
User Hours - New Development							
User Hours - PTNE/OT							
Contractor Professional Services							
<i>Development Services Subtotal:</i>	357,390	312,840	221,430	292,545			1,184,205
Hardware:							
<i>Hardware Subtotal:</i>							
Software:							
<i>Software Subtotal:</i>							
Infrastructure:							
<i>Infrastructure Subtotal</i>							
Training:							
<i>Training Subtotal:</i>							
Other:							
<i>Other Subtotal:</i>							
Costs Total:	357,390	312,840	221,430	292,545			1,184,205

Return on Investment Analysis

Assumptions

Date	Assumption Description
05-Jun-18	This is a rewrite of the LAMS front end. It does not include making any changes to the Trillium address validation service(s) or the back end of the LAMS database.