Oakland County
Department of Information Technology
Project Scope and Approach

Project Name: NHD Database Consolidation and Conversion   **Project ID: D13167DB**

Leadership Group: Finance/Admin	
Department: Health and Human Services	**Division: Neighborhood & Housing Development**
Project Sponsor: Shane Bies	**Date Requested: 6/3/22** · **PM Customer No. 167**
Request Type: *New Development x* *Enhancement* *Customer Support* *Planned System Maintenance or Upgrade*	
IT Team Name: Infrastructure and GIS	**IT Team No: 1**
Project Manager/Leader: Susan Moore	

Account Number:	96561	Account Description:	HS ADMIN-NEIGHBORHOOD/HOUSING	Customer Name:	Health and Human Services

Grant Funded? Yes No x	**Mandate?** Yes No x **Mandate Source:**

Project Goal

To upgrade and/or retire existing databases so that staff efficiency can be increased, and data accuracy improved.

Business Objective

Reduce staff time spent entering, managing, and searching for information via outdated database interface

Reduce the need to search through paper files.

Increase accuracy of data by automating workflows when possible.

Eliminate duplicate data entry into multiple databases.

Provide easy access to information in databases to staff, whether they are onsite or working remotely.

Major Deliverables

- Detailed Project Plan
- Application and/or System Requirements
- End User Software Requirements Document
- Technical Design Document
- Technical Architecture Diagram
- Training Plan
- User Acceptance Test Plan

- Implementation Plan
- Training/User Manual(s)
- Application Code
- Service Level Agreement
- Service Center Knowledge Documents

Approach

- Develop Detailed Project Plan
- Review current business process and conduct needs assessment with customer, ensuring current manual processes are refined and automated.
- Document system requirements
- Determine and document system architecture and diagram
- Assess User Software Requirements
- Develop Implementation Plan
- Develop new system
- Develop User Acceptance Test Plan
- Test new system
- Acquire User Acceptance Sign off
- Conduct Change Control
- Develop User Documentation, SLA, Disaster Recovery Toolkit, Service Center Knowledge Documents
- Train users on new system
- Release new system into production

Research & Analysis

Gartner Research Recommendation

Benefits

See Return on Investment (ROI) Analysis Document

Impact

Number of Users   15

Divisions   Neighborhood and Housing

Leadership Groups Finance/Admin

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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 attached project plan.

Other Staffing: additional staffing will be available as follows:

Role:	Name	Hours per Day
Project Sponsor:	Shane Bies	As needed

Facilities

-
-

Technical

- Existing County systems will house the upgraded/replaced Access databases. No new software purchases will be required.
-

Funding

-

Other

-

Priority

Project Name: NHD Database Consolidation and Conversion   **Project ID: D13167DB**

Constraints

-
-

Exclusions

-
-

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PROJECT PHASE AUTHORIZATION

Phase(s): **All**		
Total Estimated Application Services **Hours:** 1224		
Total Estimated Technical Systems **Hours:**		
Total Estimated CLEMIS **Hours:**		
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:** 1224	
Previously Authorized Development **Hours:**	
Preliminary Estimated Development for Future Phases **Hours:**	
Grand Total Estimated Development **Hours: 1224** **Cost:** $201,960	

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PROJECT COMPLETION AUTHORIZATION

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

NHD Database Consolidation and Conversion - Size Estimate (+/- 10% to 50%)

	Type	ID	Task Name	Estimated
2				Hours
3	3	000000	PROJECT MANAGEMENT	234
4	Phase	200000	DEFINE BUSINESS REQUIREMENTS	146
5	Phase	300000	DESIGN SYSTEM ARCHITECTURE	
6	Phase	500000	DEVELOP APPLICATION	712
7	Phase	600000	IMPLEMENTATION PHASE	77
8	Phase	800000	POST IMPLEMENTATION SUPPORT	55
9				1,224

Oakland County -- NHD Database Consolidation and Conversation

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:	0	0	0	0	0	0	0
Costs:							
Development Services Subtotal:	201,960	4,019	4,080	4,141	4,203	4,266	222,669
Hardware Subtotal:	1,250	0	0	0	0	0	1,250
Software Subtotal:	2,730	2,730	2,730	2,730	2,730	2,730	16,380
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	0	0	0	0	0	0	0
Annual Total Costs	205,940	6,749	6,810	6,871	6,933	6,996	240,299
Annual Return on Investment	(205,940)	(6,749)	(6,810)	(6,871)	(6,933)	(6,996)	(240,299)
Annual Costs/Savings Ratio	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
Project Cumulative Statistics:							
Cumulative Total Savings	0	0	0	0	0	0	0
Cumulative Total Costs	205,940	212,689	219,499	226,370	233,303	240,299	240,299
Cumulative Return on Investment	(205,940)	(212,689)	(219,499)	(226,370)	(233,303)	(240,299)	(240,299)
Cumulative Cost/Savings Ratio	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
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:			

Savings Detail

Benefit/Savings Description	Project Savings Category	Budget Category/Funding Source	Unit Desc	Units	Rate per Unit	Total Savings	Annual Multiplier
Duplicate data entry could be eliminated	Intangible Benefit					0	
An updated application could easily make the information accessible to staff working remotely.	Intangible Benefit					0	
Staff would be more efficient when locating information.	Intangible Benefit					0	
Reporting on information could be made possible and/or easier.	Intangible Benefit					0	
KPI reporting will be made possible, easier and more robust.	Intangible Benefit					0	
The ability to target outreach to applicants in order to meet HUD's Voluntary Compliance Agreement requirements can be increased.	Intangible Benefit					0	
The automation will reduce the time needed to process applications.	Intangible Benefit					0	
Online integration of database and currently paper-based process flow will make hybrid work easier.						0	
						0	
						0	
						0	
						0	
						0	
						0	
						0	
						0	
						0	
						0	
						0	
						0	
						0	
						0	
						0	
						0	

Oakland County -- NHD Database Consolidation and Conversation

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
Duplicate data entry could be eliminated	Intangible Benefit												
An updated application could easily make the information accessible to staff working remotely.	Intangible Benefit												
Staff would be more efficient when locating information.	Intangible Benefit												
Reporting on information could be made possible and/or easier.	Intangible Benefit												
KPI reporting will be made possible, easier and more robust.	Intangible Benefit												
The ability to target outreach to applicants in order to meet HUD's Voluntary Compliance Agreement requirements can be increased.	Intangible Benefit												
The automation will reduce the time needed to process applications.	Intangible Benefit												
Online integration of database and currently paper-based process flow will make hybrid work easier.													

Oakland County -- NHD Database Consolidation and Conversation

Return on Investment Analysis

Savings Summary

Benefit/Savings Description	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Total
Tangible Benefit:							
Tangible Benefits Subtotal:							
Cost Avoidance:							
Cost Avoidance Subtotal:							
Intangible Benefit:							
Duplicate data entry could be eliminated							
An updated application could easily make the information accessible to staff working remotely.							
Staff would be more efficient when locating information.							
Reporting on information could be made possible and/or easier.							
Savings Total:							

Oakland County -- NHD Database Consolidation and Conversation

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
IT Hours - New Development	Development Svcs			1,224	165	201,960		x					
IT Hours - System Maintenance	Development Svcs				165	0							
IT Hours - Customer Support	Development Svcs		HR	12	165	1,980	1.015		x	x	x	x	x
IT Hours - Planned Maintenance	Development Svcs		HR	12	165	1,980	1.015		x	x	x	x	x
User Hours - New Development	Development Svcs					0							
User Hours - PTNE/OT	Development Svcs					0							
Contractor Professional Services	Development Svcs					0							
Scanner	Hardware			1	1,250	1,250		x					
PC System - Acquisition	Hardware				687	0							
PC System - Maintenance	Hardware				2,936	0							
PC Maintenance User Owned	Hardware				2,720	0							
Printer Maintenance User Owned	Hardware				1,264	0							
File Space (100GB)	Hardware		ANN		23	0							
Package Software - Acquisition	Software					0							
Package Software - Maintenance (Laserfiche)	Software		EA	5	546	2,730		x	x	x	x	x	x
Business Objects Access	Software					0							
Term Emulation SFTW-Acquisition	Software					0							
Term Emulation SFTW-Maintenance	Software					0							
Server - Acquisition/Upgrade	Infrastructure				8,000	0							
Server - Maintenance	Infrastructure				360	0							
Server Sftwre - Acquisition/Upgrade	Infrastructure				335	0							
Server Sftwre - Maintenance	Infrastructure					0							
Server Rack Mount	Infrastructure				400	0							
Oracle Enterprise Software Purchase - Per Processor (4 Cores) - Requires Annual Support Below	Infrastructure				42,280	0							
Oracle Enterprise Software Support - Per Processor (4 Cores)	Infrastructure				9,293	0	1.030						
SQL Server Enterprise Software Purchase - Per Processor (4 cores) - Purchased Sept 2019-Aug 2020 - Includes Support thru Aug 2022	Infrastructure				16,985	0							

Oakland County -- NHD Database Consolidation and Conversation

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
SQL Server Enterprise Software Purchase - Per Processor (4 cores) - Purchased Sept 2020-Aug 2021 - Includes Support thru Aug 2022	Infrastructure				12,724	0							
SQL Server Enterprise Software Purchase - Per Processor (4 cores) - Purchased Sept 2021-Aug 2022 - Includes Support thru Aug 2022	Infrastructure				8,463	0							
SQL Server Enterprise - Support, Per Processor (4 cores) - Sept 2022 and Beyond	Infrastructure				4,261	0							
SQL Server Standard Software Purchase - Per Processor (4 cores) - Purchased Sept 2019-Aug 2020 - Includes Support thru Aug 2022	Infrastructure				4,429	0							
SQL Server Standard Software Purchase - Per Processor (4 cores) - Purchased Sept 2020-Aug 2021 - Includes Support thru Aug 2022	Infrastructure				3,317	0							
SQL Server Standard Software Purchase - Per Processor (4 cores) - Purchased Sept 2021-Aug 2022 - Includes Support thru Aug 2022	Infrastructure				2,205	0							
SQL Server - Standard Support, Per Processor (4 cores) - Sept 2022 and Beyond	Infrastructure				1,112	0							
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							

Oakland County -- NHD Database Consolidation and Conversation

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
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							
Dedicated Virtual Server	Infrastructure		ANN		4,150	0							
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							

Oakland County -- NHD Database Consolidation and Conversation

Return on Investment Analysis

Cost Detail

Cost Description	Project Cost Category	Potential Cost Extensions					
		Y1	Y2	Y3	Y4	Y5	Y6
IT Hours - New Development	Development Svcs	201,960.00					
IT Hours - System Maintenance	Development Svcs						
IT Hours - Customer Support	Development Svcs		2,009.70	2,039.85	2,070.44	2,101.50	2,133.02
IT Hours - Planned Maintenance	Development Svcs		2,009.70	2,039.85	2,070.44	2,101.50	2,133.02
User Hours - New Development	Development Svcs						
User Hours - PTNE/OT	Development Svcs						
Contractor Professional Services	Development Svcs						
Scanner	Hardware	1,250.00					
PC System - Acquisition	Hardware						
PC System - Maintenance	Hardware						
PC Maintenance User Owned	Hardware						
Printer Maintenance User Owned	Hardware						
File Space (100GB)	Hardware						
Package Software - Acquisition	Software						
Package Software - Maintenance (Laserfiche)	Software	2,730.00	2,730.00	2,730.00	2,730.00	2,730.00	2,730.00
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						
Server Rack Mount	Infrastructure						
Oracle Enterprise Software Purchase - Per Processor (4 Cores) - Requires Annual Support Below	Infrastructure						
Oracle Enterprise Software Support - Per Processor (4 Cores)	Infrastructure						
SQL Server Enterprise Software Purchase - Per Processor (4 cores) - Purchased Sept 2019-Aug 2020 - Includes Support thru Aug 2022	Infrastructure						

Oakland County -- NHD Database Consolidation and Conversation

Return on Investment Analysis

Cost Detail

Cost Description	Project Cost Category	Potential Cost Extensions					
		Y1	Y2	Y3	Y4	Y5	Y6
SQL Server Enterprise Software Purchase - Per Processor (4 cores) - Purchased Sept 2020-Aug 2021 - Includes Support thru Aug 2022	Infrastructure						
SQL Server Enterprise Software Purchase - Per Processor (4 cores) - Purchased Sept 2021-Aug 2022 - Includes Support thru Aug 2022	Infrastructure						
SQL Server Enterprise - Support, Per Processor (4 cores) - Sept 2022 and Beyond	Infrastructure						
SQL Server Standard Software Purchase - Per Processor (4 cores) - Purchased Sept 2019-Aug 2020 - Includes Support thru Aug 2022	Infrastructure						
SQL Server Standard Software Purchase - Per Processor (4 cores) - Purchased Sept 2020-Aug 2021 - Includes Support thru Aug 2022	Infrastructure						
SQL Server Standard Software Purchase - Per Processor (4 cores) - Purchased Sept 2021-Aug 2022 - Includes Support thru Aug 2022	Infrastructure						
SQL Server - Standard Support, Per Processor (4 cores) - Sept 2022 and Beyond	Infrastructure						
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						

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Cost Detail

Cost Description	Project Cost Category	Potential Cost Extensions					
		Y1	Y2	Y3	Y4	Y5	Y6
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						
Dedicated Virtual Server	Infrastructure						
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 -- NHD Database Consolidation and Conversation

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	201,960						201,960
IT Hours - System Maintenance							
IT Hours - Customer Support		2,010	2,040	2,070	2,101	2,133	10,355
IT Hours - Planned Maintenance		2,010	2,040	2,070	2,101	2,133	10,355
User Hours - New Development							
User Hours - PTNE/OT							
Contractor Professional Services							
Development Services Subtotal:	*201,960*	*4,019*	*4,080*	*4,141*	*4,203*	*4,266*	*222,669*
Hardware:							
Scanner	1,250						1,250
Hardware Subtotal:	*1,250*						*1,250*
Software:							
Package Software - Maintenance (Laserfiche)	2,730	2,730	2,730	2,730	2,730	2,730	16,380
Software Subtotal:	*2,730*	*2,730*	*2,730*	*2,730*	*2,730*	*2,730*	*16,380*
Infrastructure:							
Infrastructure Subtotal							
Training:							
Training Subtotal:							
Other:							
Other Subtotal:							
Costs Total:	*205,940*	*6,749*	*6,810*	*6,871*	*6,933*	*6,996*	*240,299*

Oakland County -- NHD Database Consolidation and Conversation

Return on Investment Analysis

Assumptions

Date	Assumption Description
01-Jun-22	This project will focus on NHD's top database conversion project, which is likely HIP or CDBG. Other databases can be migrated as part of future projects.
01-Jun-22	No additional changes to the Laserfiche infrastructure will be needed as part of this project.
01-Jun-22	NHD will handle the scanning and indexing of documents either with a student intern or by hiring an EnTech employee.
01-Jun-22	NHD will identify the document retention policies by consulting their internal staff. No IT assistance is needed for this.
01-Jun-22	1 scanner may be purchased as part of this project. The scanner they may purchase (Fujitsu fi 8170) has an approximate cost of $1,250. Pricing came from a meeting between IT, NHD and Applied Images in May 2022. It is possible than another department who owns a higher-end scanner may be willing to share it, but that answer is not clear at the time of the sizing. Scanner pricing is also attached to CO 223618.
01-Jun-22	The annual IT bill rate for a Kofax/Laserfiche license is $546. This includes all license and storage costs. 5 additional licenses will be needed for NHD as part of this project.
01-Jun-22	All work will be done by IT staff, not using Laserfiche VIP hours.
03-Jun-22	Assuming 1 hour per month additional Customer Support and PMU to support this project.